

EUROPE DIPLOMATIC

MAGAZINE

THE GREAT
SPACE RACE

Laying claim
to the Cosmos



July 2024

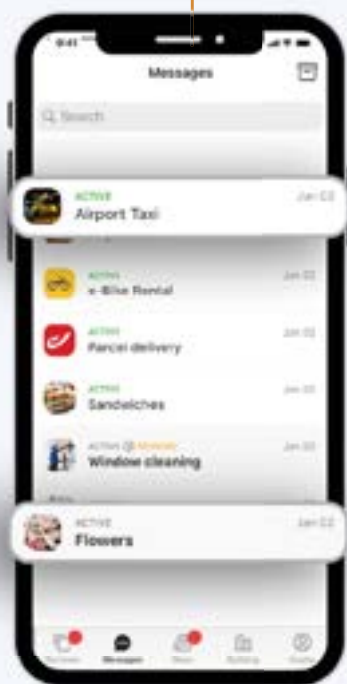
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IN THIS ISSUE

"Europe Diplomatic Magazine" is characterized by a very open editorial line that allows it to capture all the themes that affect directly or indirectly the European political, economic, social and security issues. Whether piracy in the Gulf of Aden and its threats to the global economy, articles about political leaders, geostrategic situations or technological developments affecting our civilization, Europe Diplomatic Magazine strives to work in comparing opinions and providing an objective analysis based on extensive research. For a wide audience composed of both members of the diplomatic corps, lobbyists, international officials or academics, the magazine gives everyone the necessary and useful information about all topics that make up our daily lives. Covering sensitive issues such as nuclear, the rise of Islamism and energy dependence, the magazine opens its pages to recognized specialists who would like to express first order and exclusive information. But Europe Diplomatic Magazine is not only a source of information on recent topics. It is also addressing older facts with deep thought for further analysis. Whether it's news, security, diplomacy, technology, energy, terrorism, European affairs, no subject is treated superficially. Europe Diplomatic Magazine is an independent media, conveying balanced ideas of openness and analysis based on almost 30 years of experience in the journalistic world.

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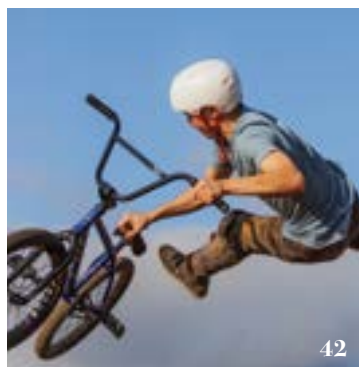
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Nikola Hendrickx

EDITORIAL

FIVE AND THRIVING

Our magazine's milestone moment

Dear readers,

With the publication of the July 2024 issue of Europe Diplomatic Magazine, we find ourselves in a unique position of reflection and celebration. Five years ago, we set out to create a platform that would foster dialogue and understanding and provide insight into the complex world of diplomacy and current affairs. Today, we are proud of what we have achieved and grateful for the unwavering support of our readers.

Over the past five years, our magazine has witnessed and chronicled significant global events. We have delved into the intricacies of international politics, explored the nuances of diplomatic relations and analysed current affairs in depth.

Our journey was characterised by milestones and successes. We had the privilege of conducting interviews with distinguished diplomats, policy makers and thought leaders. Their insights have enriched our pages and broadened our perspectives. We are also fortunate to have a team of dedicated writers and analysts who consistently deliver high quality content and present complex topics in an understandable and engaging way.

On the occasion of our fifth anniversary, we would like to take this opportunity to thank our readers. Your engagement, feedback and loyalty have been the driving force behind our success. You have challenged, inspired and motivated us to strive for excellence. Our commitment to balanced, insightful and thought-provoking content is unwavering and we are honoured by the trust you place in us as your source of global understanding.

Finally, we would like to express our sincere gratitude to all those who have accompanied us on our journey. Here's to five years of dialogue, understanding and insight, and to many more years of insightful discourse and global engagement.

Thank you for being part of our story. We look forward to continuing to be a part of yours.

With appreciation,

Trajan Dereville
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ALL CHANGE? NOT QUITE...



Elections in Europe show a clear swing to the right, but does it mean anything in the longer term? And will the elections around the world change anything?



Time Magazine called 2024 “the ultimate election year”. Certainly, there are a lot of electorates around that have been trying (or will shortly try) to decide who they want to represent them, if anyone. Only one thing is certain: a very large percentage of them will come to regret whatever choice they make and will end up feeling let down. Democracy may be immeasurably better than the kind of rule imposed by, say, Vladimir Putin or Xi Jinping, for instance, but it’s still far from perfect. Even Putin is up for election, although in Russia the poll is so fixed and carefully arranged that there is no way he can lose. It’s not really an election at all but rather a rubber stamp job. The problem is, of course, that looking at the world as a whole, no two people want exactly the same thing, and nor do they agree on the right course of action to solve any particular problem. By the end of this year, more people will have cast a vote than has ever happened before in just one year. But that doesn’t guarantee they’ll all get a genuinely free choice (they certainly won’t in Russia, Iran, China or several other places I could mention, for instance), or that they will choose wisely, nor, for that matter, that they won’t regret whatever decision they make. If aliens from another planet ever want to invade Earth, this would be a good year in which to do it. After all, they can hardly make a bigger mess of it than our Earthly politicians have done.

For a number of years, I reported on radio, television and in print on the activities of the EU, especially the European Parliament. I worked for various audiovisual and print media in several countries and I enjoyed it. I even came to admire some (but not all!) of those elected representatives striving to make it all work, even though there were some who were trying to prevent it from working. I certainly didn’t admire them. There were a few MEPs (Members of the European Parliament) who fell into that category, but not that many, I’m pleased to say. The elections of 2024 (European and otherwise) threw up a lot of bizarre results, nowhere more so than in France, where the far-right National Rally party of Marine Le Pen attracted more than twice as many votes as the party of the President, Emmanuel Macron, leaving him feeling that he should call a snap election. Even in Hungary there was a surprise, with the notoriously corrupt governing party, Fidesz, losing a lot of ground to a new party, Tisza, led by a former Fidesz official.

Let’s take a look back at where and why the European Union began. The European Parliament started out as the



In May 1962, The European Parliamentary Assembly changes its name to The European Parliament. Its president, Gaetano Martino (centre) with Leopoldo Rubinacci on his left.

Common Assembly of the European Coal and Steel Community (ECSC) before it was turned into the European Parliamentary Assembly (EPA). It was never going to be easy and there could be no happy ending. From the outset, the High Authority (fore-runner of the European Commission) often failed to meet the targets it set itself. Right back at the start, it bottled out of dismantling the cartels that ran the coal industry and it failed to obtain the assent of the Council to declare a manifest crisis in 1959, leaving it without the necessary powers to handle a coal shortage. But that was a long time ago. Back then, a great many people took no interest in electing representatives at a European level, believing that the Parliamentary Assembly was too weak to make much difference. As a result, when people did vote it tended – understandably – to be on the basis of national interests, rather than European. However, when attending a present-day celebration commemorating the creation of the Common Assembly of the European Coal and Steel Community way back in 1952, Roberta Metsola, the current President, reminded her audience that the Assembly has evolved into



Roberta Metsola, (centre), and Ursula von der Leyen, visiting Israel in October 2023 to express solidarity with the victims of the Hamas terrorist attacks.

“the only directly elected multilingual, multi-party, transnational parliament in the world.” 72 years later, surely that is something worth celebrating? Not in the UK, perhaps, where a slim majority of voters listened to the right-wing and nationalist newspapers and politicians and chose to leave the organisation instead. Conservative politician Boris Johnson, an eager self-publicist, claimed the “credit” for that, although exactly why he considers it something of which to be proud is unclear, looking at the damage it caused to Britain’s economy and to the free movement of its citizens.

However, the European Parliament does have some achievements to boast about since that day, 19 March 1952, when the European Parliamentary Assembly held its first constituent session. It has been largely successful, whatever

the far right may say. Being nationalists, they seldom award credit to any multinational bodies of which their country may be a member, which is why there are calls to quit the European Convention for Human Rights. The European Parliament may, therefore, be considered an important democratic institution, but many European voters choose to ignore its elections, viewing the Parliament's powers as inferior to those of the various national parliaments, a view that could be said to have some merit. This has been a problem ever since before I started reporting on it. The parties represented there still find themselves largely unable to sway public opinion much. What I found was that many voters viewed the European Parliament as relatively unimportant and so they could register a protest vote for some party they'd never normally support without it affecting their lives much. In that belief they were, of course, wrong, although that may be why the far right did relatively well in the most recent elections. Interestingly, that's not the view of the Nobel Prize-winning economist Joseph E. Stiglitz, a professor at Columbia University in the United States. In his superb book, "Rewriting the Rules of the European Economy", he stresses (among many other things), that employment is far more important than the austerity so beloved of European Commission officials. Incidentally, Stiglitz's excellent analyses of the problems and possible solutions is so masterly that the book should, perhaps, be compulsory reading for anyone seeking high office in the European Union. He describes growth in the EU since the financial crisis of 2008 as "anaemic and fragile", with joblessness still "unacceptably high across much of the EU", while the Union's leaders remain too concerned with the possible future costs of debt and deficits. Stiglitz reminds readers that "long periods of unemployment have destroyed human and social capital". What he writes



Nobel Prize winner, Joseph Stiglitz at the Foundation for European Progressive Studies.

makes complete sense, although it will probably be ignored by Europe's leaders. He points out in his book, published in 2020, that at the end of 2017, unemployment in Greece stood at a very worrying 21.5% and in Spain at 16.5% and that a lot of those put out of work (many of them young and therefore fairly new to the jobs market) remained without jobs for a long time.

The European Parliament has endeavoured to make better contact with civil society by engaging in dialogue with various associations and non-governmental organisations, including trades unions and even churches. The aim has been to fashion a Europe that is closer to its people, but the most recent elections have seen support for far-right parties increasing. Even so,



Sheikh Hasina, Prime Minister of Bangladesh.

it was the centre-right European People's Party, the EPP, that secured control of the new Chamber with the greatest number of votes. Parliament President Roberta Metsola told EuroNews that "it looks like the constructive, pro-European centre has held." The far-right has done well, but not well enough to change things materially, nor to tilt things in favour of Vladimir Putin, Russia's ambitious president, who apparently likes to give support to extremists.

The European Parliament has certainly had of some important achievements. Take freedom of movement, for instance, which is a vital part of the Common Market. It still is, despite fears (which are encouraged by a largely right-wing press) about immigration. That's 500-million people able to live, study or work anywhere. Some 14-million citizens live in countries other than those in which they originated. It also created the enormous single market, which has resulted in the EU's GDP for last year reaching \$16.5-trillion (€15.3-trillion). It also abolished the death penalty in 1983, following the lead of the less politically powerful Council of Europe, and cleaned up Europe's beaches, along with a lot of other environmental improvements. Sadly, that clean-up has not included the UK, of course, where raw sewage has now found its way into water and even into a lovely and popular tourist attraction like Lake Windermere, as a result of which the largest body of fresh water (well, theoretically "fresh", just not very) in the English Lake District is now heavily polluted. As a child, I was often taken there in the summer by my parents for a holiday. I loved it then; it's a very beautiful place. However, a comedian recently made the joke (not very funny, really) that these days people don't so much swim in Windermere as just go through the motions. I should point out here that the European Parliament's record is by no means all positive and progressive. For instance, when

the European Commission proposed limited structural reforms to the banking industry in October 2017, the idea came up against very fierce and well-funded lobbying by an industry opposed to change (at least, to any change that might impact on its excessively generous profits) and under pressure from the banks and their senior executives, MEPs rejected the proposed reform, which meant that in future large banks could only be wound down through the work of regulators and supervisors, and probably not without crashing the whole financial system, according to Professor Joseph E. Stiglitz.

But of course it's not only in Europe that people have been voting. 2024 has been the year of the plebiscite all over the world, not always fairly. For instance, back in January in Bangla Desh Prime minister Sheikh Hasina won a fifth term of office in an election that also witnessed a massive crackdown on the opposition and a voter turn-out of only a little more than 40%. Voting could prove unsafe for voters. In El Salvador back in February, Prime minister President Nayib Bukele won a big majority as voters rewarded him for cracking down on gangs that had made the country a very hazardous place to live. In Azerbaijan, President Ilham Aliyev won his fifth term with over 90% of votes in an election described as neither free nor fair. In February, Indonesia saw the election of Prabowo Subianto, a 72-year-old former general who was dismissed from the military after being accused



Belarus President Alexander Lukashenko and Russian President Vladimir Putin.

of kidnapping and torture in the 1990s.

Isn't politics fun? In Belarus, opposition leader Maria Kolesnikova remains in jail and at the time of writing, no-one (apart from her captors, one assumes) seems sure if she is still alive. Longtime dictator Alexander Lukashenko remains in charge there, although no-one knows how much power he still wields. He is still on terms of close friendship with Vladimir Putin, however, who may be the one who is actually calling the shots. Iran, not known for its allegiance to democracy, saw elections (well, sort-of...) for the parliament (Majlis) and the Assembly of Experts, the body which chooses the Supreme Leader. There was a turnout of just 41%, the lowest since the 1979 Islamic revolution that put the clerical rulers in power eternally. Here, we reach March, when Putin claimed a landslide victory, leading to his re-election as president with what is claimed to be 87.28% of the vote in the biggest turnout in Russian history. The figures are ludicrous, of course, and Putin, as usual, is exaggerating quite a lot. One might even say "lying". Nobody turns out in such impressive numbers when the result is pre-fixed as it generally is in Russia's case.

I Ballots versus bullets

There were a great number of elections, all over the world with some still to come, but I don't intend to list them all. Suffice it to say that Germany's far right Alternative für Deutschland (AfD), did quite well in the European elections but not as well as they had hoped, winning most votes in the former East Germany, while more traditionalist centre parties like the Christian Democrat Union (CDU) did better overall, especially in the West. So, nothing to frighten the horses, then. At least, not yet, although the Green party did particularly badly. Even so, the centre-right CDU and its Bavarian cousin, the Christian Social Union (CSU), were successful.

The one thing that seems to be universally true is that voters are, by and large, fed up with the choices they're offered. In the UK, for instance, groups of dissatisfied voters have been getting together to bemoan their millionaire prime minister and his even richer wife. They say they feel estranged from it all and probably won't vote when their turn comes. AP News reports that In a coffee shop in Jakarta, meanwhile, 46-year-old Ni Wayan Suryatini, moaned about the recent election there, in which the son of Indonesia's former president rose to become his country's vice president, while the opposition parties seemed to make little attempt to stop him. AP reported Suryatini saying: "It is difficult to trust them since they only want to reach their goals. As long as they achieve those goals, they will forget everything else." Meanwhile in her Colorado gift shop, Sally Otto told AP that she dreaded the upcoming US presidential election between President Joe Biden and the man he defeated in 2020, former President Donald Trump: "I feel like we're back where we were, with the same two poor choices," she complained. Not so much a voting machine, then, as a time machine. Electioneering pamphlets have been coming through my door, but a cursory glance demonstrates amply that the candidates have learned nothing and have no plans for advancing progress. All they want is to keep their jobs.

Certainly, the various elections around the world have brought a few surprises. For instance, Prabowo Subianto will



"Scholz is making a fool of himself with his talk of the 'economic miracle!'" says Party leader of the AfD in the German Bundestag Alice Weidel.

become the president of Indonesia later this year. There are very real fears that this former general, who served under a previous authoritarian government, will reduce democracy in the country even though Prabowo was trained and supported by Washington before he was banned even from entering the US for twenty years.

These are not only the most numerous elections the world has yet seen, they are also turning out to be the strangest and, perhaps, the most surprising. The fact is that the world has changed and too many leaders are acting as if everything is just the way it was. Nowhere is that truer than in Europe, where the super-rich can still revel in their luxury while most of us are struggling. Stiglitz recommends a strongly progressive income tax to eliminate the incentive for high-wealth residents to move to low-tax jurisdictions. Alternatively, he suggests a 15% surtax on everyone with an annual income in excess of, say, €100,000. He makes a comparison with the



Indonesian President Prabowo Subianto

United States. The EU budget is very small at just 1% of the EU's GDP, while the budget of the US Federal government in 2018 came to 21% of GDP. That's a very wide gap, although Stiglitz is not convinced that the US has everything right either. He praises Europe's "social model" though, saying that Europe's generosity didn't cause the financial crisis. That was the fault of excesses in the financial sector. Indeed, the subtitle of Stiglitz's book is "as agenda for growth and shared prosperity". Don't expect bankers to vote for that, of course.

Eastern Europe has been a border region for centuries, with pagans fighting Christians, Catholics fighting their Orthodox equivalents and subsequently Christians fighting Muslims, with Poland adopting its supposed place defending the so-called Antemurale Christianitatis, the "Bulwark of Christendom", alongside Albania, Serbia, Croatia, Hungary and various others. East and West often see things differently: in East Germany the far right came out of the election in the lead but only came fourth in the West.

I In, out, shake it all about

India has the world's largest democratic electorate, of course, and the election there took six weeks to complete. It involved counting 640-million votes. The governing Bharatiya Janata party (BJP) of Prime Minister Narendra Modi won 240 seats, but that fell short of the 272 seats that would have represented victory in the Lok Sabha, or Lower House, which has a total of



Indian Prime Minister Narendra Modi visiting Kaziranga National Park.

543 seats.

Overall, however, the BJP, together with its allies, still secured a majority. The main opposition party, India Alliance, led by the India National Congress party secured 232 seats. India's most populous state, Uttar Pradesh, boasts a total of eighty parliamentary constituencies, having a population of more than 240-million people. Results there tend to dictate who rules in New Delhi. There, the Samajwadi Party (SP) has won 37 seats, compared with just 6 for their allies, Congress party, which totals 43 for the India Alliance. As Al Jazeera reported: "the partnership between the SP and the Congress worked better this time than in the past, adding that the chemistry between SP leader Akhilesh Yadav and Rahul Gandhi was stronger 'and it percolated downwards'." Indeed, the overall outcome of the

various plebiscites across the world has held quite a number of surprises. In the European elections, Germany saw some of the biggest, with Chancellor Olaf Scholz's Social Democrats



New Flemish Alliance leader, Bart De Wever.

getting just 14% of the votes, while the far right seems to have attracted a lot of young voters (presumably too young to remember the Nazis or to have visited such ghastly places as Auschwitz). The Greens did especially badly and were the big losers in Europe while the far right can afford to celebrate the most. Even Belgium saw some shocks in its federal elections, too, with Alexander De Croo resigning as Prime Minister after his Open VLD, a Liberal Flemish party, lost half its seats in the federal parliament.

The biggest winner there was Bart De Wever, who leads the New Flemish Alliance, a national-Conservative party. He wants to transfer more power to Belgium's regions and may get that chance if, as seems likely at the time of writing, he becomes Prime Minister.

The big issue in this EU election has been immigration, which is already dominating the discussions ahead of a general election in the UK. In France, it caused the downfall of Emmanuel Macron, the far right snatching his party's votes. It's nothing new. Back in the 15th century, Niccolò Machiavelli, author of *The Prince*, advocated lying for politicians as a way to progress, on the basis that the people a political candidate needs to appeal to will appreciate it. "It is necessary for him who lays out a state and arranges laws for it to presuppose that all men are evil," he wrote in his *Discorsi Supra la Prima Dec di Tito Livio*, between 1513 and 1517, "and that they are always going to act according to the wickedness of their spirits whenever they have free scope." He was horribly correct in that, it seems. The general public may like to think of themselves as warm-hearted and welcoming, but this is all too often not the case. Machiavelli believed in strong measures, with death for one's enemies, so that they couldn't annoy one again. He also wrote in *The Prince* that honesty was a dangerous policy for a leader.

Perhaps that's why Boris Johnson is trying to make a come-back, despite being recently



US President Joe Biden and UK Prime Minister, Boris Johnson at the G7 meeting in 2021.

described as a “comical dishonest buffoon”, taking much of the blame for the decline of Britain’s Conservative Party, even if a lot of Conservatives seem to see him as “just a bit of a lad”, which shows how seriously they take it all. Immigration, though, still seems to dominate the thinking of many voters. In a recent British television debate, the first question asked by a member of the public was “what are you going to do about all the immigrants?” Things are very different in Scotland, however, where Scottish government policy says: “Migration is crucial to the development of Scotland as an inclusive, fair, prosperous, innovative country ready and willing to embrace the future.” In Brussels, which must be one of the most multi-cultural and multi-national cities in Europe, discrimination remains an issue. It’s a point raised in the New European newspaper by journalist Linda A. Thompson, with non-Belgians who live close to the



Former US President Donald Trump.

EU institutions being labelled “ex-pats”, while those who come to Brussels to live from places like North Africa get called “migrants”. That’s a considerable distinction.

With Europe’s elections behind us, we must turn to face the plebiscite in the United States. Who will be chosen as the next president? It seems to be a choice between the incumbent, Joe Biden, who is rather elderly, and the former president, Donald Trump, still facing 34 felony charges for paying hush-money to Stormy Daniels (real name Stephanie Clifford), a porn actress with whom he allegedly had sex. It’s not something Trump admits, although the jury was unanimous in convicting him. He has accused them all of being secret Biden supporters and he has similarly attacked the judge. Even so, he will probably win the election, even without being cleared, and move back to the White House as the only condemned felon ever to have lived there. Politics is a funny business, although you may not feel like laughing. However corrupt it is in certain places, however, it has to be better than a Putin-style pretend-democracy and the dictatorships that mar too much of the world of politics. However disillusioned you may feel, it’s still important to vote. Just don’t expect massive change for the better as a result.

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NEWS IN BRIEF

THE FIRST MQ-25 DELIVERED TO THE US NAVY

Without a pilot on board the MQ-25 is able to refuel all carrier based fixed wing aircraft capable of aerial refuelling.



© US NAVY/NOAH J. EIDSON

MQ-25 being moved to hangar bay aboard USS George H.W. Bush.

The MQ-25 Stingray, developed by Boeing for the United States Navy, represents a significant leap forward in the realm of unmanned aerial refueling systems. This pioneering drone is designed to provide carrier-based aerial refueling capabilities, extending the range and operational flexibility of manned fighter jets such as the F/A-18 Super Hornet, EA-18G Growler, and F-35C Lightning II. With its ability to transfer up to 15,000 pounds of fuel, the MQ-25 is poised to play a crucial role in enhancing the endurance of carrier air wings.

One of the key advantages of the MQ-25 is its autonomous operation, which reduces the risk to human pilots while increasing efficiency. The drone's advanced avionics and flight control systems enable it to perform complex refueling missions with precision. It is equipped with a state-of-the-art aerial refueling store (ARS) pod, which includes a hose-and-drogue system, commonly used by the Navy.

The MQ-25's development marks the first time the U.S. Navy has integrated a large, unmanned aircraft into its carrier air wing. This integration is expected to provide a strategic advantage by allowing for more flexible and persistent operations. Moreover, the MQ-25's relatively small size and advanced stealth features help it evade detection, ensuring it can operate in contested environments.

The Stingray's operational capabilities were demonstrated successfully during its first test flights, where it refueled an F/A-18 Super Hornet in mid-air. These tests underscored the drone's potential to revolutionize aerial refueling operations. The MQ-25 is not only a refueler but also a platform that can be adapted for intelligence, surveillance, and reconnaissance (ISR) missions in the future.

By offloading the refueling tasks from manned aircraft, the MQ-25 allows combat jets to focus on their primary missions, increasing overall combat effectiveness. The drone's integration into the fleet will also enable the Navy to maintain a higher tempo of operations, particularly in areas with limited access to

land-based refueling assets.

The MQ-25 project highlights the Navy's commitment to embracing unmanned technologies and enhancing its operational capabilities. It also reflects a broader trend within the military to leverage automation and artificial intelligence for mission-critical tasks.

In conclusion, the MQ-25 Stingray represents a transformative addition to the U.S. Navy's capabilities, providing a crucial link in the chain of carrier-based operations. Its development and deployment underscore the strategic importance of unmanned systems in modern warfare.



© BOEING

A test version of the MQ-25 has successfully refuelled the F/A-18, F-35C and Northrop Grumman E-2D Hawkeye.

MBDA WINS MAJOR POLISH AIR DEFENCE CONTRACT

MBDA has been contracted by the Polish Armament Agency to supply CAMM missiles and iLaunchers for Poland's PILICA+ air defence upgrade programme.



© MBDA

Brigadier General Artur Kuptel, Head of the Polish Armaments Agency (L) and MBDA UK Managing Director Chris Allam (R).

In total, MBDA will provide missiles and missile launchers valued at £1.9 billion to support Poland's modernisation and manufacture of a total of 22 PILICA+ air defence batteries – making it the largest European short-range air defence acquisition programme in NATO.

Designed by PGZ, PILICA+ will combine MBDA's CAMM

short-range radar-guided missiles with Polish-made autocannon and very-short range infrared guided missiles into a triple-layer system commanded by a Polish command and control system and guided by Polish radars. PILICA+ will operate as the inner tier of a highly-capable integrated Polish air defence network also including the upper-tier WISLA system and mid-tier NAREW system, which MBDA is also supporting with PGZ.

Chris Allam, Managing Director of MBDA UK, said: *"We are deeply proud that Poland is placing CAMM at the core of their layered air defence systems. This landmark Polish-UK cooperation will provide a major boost to Poland's air defence capabilities and bring our defence industries closer together, enabling sovereignty and supporting jobs in both countries."*



A Common Anti-air Modular Missile (CAMM).

CAMM, with its multi-channel, radar-guided, all-weather ability to defeat stressing air threats out to 25 km, will deliver a major enhancement to the capabilities of the Polish PILICA+ system in ensuring the defence of high-value and mobile assets. CAMM first entered service with the UK Armed Forces in 2018, with the CAMM family (including CAMM-ER co-developed with Italy) rapidly proving a success on the international market.

Poland is already a user of MBDA's CAMM, receiving a first battery in 2022 in response to an urgent requirement called mała (small) NAREW that was successfully delivered by MBDA and PGZ in 6 months. MBDA and PGZ also continue to work towards contracting the technology transfer and Polish manufacture of the mid-tier NAREW air defence programme, utilising the extended range CAMM-ER missile and a common iLauncher solution, and on co-operation on future missiles for higher air defence tiers (through a contract placed in 2022). Poland will benefit from the synergies of operating the CAMM family across multiple domains as these missiles will also equip Poland's future maritime air defence system on-board the Miecznik-class frigates.

THOUSANDS OF NHS PATIENTS TO ACCESS TRIALS OF PERSONALISED CANCER 'VACCINES'

Thousands of cancer patients in England are set to gain fast-tracked access to trials of personalised cancer vaccines following the launch of a world-leading NHS trial "matchmaking" service to help find new life-saving treatments.



© NATIONAL CANCER INSTITUTE

The NHS today announced it has treated its first patient in England with a personalised vaccine against their bowel cancer, in a clinical trial part of NHS England's new Cancer Vaccine Launch Pad.

In a national first, father-of-four Elliot Phebeve received the developmental jab at University Hospitals Birmingham NHS Foundation Trust, one of several sites taking part in the colorectal cancer vaccine trial sponsored by BioNTech SE.

The vaccine trial involving Elliot is one of several that will be taking place in NHS trusts across the country to treat different types of cancer. Thousands more patients are expected to benefit from NHS England's new Cancer Vaccine Launch Pad, which will enable those wanting to participate in clinical trials to be fast-tracked to one of the nearest participating hospitals.

Patients who agree to take part have a sample of their cancer tissue and a blood test taken. If they meet a clinical trial's eligibility criteria, they can be referred to their nearest participating NHS site, meaning patients from hospitals across the country will find it easier than ever to take part in groundbreaking research.

The investigational cancer vaccines evaluated in the colorectal cancer trial are based on mRNA – the same technology used for the Pfizer-BioNTech COVID-19 vaccine – and are created by analysing a patient's tumour to identify mutations specific to their own cancer. Using this information, medics then create an experimental individualised cancer vaccine.

The developmental vaccines are designed to induce an immune response that may prevent cancer from returning after surgery on the primary tumour, by stimulating the patient's immune system to specifically recognise and potentially destroy any remaining cancer cells.

The investigational cancer vaccines being jointly developed by biopharmaceutical companies BioNTech and Genentech, a member of the Roche Group, are still undergoing trials and have not yet been approved by regulators.

Higher-education lecturer Elliot, 55, had no cancer symptoms and was diagnosed through a routine health check with his GP.

Following blood tests, he was immediately invited to Manor Hospital in Walsall and triaged to a hospital ward to receive blood transfusions.

A computed tomography (CT) scan and a colonoscopy confirmed he had colon cancer and Elliott had surgery to remove the tumour and 30 cm of his large intestine. He was then referred to the Queen Elizabeth Hospital Birmingham for initial rounds of chemotherapy and to take part in a clinical trial.

Thirty hospitals in England are already signed up to the pioneering Cancer Vaccine Launch Pad – one of the biggest

projects of its kind in the world – with more sites joining the platform over the coming months.

The scheme aims to expand and work with a range of partners in the pharmaceutical industry to include patients across many cancer types who could potentially join a vaccine trial, such as those with pancreatic and lung cancer.

Trials have already enlisted dozens of patients, although the majority of participants are expected to be enrolled from 2026 onwards.

Principal Investigator for the trial at Queen Elizabeth Hospital Birmingham, Consultant Clinical Oncologist, Dr Victoria Kunene, said: “The investigational cancer vaccines are based on mRNA and are created by analysing a patient’s tumour to identify mutations specific to their own cancer. Using this information, we can create an individualised investigational cancer vaccine, but it is too early yet to say if these will be successful, though we are extremely hopeful. Based on the limited data we currently have of the in-body response to the vaccine, this could prove to be a significant and positive development for patients, but more data is yet needed and we continue to recruit suitable patients to the trial to establish this further.”

Last year, the Government signed an agreement with BioNTech to provide up to 10,000 patients with precision cancer immunotherapies by 2030.

BioNTech has already begun conducting clinical trials in the UK, and the NHS launch pad is helping to accelerate the identification of eligible patients for those trials in England.

The vaccines being tested as part of the trials aim to help patients with different types of cancer and, if successfully developed, researched and approved, cancer vaccines could become part of standard care.

The NHS is working in partnership with Genomics England on the launch pad, with work already helping patients access the latest testing technologies and ensures they are given more targeted precision treatments for their cancer.

AMERICA'S FIRST OFFSHORE WIND PROJECT TO PLUG DIRECTLY INTO THE NEW YORK CITY GRID

The Norwegian company Equinor has announced the execution of the Purchase and Sale Agreement (PSA) with the New York State Energy Research and Development Authority (NYSERDA) for the renewable power generated by the Empire Wind 1 offshore wind project.



Eirik Hamre Clausen / Equinor

This agreement follows NYSERDA’s February announcement that Equinor had been selected as a conditional winner in New York’s fourth offshore wind solicitation.

Onshore construction activity is under way at the South Brooklyn Marine Terminal. Empire Wind 1 will be America’s first offshore wind project to plug directly into the New York City grid with a target to deliver first power in late 2026.

At a strike price of \$155.00 per MW/h Empire Wind 1 is expected to deliver forward looking real base project returns within the guided range for renewable projects. Following a final investment decision, Equinor plans to use project financing, with financial close anticipated by end of 2024. Equinor intends to bring in a partner to reduce financial exposure.

The signing of the offtake agreement further solidifies the considerable progress made by the 810 MW Empire Wind 1 project toward powering 500,000 New York homes with reliable, renewable energy. Empire Wind 1 will generate more than 1,000 union jobs during the construction phase, help build out a domestic supply chain, and provide an economic boost to communities while advancing the offshore wind industry in New York and on the East Coast.

About Empire Wind

Empire Wind is being developed by Equinor, a leading energy company with more than 20 years of experience with offshore wind and a strong existing offshore wind portfolio with assets in key markets including the UK, Poland, Germany and South Korea.

Empire Wind is located 15-30 miles southeast of Long Island and spans 80,000 acres, with water depths of between approximately 75 and 135 feet. The lease was acquired in 2017. The project’s two phases, Empire Wind 1 and 2, have a potential capacity of more than 2 GW (810 + 1,260 MW), enough to power over 1 million New York homes.

GRETA: FINLAND SHOULD ENSURE ACCESS TO COMPENSATION FOR HUMAN TRAFFICKING VICTIMS AND EFFECTIVE SANCTIONS FOR TRAFFICKERS



Finnish Border Guard.

In a new report, the Council of Europe’s Group of Experts on Action against Trafficking in Human Beings (GRETA) has called on Finland to strengthen the criminal justice response to human trafficking and to provide victims with compensation and specialised assistance.

The report reveals a significant increase in the number of identified trafficking victims, from 229 in 2019 to 367 in 2022. Nearly half of the victims were trafficked for the purpose

of labour exploitation, followed by sexual exploitation (25%) and forced marriage (21%). Half of the identified victims were exploited in other countries before seeking asylum in Finland.

Since the publication of GRETA's previous evaluation report in 2019, Finland has made progress in a number of areas, including legislative amendments to the procedure for the identification of victims of trafficking and the permanent establishment of a Government anti-trafficking coordinator. Human trafficking has also been added to the list of offences for which the Occupational Safety and Health Authority has an obligation to notify the police.

However, GRETA's new report is pointing out several areas where improvement is needed. GRETA is concerned by the fact that proceeds of crime are rarely frozen or seized in human trafficking cases and victims' access to compensation is not guaranteed in practice. Therefore, the expert group urges the Finnish authorities to systematically carry out financial investigations with a view to freezing criminal assets, and to review the eligibility criteria for state compensation.

GRETA also notes with concern the low number of prosecutions and convictions in human trafficking cases and the excessive length of criminal proceedings. The anti-trafficking experts urge the authorities to ensure that human trafficking offences are proactively and promptly investigated and lead to effective sanctions for those convicted. The authorities should also allocate sufficient human and financial resources and training to the police and the prosecution services.

The expert group welcomes the measures taken to prevent and combat trafficking for the purpose of labour exploitation, in particular the strengthening of the mandate and resources of labour inspectors, the development of a multi-agency co-operation model, and adoption of several legislative changes, such as the "Berry Law". Nevertheless, GRETA considers that the authorities should adopt further measures to protect domestic workers and wild products pickers against human trafficking. GRETA also asks the Finnish authorities to introduce without further delay a National Referral Mechanism which promotes a multi-agency approach to victim identification and allows the sharing of information between different actors.

According to the report, there is a need for a more proactive approach to identify child victims of trafficking, by paying particular attention to children absconding from institutional care, children trafficked for forced criminality, unaccompanied children and children recruited or exploited online. Finally, GRETA urges the Finnish authorities to ensure that all victims of trafficking, including men, are provided with accommodation that is safe and suitable for their needs.

THE LARGEST DEPOSIT OF RARE EARTH ELEMENTS IN EUROPE DISCOVERED IN FEN, NORWAY



Core samples taken from the Fen Carbonatite Complex in Norway.

Europe's largest deposit of rare earth elements (REEs) has been located at the Fen complex in southern Norway, marking a significant breakthrough.

The Fen Carbonatite Complex was created 580 million years ago when carbonate-rich magma formed a volcanic feeder pipe.

It took the Norwegian mining company Rare Earths Norway (REN) three years of exploration, to discover Europe's largest proven deposit of rare earth elements.

This discovery is likely to have a substantial impact on the continent's position in the global supply chain for these vital elements, which are necessary for various advanced technology and environmentally friendly energy applications.

The Fen complex, situated in close proximity to the town of Ulefoss, is a geological phenomenon renowned for its abundant carbonatite composition. Recent explorations have discovered that it harbours approximately 1.5 million tonnes of rare earth oxides, making it one of the most notable REE deposits outside of China. This finding is significant as it coincides with a crucial period during which the European Union is making efforts to decrease its reliance on Chinese imports for these essential components. These components play a major role in the manufacturing of wind turbines, electric automobiles, smartphones, and other innovative technological devices.

Rare earth elements, such as neodymium, praseodymium, and dysprosium, are a set of 17 chemically related elements that are crucial in the production of permanent magnets. These magnets are essential components in electric motors and wind turbine generators. The significant magnitude of the Fen deposit presents a favourable prospect for Europe to ensure a more reliable and autonomous source of these resources, which are progressively sought after due to the worldwide emphasis on renewable energy and digital advancement.

The discovery at Fen not only benefits the European tech and green energy sectors, but also has substantial economic prospects for Norway. Exploiting this deposit has the potential to provide a significant number of employment opportunities and draw major investments in mining and processing infrastructure. Due to its strong regulatory structure and dedication to sustainable practices, Norway is in a favourable position to effectively address the environmental difficulties linked to rare earth mining, a sector that has traditionally caused substantial ecological damage.

Nevertheless, the process of transitioning from the first discovery to the actual manufacturing is intricate and filled with difficulties. Extracting and processing rare earth elements is a complex and expensive undertaking. Furthermore, mining operations give rise to environmental concerns such as the disturbance of habitats and the handling of radioactive by-products. To tackle these problems, it will be necessary to engage in meticulous strategic planning, utilise cutting-edge technology, and enforce strict regulatory supervision. This will guarantee that the utilisation of the Fen deposit is both financially feasible and ecologically sustainable.

The strategic significance of the Fen deposit is of utmost importance. Securing a dependable source of rare earth elements is crucial as Europe shifts towards a low-carbon economy. The discovery of the Fen not only improves Europe's resource security but also bolsters its geopolitical position by decreasing its need on imports from politically volatile areas.

WORSENING SPREAD OF MOSQUITO-BORNE DISEASE OUTBREAKS IN EU/EEA, ACCORDING TO LATEST ECDC FIGURES



© JAMES GATHANY CDC

Asian tiger mosquito, *Aedes albopictus*, beginning its blood-meal.

The latest EU/EEA figures show a continuing upward trend in the number of cases of dengue imported from dengue-endemic regions, as well as an increasing number of local outbreaks of West Nile virus infections and dengue within the EU/EEA.

In 2023, there were 130 locally acquired cases of dengue reported in the EU/EEA, and 71 cases were reported in 2022. This is a significant increase compared to the ten-year period 2010-2021, where the total number of locally acquired cases was 73 for the whole period. Imported cases are also on the rise with 1 572 reported cases in 2022 and over 4 900 cases in 2023. This is the highest number of imported dengue cases reported since the start of the surveillance at the EU level in 2008. In the first months of 2024, several countries have reported substantial increases in number of imported dengue cases, which could suggest that the numbers in 2024 might become even higher.

For West Nile virus, in 2023, EU/EEA countries reported 713 locally acquired human cases in 123 different regions of nine EU countries. Twenty-two of these regions were reported as places of infection for the first time in 2023; 67 deaths were also reported. The reported case count is lower than that of 2022, with 1 133 human cases, but the number of affected regions is the highest since the peak in 2018, indicating a wide geographical circulation of the virus.

Aedes albopictus, known for transmitting dengue, chikungunya, and Zika viruses, is spreading further north, east, and west in Europe, and now has self-sustaining populations across 13 EU/EEA countries. *Aedes aegypti*, a vector of yellow fever, dengue, chikungunya, and Zika viruses recently established itself in Cyprus. Its potential for establishment in other parts of Europe is concerning due to its significant ability to transmit pathogens and its preference for biting humans. The *Culex pipiens* mosquito, responsible for the spread of West Nile virus, is native to Europe and is present throughout the EU/EEA.

It is widely anticipated that climate change will largely impact the spread of mosquito-borne diseases in Europe, for instance, through the creation of environmental conditions favourable for the establishment and growth of mosquito populations. This year, a confirmed locally acquired human case of West Nile virus infection with onset of symptoms at the beginning

of March was reported in Seville, Spain. Although an isolated case, it highlights that the transmission of West Nile virus can occur very early in the year, likely due to suitable climatic conditions.

The establishment of coordinated vector control measures is a key element for the fight against mosquito-borne diseases and further research will be needed to develop efficient but eco-friendly tools to manage mosquito populations. In parallel, simple measures such as removing stagnant water in gardens or balconies where mosquitos breed should be advertised to the population. Personal protective measures to reduce the risk of mosquito bites include the wearing of clothes that cover most of the body, the use of mosquito repellent, the use of mosquito bed nets or window/door screens, and sleeping or resting in air-conditioned rooms. For these to be widely applied, effective awareness-raising campaigns among the general public are essential.

NATO SCIENTISTS START RESEARCH MISSION IN THE ARCTIC SEA



The NRV Alliance

© CMRE

Scientists and engineers from the NATO Science and Technology Organisation's Centre for Maritime Research and Experimentation (CMRE) arrived at the Norwegian port of Tromsø on Wednesday (5 June 2024) to begin two combined research missions that will assess the impact of climate change in the Arctic. The results of their studies will help NATO adapt to global warming and Arctic environmental transformation.

On board the NATO research ship *NRV Alliance*, scientists will measure how the transformation of the Arctic affects sonar performance in the region. The data collected will help adapt the technology for submarines, uncrewed underwater vehicles and other capabilities operating in fast-changing Arctic ocean conditions.

For the first time ever, the area of research will be the Barents Sea Polar front, a region where Atlantic and Arctic water masses meet but do not mix. With the research mission NREP 24 (Nordic Recognized Environmental Picture), scientists will focus on changes in sound propagation in the central Barents Sea. Another research mission, the ACO 24 (Arctic Climate Observatory) will collect data related to long-term environmental conditions in the area, including marine biology, water movements and the soundscape. The missions will be conducted from 8 June to 12 July 2024.

NREP 24 is a project funded by NATO's Allied Command Transformation (ACT) with the participation of partner

institutions from France, Norway, the Netherlands, the United Kingdom and the United States. ACO24 is funded by the NATO Science and Technology Organisation (STO) - Office of the Chief Scientist (OCS) and will have partners from France, Italy, Norway, the Netherlands and the United Kingdom.

Both research missions will be led by the Centre for Maritime Research and Experimentation. CMRE and partner staff on board NRV Alliance will be supported by a reach-back team working from various research institutions in Allied countries, performing analysis and processing of data.

NREP 24 is the latest iteration of a multi-year oceanographic research project that started in 2017 and has been conducted in different parts of the Arctic Ocean. ACO 24 is the second iteration of a study launched in 2023 as a long-term oceanographic research project.

The Centre for Maritime Research and Experimentation is an executive body of the NATO Science and Technology Organisation. The Centre organises and conducts scientific research and technology development and delivers innovative and field-tested solutions to address defence and security needs of the Alliance, with a focus on the maritime domain.

WHAT HAPPENS DURING AN AIR INTERCEPTION BY NATO AIRCRAFT?



NATO's Combined Air Operations Centre in Torrejón, Spain.

NATO jets on high alert regularly take to the skies to check on planes that aren't in radio contact with civilian air traffic controllers.

Air interceptions can occur whenever air traffic is flying over or near NATO's European Allies, and is not in compliance with international aviation rules and regulations. The two NATO Combined Air Operations Centres (CAOCs) detect these activities within the framework of NATO's Air Policing mission – an enduring peacetime activity conducted 24 hours a day, 365 days a year.

If NATO's air commanders determine that a plane is behaving unusually or unsafely by flying without an identifying transponder, or refusing to respond to hails from air traffic controllers, they can send fighters to investigate.

Those fighters scramble as quickly as possible to visually identify the aircraft and ascertain the nature of the problem. Often, a civilian or military aircraft has experienced a malfunction leading to a loss of communications. Sometimes, however, NATO aircraft intercept Russian military aircraft that have no flight plan or no radio communications with civilian air traffic controllers.

When this behaviour occurs, NATO jets may launch to visually identify the aircraft and ensure that they are tracked as

they pass by NATO airspace.

Every day, NATO's air forces are on watch to keep the skies above us safe. Sometimes, they detect suspicious activity near NATO's borders, and so rapidly launch fighter jets to approach the unknown aircraft and investigate.

This is known as an air interception. But how does it work?

First, civilian or military radars detect an aircraft that isn't transmitting an identification code, a unique identifier that can link the aircraft to a filed flight plan, or help military aircraft determine friend from foe. They alert NATO's Combined Air Operations Centres, or CAOCs. CAOC Torrejón in Spain is responsible for air traffic in the south of Europe, while CAOC Uedem in Germany handles everything north.

Air traffic controllers attempt to contact the aircraft. If that doesn't work, their commanders may decide that NATO needs to visually identify the radar track. This means scrambling fighter jets.

The scramble could launch from one of the more than 32 airbases throughout NATO, where Allies keep fighters on permanent Quick Reaction Alert, or QRA, status, which indicates a state of high readiness. Pilots on QRA have 15 minutes to get ready, get into their jets and take off. Controllers on the ground give them a heading, altitude and distance to interception.

The pilots find the aircraft and get close enough to visually identify it, while maintaining safe distance. Sometimes, the unidentified planes are foreign military aircraft. For example, Russian jets passing near NATO airspace routinely and dangerously ignore communication from air traffic controllers.

If the unresponsive plane is a foreign jet transiting through international airspace, NATO pilots note the aircraft type, watch for any unusual behaviour, and report back to their ground controllers.

Once the aircraft is safely away from NATO airspace, the Allied fighters break off their escort and return to base.

Often, the unresponsive contact is a civilian plane experiencing a communications malfunction. NATO jets can confirm the problem using hand signals and help escort the plane to safety.

Once their mission is completed, the jets return to their home station.

Allied pilots are on call 24 hours a day, 365 days a year, ready to keep NATO airspace safe.

REAL-TIME SITUATION MAPS FOR DISASTER MANAGEMENT

DLR creates live situation maps for international exercise for the first time and analyses data with open source AI.



The Swiss Rescue team during night-time search and rescue operations.

From 21 to 25 May 2024, the German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt; DLR) took part in the international disaster relief exercise ACHILLES 2024 in Switzerland. For the first time, a team from the DLR Institute of Optical Sensor Systems succeeded in creating a live map image of the exercise area and analysing it using AI. The information was then transferred to the United Nations' Coordination Management System (ICMS) and utilised by all participating teams.

An emergency scenario under realistic conditions

The disaster scenario simulated an earthquake with a magnitude of 7.1 on the Richter scale that resulted in people buried and missing. The five participating international teams of aid and rescue workers needed to be deployed and coordinated in a targeted manner. DLR accompanied the non-profit aid organisation I.S.A.R. Germany during the exercise as the drone operations team. As part of the operation, the DLR team controlled a MACS-nano camera on board a drone over the disaster area and created a live map using real-time mapping. During the flight, the high-resolution aerial images were georeferenced and continuously transmitted to the ground. Georeferencing gives the digital image a spatial position by assigning each pixel a geographical longitude, latitude and altitude on Earth's surface.

The generated situation map was transferred directly to the Coordination Management System (ICMS) via a Starlink terminal and used by all participating teams. The ICMS is an emergency management system that is used to process and visualise relevant data and information. This information is uniformly available to all participating organisations in a disaster area and is used to coordinate emergency teams and resources, assess the extent of the damage and prioritise deployment locations.

First map evaluation using AI

In a world first for this type of exercise, the situation map was analysed directly in the emergency area using AI methods and then made available in the ICMS. The open source software was able to automatically detect objects relevant to the search and rescue work of the disaster relief workers. For example, clusters of people and various types of vehicles such as cars, vans, trucks and excavators were identified and localised by the AI model.

The results were provided with a short delay as a web feature layer for use as geoinformation in the ICMS. The use of AI processes significantly speeds up the initial evaluation of the image data compared with manual inspection and interpretation.

Multi-agency collaboration for disaster management

From the outset of the exercise, the three layers of the situation imagery provided by DLR (RGB map, thermal infrared map and AI geoinformation) were made available to all participating teams in the ICMS by the INSARAG Mapping Group of the United Nations. DLR and the non-profit aid organisation I.S.A.R. Germany have been cooperation partners since 2016. Together, new technical developments for use in crisis and disaster management are being trialled and deployed in real-life disaster situations.

THE SWEDISH AIR FORCE'S GRIPEN FIGHTER JETS USE A ROAD AS A RUNWAY



Swedish Gripen fighter jet.

Swedish Air Force Gripen fighters performed the delicate art of landing on civilian highways during an exercise near Gothenburg, Sweden. Swedish fighter pilots learn how to land on ordinary roads to provide them greater flexibility in the event of a crisis. If airbases, airports or auxiliary landing strips are damaged or otherwise unavailable, the JAS 39 Gripen fighters can land on highways that have been expressly constructed to accommodate landings by fighter jets.

Once on the ground, the Gripens make use of a mobile forward arming and refuelling post (FARP), fueling up in a matter of minutes before taking off again.

The Gripen is Sweden's foremost multirole fighter, equipped with a strengthened landing gear that elevates the plane sufficiently above the ground to prevent the ingestion of debris into the jet intake.

One month before Sweden became a full member of Nato, Sweden's military commander-in-chief Gen. Micael Bydén said all Swedes should mentally prepare for the possibility of war.

Member countries, including Poland and Germany, have said that within the next decade Russia could attack nations that have joined the military alliance.

THALES UNVEILS OPENDROBOTICS TO SUPPORT A NEW ERA OF EXTENDED COLLABORATIVE COMBAT ENABLED BY AI



Thales robotics.

Thales is launching OpenDRobotics, a revolutionary new solution that combines robotics technologies with unmanned

air and ground vehicles to provide the armed forces with an integrated, human-in-the-loop mission system capability.

Artificial intelligence transforms collaborative combat by integrating multiple drones and robotic systems, increasing their ability to operate autonomously and reducing the cognitive burden on warfighters.

OpenDRobotics was developed in close cooperation with the armed forces and leverages the expertise of an ecosystem of innovation partners to meet the challenges of high-intensity combat.

With OpenDRobotics, Thales is taking collaborative combat to the next level through the development of a revolutionary integrated system that ties together robotics technologies and different types of drones to provide an automated mission system capability.

Recent conflicts have demonstrated the operational value of drones and robotic systems in terms of battlefield transparency and speed of action to enhance mission effectiveness while keeping human operators out of harm's way. These systems can also saturate enemy defences without requiring larger numbers of human operators or increasing the cognitive burden on the forces already deployed.

Thales is a pivotal player in the field of collaborative combat, providing AI modules, connectivity solutions, mission systems that enable engaged units to operate as a network and a unique ability to integrate with conventional assets already in service with land forces.

Building on the success of CohoMa II1, the OpenDRobotics initiative creates operational value by coordinating the capabilities of a wide range of drones and robotic systems, providing command-and-control and extended collaborative combat functions by capitalising on the Group's long-standing experience with tactical mission systems, in particular for the Scorpion programme.

OpenDRobotics has a central role to play in a broad spectrum of armed forces missions: reconnaissance, intelligence, CBRN2, Special Forces operations, cavalry, artillery, etc.).

OpenDRobotics builds on the open-source ROS (Robot Operating System) and STANAG 4586 standards, which are widely used by NATO and were developed as collaborative initiatives to promote easier integration of drones and robotic systems developed by partners and third parties.

UKRAINE: NEARLY 30 STATES PLEDGE TO SUPPORT UNESCO'S EFFORTS IN THE RECOVERY OF THE CULTURAL SECTOR



A 19th-century building in Chernihiv built in the Gothic Revival style was destroyed by a Russian missile.

Gathered in Vilnius, at the initiative of Lithuania, nearly 30 States pledged to increase their support to the recovery of Ukraine's cultural sector, through the coordination of UNESCO. A medium and long-term plan of action, drawn up by the Organization in consultation with over 40 international and Ukrainian institutions, will be implemented.

"There can be no healing of the wounds of war without culture. There can be no sustainable growth and prosperity without culture. This has been the purpose of UNESCO's work in Ukraine since February 2022. This is why the commitment made today by nearly thirty of our Member States will go down in history."

Ernesto Ottone R. UNESCO Assistant Director-General for Culture

Called for by Volodymyr Zelensky, President of Ukraine, during his meeting with Audrey Azoulay, Director-General of UNESCO, the International Conference for the Recovery of the Cultural Sector of Ukraine, held today in Vilnius (Lithuania), has resulted in a joint commitment by nearly 30 States from North America, Asia and Europe[1] to increase their support for artists and cultural professionals in Ukraine, protect and restore sites, and revive cultural life through the coordination of UNESCO.

Vast needs remain to be met

On Thursday, the number of cultural sites for which UNESCO was able to verify damage passed the symbolic 400 mark. These include 191 buildings of historical and artistic interest, 137 religious sites, 31 museums, 25 monuments, 15 libraries and 1 archive. While the first consolidation and restoration projects have been launched in recent months through the coordination of UNESCO, notably in Kyiv and Odesa, the financial needs to pursue this work are immense - an updated UNESCO evaluation, published in February 2024, puts the cost at an average of \$680 million per year until 2033.

In addition to the physical damage, a significant proportion of cultural and artistic activities have been halted, and many artists have been unable to create or work, leading to a sharp decline in their livelihoods. Since Ukraine cannot meet these needs alone, an increasing involvement from the international community is vital.

A joint action plan drawn up by unesco

In this respect, the commitment made by the States at the Vilnius Conference marks an important milestone, especially as it is accompanied by a concrete medium- and long-term plan, drawn up over the last few months by UNESCO in consultation with the Ukrainian authorities and over 40 national and international organizations.

This plan is composed of 6 areas of action: (1) Monitoring, assessing and documenting damage to cultural heritage; (2) Preventive and urgent measures, repairs, reconstruction and recovery of cultural heritage; (3) Revival of cultural institutions and cultural education; (4) Strengthening cultural and creative industries; (5) Strengthening resilience through culture; (6) Digital transformation of the cultural sector. It will help to prioritize interventions and ensure the effective coordination of international efforts.

(1) Austria, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Finland, France, Estonia, Georgia, Germany, Greece, Iceland, Ireland, Italy, Japan, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Romania, Slovakia, Spain, Sweden, Switzerland, United Kingdom, United States.



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BLOOD LETTING

**“A day of shame for
the British state”**

“It will have blood, they say; blood will have blood.” So says Macbeth in the eponymous play by Shakespeare. In the case of blood being dispensed to seriously ill patients in the United Kingdom and elsewhere over the last few decades, it may also have bacteria, viruses and a variety of unpleasant contaminants that may kill you, or at least make you very ill indeed, probably terminally so. Until very recently, however, doctors, medical staff and especially politicians would have denied that very vigorously, as if their lives depended upon it. As it turned out, it was their careers and reputations that depended upon it while the lives were those of their constituents. Now – and certainly not before time – a series of detailed reports resulting from thorough research has revealed that the UK and other countries have been obtaining blood and blood products from overseas, including the United States, where blood is not donated freely but is paid for, which means that those giving blood have a financial incentive to do so. As a result, much of the blood comes from drug addicts, prison inmates and sex workers, whose blood may not be quite as pure as one might hope.

Let’s take a look at the commonest ailment that can be passed on in blood. Haemophilia is a genetic haematological disease transmitted along with the X-chromosome, which is why it seldom afflicts women, although a woman can pass on the disease to children, especially sons. As a result, the woman is often “carrier” of the disease and rarely becomes ill. Sufferers can benefit from taking frozen cryoprecipitate, a treatment developed in 1955 by the French doctor, Dr. Émile Remigy from Nancy. It is normally injected and must be kept in cold conditions.

Blood circulating in your body is composed of about 55 percent plasma, 40 percent red blood cells, 4 per cent platelets and one per cent white blood cells, of which neutrophils are the most common. Now we know it can also contain dangerous contaminants that endanger lives. We tend to take the stuff for granted, by and large. Spilling blood has been something world leaders have done a great deal down the ages and seemingly have thought nothing of it.



Illustration from Johannes Scultetus' *Armamentarium chirurgicum* (1693) of Jean Denis performing a xenotransfusion from dog to man.

Blood transfusions really began in earnest in the 19th century, with Doctor James Blundell performing the first recorded human blood transfusion in 1818, although there had been a successful blood transfusion in 1667, performed by French doctor Jean-Baptiste Denis. The idea didn't catch on and was opposed by his fellow-doctors, especially after one of his patients died, although it was later revealed that the man had been poisoned by his wife.



James Blundell c. 1820. Engraving by John Cochran.

Nevertheless, blood transfusion as a concept was fairly well established by 1897. The publication of *Dracula* by Bram Stoker in 1897 may have put some people off the idea, but not for very long. There are religions that ban the practice of blood transfusions, such as the Jehovah's Witnesses, who believe no person should sustain his (or her) life with another creature's blood, whether by injection or orally, (a practice that only applies to Count Dracula and his pals), because, they believe Jehovah will turn his back on anyone who receives blood. Fortunately, the ruling only applies to Jehovah's Witnesses and is nothing to do with health issues.

In the UK, Prime Minister Rishi Sunak has told the House of Commons that he has issued “a whole-hearted and unequivocal” apology to victims of what was the biggest disaster in terms of medical treatment in the entire history of the UK's National Health Service. He admitted that the affair brought shame upon the United Kingdom and on quite a few individuals who should have known – and done – better. He told Parliament that it was “a day of shame” for the British state. “Layer and layer upon hurt endured across decades, this is an apology from the State to every single person impacted by the scandal,” he said. And a scandal is what it undoubtedly was, the scale of which has become increasingly clear and utterly shocking. How many people died because of it? Well, it's hard to tell, but we're talking of thousands. And it was all avoidable. The inquiry into it has gone on for years, having been started



UK Prime Minister Rishi Sunak.

by former Prime Minister Theresa May back in 2017. Evidence has been heard from almost 400 people, while an inquiry has also received more than 5,000 witness statements and read more than 100,000 documents.

The final report, unsurprisingly, runs to 2,527 pages and the government has promised financial compensation to everyone who suffered, although the companies that provided the infected products have not paid a penny towards that and appear unlikely to. In France, the scandal caused national outrage and a crisis of confidence in the entire French health system.

I Gallic blood

Looking at what happened in the UK is a dispiriting experience, with unchecked blood products coming from overseas, including from the United States, where until 1984 a proportion of the blood was provided by prisoners in exchange for money. The



Blood transfusion bags.

American blood was cheaper, however and warning signs were ignored as “inconvenient”. That’s how young teenagers found themselves infected with Aids and other sexually transmitted diseases, despite never having experienced sexual intercourse. Additionally, some patients were used as human guinea pigs without any possible advantage and without their knowledge or permission. Risks were not assessed. That’s how in the UK almost 400 children ended up with HIV, with all the pain and terror that implies. Every child infected with HIV also got hepatitis C, with the report concluding that it was impossible to summarise the pain and suffering that resulted from the curiosity of some doctors using children as guinea pigs and the simple carelessness of a great many others. Furthermore, there was clearly a cover-up, with a great number of documents disappearing, apparently destroyed, to make any deeper future research impossible. Nobody seems to know who was responsible for all that secrecy. Some senior UK politicians had even claimed – erroneously, of course – that no conclusive evidence existed that Aids could be spread by infected blood. Everyone knew it could, so that was clearly and simply a lie.

Britain was far from being alone in this, as I’ve mentioned. Now we know that much the same thing was happening in France, with blood contaminated with HIV and hepatitis C being used by the French National Blood Transfusion Centre and spreading diseases very widely, especially to haemophiliacs. In France, traceability was recognised as vital which led to the creation of the French

Blood Agency in 1993, ten years after the French scientists, Professor Luc Montagnier and fellow professors had identified the virus responsible for AIDS. They notified the Prime Minister. In 1984, Agence France-Presse (AFP) reported a study by the New England Journal of Medicine revealing that blood transfusions were linked to around 1% of AIDS cases. An offer to heat treat blood products was declined. Other opportunities were also missed and in 1991, the medical journalist Anne-Marie Casteret published an article in the periodical, L’Événement du jeudi, claiming that the Centre National de Transfusion Sanguine (CNTS) had knowingly distributed blood products contaminated with HIV to haemophiliacs. Afterwards, neither scientists nor politicians were trusted. Important officials, doctors and even government ministers were implicated, and the prime minister of the time, Laurent Fabius, the former Social Affairs minister Georgina Dufoix and former Health Minister Edmond Hervé were all charged with manslaughter, although only Hervé was convicted but not sentenced because he had been obliged to wait for too long. A doctor, Michel Garretta, Director of the National Blood Centre (CNTS: Centre National de Transfusion Sanguine), was given a four year prison sentence, however.

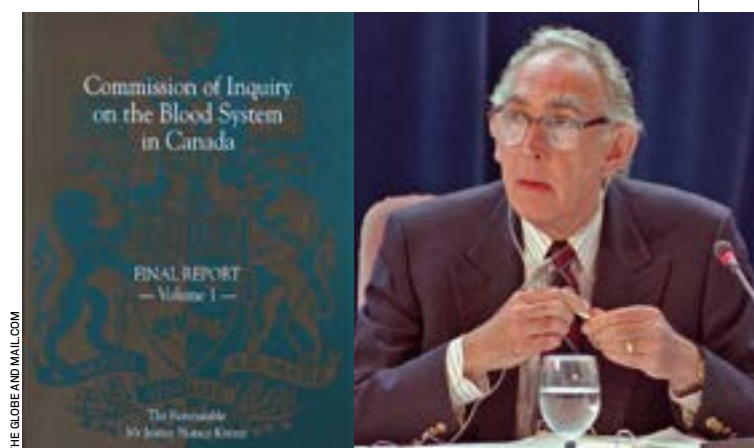
Much the same thing had happened in Canada in the 1980s. In that case, thousands of Canadians were exposed to HIV and hepatitis C, through the use of contaminated blood products. According to a Royal Commission of Inquiry into the problem in Canada, it was the use of contaminated blood products, sourced from high-risk populations that had led to the introduction of the various diseases through blood transfusions. The Commission concluded that it had been “the largest single



Former French Health Minister Edmond Hervé in 2012.

(preventable) public health disaster in the history of Canada”. Like France, Britain seems to have turned a blind eye to the entire incident, choosing

instead to repeat it, albeit not purposely, but certainly carelessly. It was not the intention, of course, to spread the diseases, but just a little care would have prevented it from happening. This was a case of gross negligence on the part of doctors, health officials and politicians. Interestingly, the Canadian government offered victims 120,000 Canadian dollars (€94,402) in so-called “humanitarian assistance”, but only in return for a guarantee that they would not sue. The Commission of Inquiry into the Canadian scandal, referred to as the Krever Commission after Justice Horace Krever, looked into how and why the Canadian Red Cross and various provincial and federal governments allowed the tainted blood to enter the country’s healthcare system, infecting more than 30,000 Canadians with hepatitis C between 1980 and 1990 and infecting some 2,000 Canadians with HIV between 1980 and 1985. Of those who received the contaminated blood, around 8,000 have already died or are expected to die. Some of the dangerous blood products were also exported to Japan, Germany and the UK, and it seems that too many were not tested, wherever they went. In the case of Japan, 2,576 victims have had to be compensated for hepatitis C infections.



Justice Horace Krever.

Australia had to pay out A\$7-million (€4.3-million) to settle 400 cases there, while Italy’s health ministry has allocated €735-million to compensate victims. In Japan, legal action against the Japanese government and the manufacturers of the tainted blood began in 1989. Three former Green Cross executives received prison sentences of up to two years. And so it goes on.

Private enterprise also played a part in the scandal, perhaps unsurprisingly. Since the 1940s, blood supplies in Canada had been in the hands of the Canadian Red Cross Society, an independent charitable body, but blood that was past its use-by date was sent to Connaught Laboratories, a non-profit concern run by the University of Toronto, for safety checks. By the 1980s, Connaught had been sold into the private sector, although it was the Canadian Red Cross that continued to set safety standards. In 1984, some of the large blood banks in the United States started to use a new test to screen for hepatitis B, which is an indicator for HIV. The Canadian Red Cross didn’t follow suit and failed to check for HIV until 1985, but by then another virus, hepatitis C, was getting into the system. It was only in November 1985 that the Canadian Red Cross Society began testing all donated blood for the presence of an antibody linked to HIV. Less than a month after the release of the Krever report, the Royal Canadian Mounted Police (RCMP) laid 32 charges against two senior bureaucrats at Health Canada, as well as against the head of the Red Cross’s blood programme and against

a vice-president of the New Jersey-based company Armour Pharmaceutical, which manufactures the Factor VIII concentrate for haemophiliacs. The company itself and the Canadian Red Cross Society were also charged. Justice at last? Seemingly not. In 2005, the Red Cross pleaded guilty to violating the Food and Drug Regulation Act for distributing a contaminated drug and were fined the maximum sum the Act allowed, Canadian \$5,000 (€3,371.51) and all criminal charges were dropped. Those who suffered personally or who had lost loved ones may feel that the accused got off quite lightly.

This story of stupidity, idleness, self-interest and lying goes back a long, long way. Governments down the years have issued assurances based on guesswork or simply an unwillingness to investigate or accept responsibility. That seems to be very much the case in France and the UK. Former British Prime Minister Margaret Thatcher insisted that people who had been infected with HIV from tainted blood products had been given “the best treatment possible”, although she must have known that wasn’t true. It was, of course, a very gross untruth. Nobody wanted to accept responsibility for anything, especially since it was so much easier (and potentially cheaper) to turn a blind eye to it all and hope it would go away. Even before she said it, her Health Minister at the time, Ken Clarke, had said that there was no conclusive proof that AIDS could be transmitted through blood or blood products.

He did not know this, of course – it was untrue anyway – but it didn’t stop him from trying to avoid responsibility, even at that early stage. Inquiry leader Sir Brian Langstaff pointed out that it had been known since the 1940s that blood could transmit hepatitis, but patients were not warned of the risks, although the World Health Organisation raised the issues with some concern in the 1950s, as well as highlighting ways to minimise them. I’m fairly convinced that most schoolchildren could have seen that Ken Clarke’s assurances were nonsense in any case and were simply “politics” with no connection to truth at any point. It seems that for too many politicians the most important thing to do when faced with an avoidable crisis is to escape the blame, rather than to attempt to put things right.



Former British Prime Minister Margaret Thatcher.

I Who's to blame?

Indeed, that seems to be pretty much the same approach as in Britain's Infected Blood Inquiry. In its final report, it admitted that the infected blood scandal in Britain was not an accident but the fault of doctors, scientists, and a succession of governments. It led to 3,000 deaths and thousands more people contracting hepatitis or HIV. "People put their faith in doctors and in governments to keep them safe and their trust was betrayed", says the report. It continues in terms that politicians will not have liked. "The NHS and successive governments compounded the agony by refusing to accept that wrong had been done. More than that, the government repeatedly maintained that people received the best possible treatment and that testing of blood donations began as soon as the technology was available. And both claims were untrue." Indeed, looking at the various ethical failures, the writer of the report, Sir Brian Langstaff pointed to several factors, including "the intentional destruction of some documents" and the decision of the government to use phrases such as "no conclusive proof" (of a link between blood products and HIV) to give 'false comfort' and misrepresent the known risks.

Of course, there was plenty of proof. All in all, it must be one of the most damning reports about a government's action (or inaction) any western nation has ever experienced. It is, quite literally, shocking, revealing a total lack of responsibility for people's lives and health by all leading politicians and medical practitioners.



Sir Brian Langstaff, chair of the Infected Blood Inquiry, 2018.

The report speaks of a "defensive culture" within government and the civil service, as those most closely involved sought ways to escape blame for their acts (or lack of them). Sir Brian's report calls for serious lessons to be learned, including changes to the way in which medical staff (including doctors) are trained. The report also states that: "Individuals in leadership positions should be required by terms of appointment and secondary legislation to record, consider and respond to any concern about the healthcare being provided, or the way it is being provided, where there reasonably appears to be a risk that a patient might suffer harm, or has done so. Any person in authority to whom such a report is made should be personally accountable for a failure to consider it adequately." Sir Brian clearly wants to ensure that trying to duck the blame for failures will no longer be acceptable. It's an extremely detailed report that is also very damning of common practices.

The government has reacted quite quickly, with Prime

Minister Rishi Sunak calling it "a day of shame for the British state". He is not wrong there. He offered an apology, although it cannot bring back the great many who have died because of the scandal. The scale of the whole affair is clear from the Prime Ministers' promise to pay compensation to the many victims promptly, with officials from the Treasury talking of sums in excess of £10-billion (€11.73-billion). The size of the final pay-out should become clearer at the



Blood transfusion.

time of the Treasury's next Autumn Statement. Nothing is likely to be finalised before Britain's upcoming General Election in July, although the report writer, Sir Brian Langstaff, has urged speed in dealing with the issue. The UK government had previously accepted the moral case for generous compensation to be paid as quickly as possible.

It has since become clear that the infected blood and blood products used in various treatments had not all necessarily been required for clinical reasons, leaving a great many questions to be answered, such as why did the UK continue to import such products as the very risky Factor VIII concentrates from the United States after the dangers had been realised? Some of the various ingredients continued to be used for transfusions, even when safer alternatives were known about and available. Some of the concentrates being imported carried the HIV virus, but the authorities decided not to switch to safer alternatives, even deciding in 1983 not to halt imports, despite knowing the likely consequences. The report has no powers to recommend prosecutions, but in France the former health minister Edmond Hervé was convicted for his rôle in a similar scandal there, although he was not punished for it. The judge ruled that the length of the scandal meant he had not benefited from the "presumption of innocence". The director of France's national blood centre, Michel Garretta, received a 4-year jail term for the part he played in the issue, however.

Learning lessons? What lessons?

According to Britain's Haemophilia Society, during the 1970s and 1980s, some 6,000 people received treatment for bleeding disorders that involved the use of contaminated blood products. In quite a few cases, sufferers had accidentally infected a partner with such things as HIV and hepatitis viruses because they were unaware that they carried them. During those two decades, some 6,000 people suffered from haemophilia or other bleeding diseases and more than 3,000 people died, including 380 children. According to the Haemophilia Society, fewer than 250 sufferers remain alive. Sir Brian Langstaff, Chair of the inquiry, has concluded that many of the HIV and hepatitis C infections inflicted on the community could and should have been prevented and he blamed a cover up which had been "subtle...pervasive and...chilling," as he put it, explaining that: "To save face and to save expense, there has been a hiding of much of the truth." That is now over – probably – but knowing the truth won't bring back the hundreds whose lives were lost or severely blighted. The prison system in the United States is known to have made huge profits from selling its infected blood products to foreign health authorities that they should have checked for safety but failed to do so. There is so much blame here attached to so many people that it would have to be spread around with a large shovel.

At the same time, a lot of individuals look likely to come in for severe criticism. Take, for example, Dr. Peter Jones of the Newcastle Haemophilia Centre at Newcastle's Royal Victoria Infirmary. He had consistently played down the risks of haemophilia treatment spreading AIDS. He was wrong, and even gets a mention in the final report for "not taking the risk of AIDS as seriously as he should have done." The report comes too late to make a difference; Dr. Jones retired in 2000, but he's not alone in shouldering some of the blame. Leading haematologist Professor Arthur Bloom has also come in for heavy criticism for the way he "disastrously"



Sir John Major, UK Prime Minister from 1990 to 1997 testifying at the Infected Blood Inquiry.

influenced the thinking of the UK Department for Health and Social Security (DHSS), failing to pass on warnings and advising the continued import of commercial factor concentrates. Some of the worst mistakes of the scandal were made at Lord Mayor Treloar College, in Alton, Hampshire, during the 1970s and 1980s, where a number of male pupils were given on-site treatment for haemophilia, but unintentionally using plasma blood products that were infected with hepatitis C and HIV. More than half the students who received the treatment are now dead. The report doesn't blame the school's administrators, but it does place quite a lot of blame on the NHS clinicians who administered the

treatment on-site and seem to have regarded the students as "objects of research".

And so, this scandal grinds to a somewhat belated halt, just like the one in France. Politicians are supposed to protect us all from harm, not exploit us for money, but by no means all of them seem to have realised that. Similarly, doctors, surgeons and specialists have been trained to help us to overcome the many and various germs, bacteria and viruses that beset us on our ways through life, but it seems that they, too, can be deflected off course by the lure of cash and well-stuffed bank accounts, given half a chance. At the end of the day, it's not politicians who rule us, it seems, but their individual greed and self-interest. It's a disappointing lesson we have learned in both France



Lord Mayor Treloar College in Alton, Hampshire, UK.

and the UK: trust nobody, whether from the world of politics or the medical profession. This scandal has – sadly – shown where their true interests lie. Money, as has been shown to be the case so many times in the past and on so many occasions, rules. I received this email from one campaigner who has learned the cost of inaction: "My name is Sam Rushby. I lost my Mother, Father and four-month old baby sister to HIV as a result of the infected blood scandal. By the time I was three years old, my entire family had died. I lost them because my father received HIV-infected blood products, unwittingly infecting my mother, who gave birth to her HIV-positive daughter. Evidence seen by the Infected Blood Inquiry has proven that the Government, pharmaceutical companies and the medical profession knew that these blood products were infected. No one, including my family, was warned." They were just three of the thousands of people impacted by this scandal. Sam Rushby, like a great many other victims, deserves rather more than financial compensation and an apology, although he certainly deserves that, too. But he also deserves a guaranteed assurance that this kind of shocking misbehaviour by the people in charge, both in the medical profession and in government, will never be repeated, while those responsible on this occasion must be properly, fairly punished.

T. Kingsley Brooks



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Swedish armed forces conducting readiness drills in the Baltic region

TAKING SIDES

**Sweden ends its
long-held neutrality
in the face of
Russian aggression**

It was Theodore Roosevelt, the 26th President of the United States (1901-1909) who said that: “With a great moral issue involved, neutrality does not serve righteousness; for to be neutral between right and wrong is to serve wrong.” If anyone in Russia wants to work out exactly why neighbouring Sweden has dropped its traditional neutrality in international affairs, there’s the answer, right there. If you want to close the book on a country’s traditional neutrality, simply attack its neighbours and send military combat aircraft into its airspace uninvited. Overturning that long-held peaceful position after two centuries of not “taking sides” was quite an achievement. Sweden’s neutrality began in the Napoleonic Wars, after all. It joined NATO only in March 2024, making clear where its sympathies and allegiance lie, should a conflict arise.

It was certainly a highly significant move for the Swedes, as Prime Minister Ulf Kristersson made clear in his address to the nation. “This is an epoch-making event for our country,” he said. “After more than 200 years of non-participation in military alliances, Sweden has taken the step to become part of the Western defence community. Together, we are stronger and more secure.” If you listen carefully, you can almost hear Vladimir Putin’s teeth gnashing, although he might have foreseen this development if he had thought about it. Sweden lost Finland to Russia after the Great Northern War of the early 18th century but nevertheless concluded that neutrality would be the best way forward. Its latest move, to join up with the alliance, follows earlier hints of where its sympathies lay, Sweden having joined NATO’s Partnership for Peace agreement back in 1994 and hence starting to participate in NATO exercises, which led to specialised training for its military forces and their participation in various interoperability and preparedness programmes. But full membership comes as a direct result of Russian aggression and threats and makes clear to the world where Stockholm’s sympathies lie.



Ukrainian President Volodymyr Zelenskyy and Swedish Prime Minister Ulf Kristersson signed a Security Cooperation Agreement in Stockholm on May 2024.

There are fears that Russia may seek to interfere in the Baltic Sea region, possibly seeking to take over the so-called Suwałki Gap, a Polish possession between Russian-owned Kaliningrad and Belarus, even if local sympathies there are likely to be on Russia’s side. There has been a general tendency towards the militarisation of Europe in response to Russia’s ill-founded aggression. Europe has even drawn up plan for a “war economy”, which involves higher spending on defence, as well as on energy and supply-chain security. It also involves greater incentives for Europe’s various arms manufacturers to step up production of armaments and to develop new ones. When crisis comes (as seems increasingly likely) the demand for military hardware designed and made in

Europe must increase. And what is more, Sweden is only too well aware of their country’s close proximity to Russia. The bid to join the Alliance has widespread support amongst an increasingly nervous public; according to a poll, 68% of



The Suwałki Gap is a critical chokepoint with immense strategic value for Russia’s military and geopolitical strategy. Its control would disrupt NATO’s defense plans, isolate the Baltic States, and shift the balance of power in Eastern Europe.

Swedes declared themselves in favour of the move. It’s hardly surprising (the Kremlin is hardly subtle about its intentions): Russia has deployed landing craft through the Great Belt Strait, obliging Sweden to increase its military presence on the Island of Gotland in the Baltic Sea. The Swedes are hoping that membership of NATO will discourage this adventurism on Moscow’s part. It will be in Sweden’s best interests to reassure the Russians that membership of the alliance is a purely defensive measure that in no way threatens Russia and that access to the Baltic Sea remains – and will continue to remain – open. However, Sweden’s long-held commitment to neutrality ended with Russia’s full-scale and unprovoked invasion of Ukraine in 2022. Russia may well claim that NATO is trying to encircle it, but it views any attempts at defence as an act of open aggression.

Protect and survive

What does Sweden bring to the alliance? It brings Gotland, as I mentioned, which could prove to be a vital hub in event of reinforcements being deployed, but it also produces very high-quality military hardware, such as Sweden’s impressive Gripen fighter jets. It also has some pretty powerful, fast and well-armed submarines. NATO leaders hope that Sweden’s decision to join will help to persuade other waverers, such as Austria and Ireland to sign up, too. Not surprisingly, Russia has responded to Swedish membership with increased military manoeuvres, fearing (according to Moscow’s claims) that NATO is trying to encircle it. Sweden, for its part, fears further aggressive moves by Moscow. “Through the support of the international community,” said

Prime Minister Ulf Kristersson in his address to the country, “Ukraine daily demonstrates its impressively strong will to defend itself. But Ukraine is not only fighting for its own independence, it is fighting for our right to determine our future, for everyone’s right not to be invaded and oppressed by countries like Russia.” Putin, of course, is oblivious to such concerns and seems to believe that independent countries would love to be ruled from Moscow. Sorry, Vlad; that’s simply untrue. It wasn’t an attempt to replace what he called “a NAZI regime” with something better. It was, quite simply, a war of subjugation and extinguishment against Ukraine. Sweden, until then, had observed neutrality, although its sympathies lay with the West. Like several other countries, it saw Russia’s unprovoked aggression as the biggest threat to peace in Europe since the Second World War.

Another reason for Sweden feeling nervous about Russia is its commitment to nuclear energy, upon which Sweden’s climate policy depends. It aims to bring on-line two new reactors by 2035 and a further ten new reactors by 2045. An energy policy based on it being 100% fossil-free and renewable was brought in when the current government came to power in 2022. Its aim is an energy policy that creates no pollution at all, and that plan relies on nuclear power. It’s a massive change of direction for Sweden, which held a referendum on the subject in 1980, when the people voted that no new nuclear reactors would be constructed, while existing ones would be phased out by 2010. It didn’t happen, of course, and the European Commission, in common with the Stockholm government, now see the construction of nuclear power plants as a “green investment”.



Swedish Gripen jets

NATO membership undoubtedly caused an escalation in the tensions between Finland and Russia, which now says it regards Finland as “an unfriendly country which means measures against us.” But even if NATO membership leads to increased threats from Moscow in the short term, there are hopes that the alliance cooperation will strengthen the members’ military preparedness in the long term, according to both Finnish and Swedish authorities. The threats have already been made. Finland, which shares a 1,340-kilometre border with Russia, joined NATO in 2023, soon after Russia began its so-called “special operation” (which seems to be Putin-language for “full-scale invasion”) in February 2022. Moscow accused the West of “dragging Finland into the military alliance just to cause a rift between Moscow and Helsinki, although that rift was very clearly caused by Russia’s invasion of Ukraine. Putin invariably fails to see what’s obvious if it doesn’t match his world view. He appears to think he should run the world, or at least Europe.

We have to hope he never gets to fulfil his ambition, or his dream could become our nightmare. Perhaps he should try his hand at fiction writing; he clearly has a vivid imagination. In

December, Finland closed its border with Russia, with the Finnish authorities accusing Moscow



Swedish Prime Minister, Ulf Kristersson at the ceremony marking Sweden’s accession to NATO, March 2024.

of carrying out a suspected “hybrid attack”, purposefully assisting undocumented migrants to cross its border, which Russia has denied, of course. Similarly hostile activity on Russia’s part may await the Swedes.

Perhaps we should really liken Putin to the trolls of Scandinavian folklore. These giants, who were the enemies of Norse gods, lived in the mountains of Utgard and maintained a vaguely human-like appearance, although they were huge and ugly. Most of the stories about them stress their stupidity, although they lived (it’s said) in castles high in the mountains or deep in the forests. And, of course, we must not forget the dreaded Kraken, which seems to have been in effect a giant squid, albeit one that seems to have been dreaded on land as well as sea. Some of these monsters have found their way into popular children’s stories, such as Lord of the Rings and the Harry Potter series. Monstrous they undoubtedly were, but they didn’t actually exist, of course (as far as I know). Unfortunately, Putin does, despite being at least as monstrous as the creatures of Scandinavia folk tales and far more ambitious for power. My favourite Scandinavian folk creature is the Huldra, or Tallemaja, a beautiful forest-dwelling woman with a cow’s tail (which she hid when she met humans), who was known for her wild ways. She even crops up in the Adam and Eve story, as one of the children they had but chose to hide. Actually, she seems to have been, in the legends, considerably nicer and much less dangerous than Putin.

Strangers and newcomers

Immigration has become a growing issue in Sweden over recent years. Today, one in five

Swedes were born outside the country. That's two million out of a population of around ten million, while almost a quarter of Swedes have two foreign parents. In large cities, the proportion is even higher. Indeed, one in three Swedes is said to have at least one foreign parent. According to



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Jimmie Åkesson, leader of the anti-immigrant Sweden Democrats. In obtaining more than 20 percent of the vote in 2022, the Sweden Democrats constituted the right-wing bloc's largest presence in the Swedish parliament. Prime Minister Ulf Kristersson has to rely on support from SD for its majority.

"The Critic" publication, "the demographic mix has evolved so that it's now close to that of the former colonial powers, such as France and Great Britain." In an odd sort of way, perhaps that also accounts for changes in the composition of that immigration. Half a century or so ago, the incomers were people seeking work, mainly from neighbouring Finland. Now, however, it's mainly people from Africa and the Middle East who are seeking a new life in the land of ABBA, IKEA and Volvo. Immigration has been increasing, too. Sweden may once have been home to the Vikings, who were not known for having a peaceful attitude towards the world in general, but Sweden's social democracy, that blossomed after the Second World War, was based on progressive ideals and has led to a country and a people largely at peace, if a little warily. Now, instead of trying to take over the world by force of arms, its athletes compete successfully for honours. Sports personalities like Zlatan Ibrahimovic, Björn Borg and Ingemar Johansson are conquering the world but in a rather more peaceful way, without using swords, chain mail or battleaxes, even if one can still do a lot of personal damage with a pair of football boots, a tennis racket or a pair of boxing gloves (just in case you were wondering what those sports personalities were famous for or had forgotten!).

Unfortunately, Sweden's "open door" policy towards immigration has come at a cost. Inequality has evolved, even if not quite so severely as in some other countries, but there has also been an explosion in violent crime, with the highest rate of gun-related violence in Europe. In 2022,

more than 60 people were shot dead in the country and there were 88 bombings. Even schools in Sweden are now finding a big upsurge in the number of pupils who don't speak Swedish, which had never been the case before, although it had long been a familiar problem in, say, France and the UK. In a number of Swedish cities, some neighbourhoods are now disproportionately inhabited by immigrants and the numbers of violent crimes are on the rise. Two or three decades ago, the most common type of homicide would have been committed by a drunkard at the victim's home, or else in a street fight involving alcohol or drugs. Now most of them are gang-related. In September 2022 alone, eleven people were killed in this way out of a population of just 10.5-million, and it's said that the killers often get the wrong house or misidentify the intended victims, killing people who were not only innocent but who had no connection with the intended target. However, to criticise the immigration policy and the influx of immigrants is regarded as racist and strongly discouraged. Right-wing parties are talking about repatriation, but that is unlikely to find much favour. Meanwhile, the social problems continue, as does the crime wave, despite increased penalties for a number of criminal offences and increased resources for police forces facing crime on a daily basis, as well as trying to prevent the arrival of low-skilled asylum seekers. Sweden's experience with running an open democracy and open-door immigration policies is not, nor ever can be, problem-free.



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Demonstrations in support of Palestine in Stockholm.

Longer-term problems need long-term solutions

Sweden's decision to join the Alliance should be seen as part of a general trend in Europe towards militarisation, spurred on by a fear of Russian territorial ambitions. But at least the people of Sweden can dream of a better, less threatened future. "I dream, therefore I exist," wrote the great Swedish novelist and playwright August Strindberg. With Russia getting increasingly warlike next door, it may seem more like a nightmare now. There again Strindberg is best known for writing a book about the afterlife, in which he clearly believed. Given the current circumstances perhaps that's a sound idea.

The international policing organisation Interpol points out that Sweden's location makes it attractive to criminal gangs. On its website it explains: "Sweden is mainly a destination and transit country. This applies to drugs, firearms, and the trafficking and smuggling of human beings." The organisation publishes an online list of those it is seeking who are thought to be in Sweden. Meanwhile, Sweden has seen a worrying rise in gang crime, including paid assassinations. Sky News interviewed one young

killer in a park in Uppsala. The man, who can't be named, said: "If you shoot somebody in the leg, you'll get 50,000 krona (€4,380)," he says. "Before, if you were going to kill somebody, you got a million krona (roughly €90,000) - but now the prices are so low that everyone kills." Hopefully, not quite everyone, or there'll be nobody left. In fact, Sweden has just signed a pact with France to tackle crime jointly. "Together with France, we are now



Swedish Police arresting a member of the neo-Nazi Nordic Resistance Movement in Gothenburg.

accelerating our efforts against organised crime," said Minister of Justice Gunnar Strömmer. "The new agreement will improve our joint capability to prevent, detect and investigate serious crime, such as trafficking in drugs and arms, through increased exchange of information and cooperation."

Sweden remains an attractive destination for migrants, despite the rise of far-right groups opposed to letting foreigners settle there.

Racism is a relatively new phenomenon in Sweden, but it's very real, and the colour of a migrant's skin has a seemingly profound effect on their prospects for finding a job. With the country having appeal for migrants from Muslim countries, Sweden is also seeing a rise in Islamophobia. The presence of so many Muslims has also led to an increase in anti-Semitism and far right neo-Nazi organisations like the Nordic Resistance Movement. Hitler would have been proud. According to Wikipedia, Anti-Black and anti-Indigenous racism in Sweden are both rooted in the history



Swedish Minister of Justice Gunnar Strömmer.

of the Swedish colonization of the Indigenous Sámi people, the Swedish slave trade, and Swedish colonialism in Africa, North America, and Asia, as well as Swedish government promotion in earlier years of racist ideologies. They no longer do that, of course, pursuing a somewhat more liberal agenda these days.

But Sweden can also boast a much-admired armaments industry, and the growing tension with Russia is serving it well.

In 2014, Sweden was the world's third largest exporter of weapons, just behind Israel and Russia. With cumulative sales of some \$14.3-billion (€13.38-billion), it's the world's 9th largest exporter of arms. In 2014, it was the third largest weapons exporter per capita at \$53.1 per capita (€49.68 per capita), behind only Israel at \$97.7 (€91.38) and Russia at \$57.7 (€53.98), all of those figures are 'per capita', of course. From 2009 to 2019, it was the world's ninth largest arms exporter in U.S. dollars with a cumulative value of \$14.3 billion (€13.38-billion). For a peaceful country, committed to peace and supposedly opposed to war, that's quite a record.

Sweden's membership of NATO may prove busy. It recently had to scramble two of its excellent JAS-39 Gripen fighters to force a Russian SU-24 bomber, spotted in airspace over one of its Baltic islands, Gotland, to turn around and return to its base. The incursion was condemned by Sweden's political leaders but that is unlikely to persuade the Kremlin to abandon such tactics. Russia has become the playground bully, always trying to throw its weight around. Analysts say the incident



In June 2024, Swedish Gripen jets were sent up to intercept a Russian SU-24, after it failed to respond to a radio warning by military air traffic controllers.

demonstrates that Putin doesn't really want a nuclear war, but he wants to threaten NATO whenever he can, even if the Russian air force has nothing to match Sweden's Gripen fighters. He should remember, of course, that it's his aggressive actions that have led to Sweden joining NATO, which cannot have been an outcome he welcomed.

Like most countries – indeed, like ALL countries – Sweden has its problems, but it is dealing with them in a largely peaceful way, despite its burgeoning arms industry and problems with racism and organised crime. Putin and any other potential enemies must bear in mind that the land of the Vikings is not and never will be an easy mark. Its swords and battle axes remain sharp and ready for battle. And they're not yet ready to go to Valhalla to rest from their warlike endeavours. For them, Ragnarök (Doomsday) has not yet arrived, so, led by Odin, they don't need to go out and fight the ice giants. Not yet, anyway...

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THE GREAT SPACE RACE

**Laying claim to
the Cosmos**

On 6 December 2020, in the early hours of the morning, a capsule resembling a rice cooker fell from the sky and landed at the Royal Australian Air Force's Woomera test site in South Australia. This capsule contained 5.4 grammes of samples taken by the Japanese space probe Hayabusa2 from the subsurface of the near-Earth asteroid Ryugu. The 40 centimetre capsule was released by Hayabusa2 during a flyby of Earth, before setting off on another ten-year mission. Researchers who analysed the samples described them as some of the oldest and most primitive material ever available for laboratory study, providing a unique opportunity to explore the origin and evolution of our solar system.

The success of the mission was a significant step forward in the field of scientific discovery and in our endeavour to unravel the mysteries of the cosmos. It was also a convincing demonstration of the advanced technical capabilities of the space agencies, proving their ability to accomplish complex tasks such as landing on asteroids, extracting valuable resources and returning them safely to Earth. This remarkable achievement has sparked great enthusiasm in the private sector, and many believe that space mining could potentially generate billions of dollars in profits. It is estimated that the development of the resources of the 10 least expensive near-Earth asteroids alone could result in a profit of 1.5 trillion US dollars.

With the tantalising prospect of such astronomical profits, the lure of staking a claim to space is undeniably strong. However, the question arises: are there valid reasons to allow the ownership of resources and territories in space? On what basis, if any, can a nation or organisation claim ownership of a particular location or resource in the vast expanse of the cosmos?



Capsule released by Hayabusa2 after landing.

The power and perils of ownership

The way property rights are managed in space has significant implications for the scale and nature of exploration, scientific research and commercial activity, as well as the distribution of wealth on Earth. The laws that are established to govern property in space will surely determine the incentives for states and private companies to mine space resources, explore celestial bodies and deploy satellites in Earth orbit. In other words, the rules we establish for space ownership will determine the motivations and behaviour of key players in the space industry, with far-reaching consequences for the future of humanity in the cosmos.

On the one hand, ownership is beneficial because it motivates

individuals and organisations to use land and resources as productively as possible. This concept is reflected in various forms by the English Enlightenment philosopher John Locke. He holds that property enables individuals to reap the fruits of their labour rather than having their efforts arbitrarily confiscated by others. Ownership provides the security and stability needed for more productive, long-term utilisation of land and resources. In addition, the profitability of space tourism, mining, communications systems and other ventures means that more resources will be available to fund space exploration and scientific research, enhancing our knowledge and capabilities in these areas.



John Locke (1632-1704).

However, ownership can also have disadvantages. While it can incentivise productive use, in certain cases it can also lead to less productive use. For example, if a researcher obtains exclusive rights to mine an asteroid or build a satellite network, public access to the resulting benefits may be hindered because the researcher would no longer need to act as urgently before others do. Regardless of whether or not ownership promotes productivity, it is clear that it could exacerbate inequality on Earth. The ability to claim ownership of space resources or locations is only open to those who already have significant wealth, i.e. a select group of advanced economies and private sector companies. Under current circumstances, freeing up space ownership could simply allow the wealthy to accumulate even more wealth.

Rights and responsibilities

The term "property" may prove to be too broad when trying to describe the complicated economic and moral implications at stake. It is too broad and does not provide the necessary precision to



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President Lyndon B. Johnson witnessing the signing of the Outer Space Treaty in 1967 by delegates from the U.S., the U.K., and the U.S.S.R.

recognise the specific boundaries set out in the current international space treaties.



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Joshua Cohen.

Consider the insightful breakdown presented by Joshua Cohen, a contemporary political philosopher, in his lectures at MIT in the early 2000s. Cohen proposed three distinct categories of property rights to be considered:

- **Control rights:** In the area of property, control rights form the basis, giving

individuals the moral and legal power to prevent others from taking or using their property without their consent. This form of property corresponds to the traditional understanding of the term.

- **Use rights:** In parallel to rights of control, rights of use come into play, giving individuals the privilege to use certain facilities, be it a park, a river or even celestial bodies such as the moon or places in low earth orbit. Rights of use do not presuppose ownership in the traditional sense.
- **Benefit rights:** Finally, usufructuary rights are claims to the fruits and benefits that result from one's efforts or property. These include the rewards obtained through personal endeavours, such as income from work, as well as the profits resulting from one's own assets, such as income from oil reserves on one's own land.

Although the existing space treaties are often criticised for their lofty goals, their limited practical guidelines, and their inherent ambiguity regarding space ownership, viewing the treaties through the lens of these three property rights can provide valuable insights. By examining these treaties in the context of rights of control, use and benefit, one can begin to unravel the intricate web of space ownership and illuminate the underlying principles and implications.

Take, for example, the Outer Space Treaty of 1967, which boldly proclaims that "the exploration and utilisation of outer space shall be for the benefit of all peoples." This landmark treaty, supported by the major spacefaring nations, explicitly states in Article II that outer space, including celestial bodies such as the moon, cannot be subject to national appropriation. Consequently, rights of control are effectively excluded. Under the terms of the treaty, space-faring nations are prohibited from laying claim to specific locations or resources in outer space,

thereby preventing the exclusion of others.

However, the treaty allows states to operate in outer space, enabling the potential extraction of resources and occupation of land without claiming ownership. While the wording of the treaty is open to interpretation, it is consistent with the concept of usufructuary rights when it comes to outer space and its invaluable resources. Given the treaty's inherent ambiguities, it seems consistent with an approach that emphasises the rights to use space rather than asserting control over it.

A somewhat more explicit set of guidelines can be found in the Moon Agreement, which was adopted by the United Nations General Assembly in 1979. This treaty presents a vision of the moon and other celestial bodies as the common heritage of humankind. Similar to the Outer Space Treaty, the Moon Agreement explicitly prohibits ownership in the sense of control rights. However, it goes a step further by taking up the concept of utilisation rights and introducing a principle of relatively equitable distribution of the benefits derived from space resources that smacks of Lockean influence.

According to the agreement, there should be an "equitable" sharing of the benefits from resource extraction, with a particular emphasis on taking into account the needs and interests of developing countries. In addition, the Moon Agreement recognises that those countries that have contributed directly or indirectly to lunar exploration should be given "special consideration" in the distribution of benefits. This recognition reflects the principle that those who invest resources and take risks in the extraction of lunar resources should be rewarded for their efforts. Thus, the Moon Agreement contains both egalitarian principles and recognition of the importance of investment and

risk-taking in the extraction of resources.

While the Moon Agreement represents a laudable attempt to create a more equitable framework for the distribution of space benefits while recognising the importance of investment and effort, it suffers from one significant drawback: the absence of three prominent spacefaring nations - the United States, Russia and China - as signatories. The United States, in particular, takes a view that sees space not as a pristine national park, but rather as an untamed frontier that offers a wealth of opportunities for those brave enough to embark on the journey. However, caution should be exercised here, as this view risks repeating the reckless and unjust patterns of European and American colonial activity - a history that should ideally be avoided.

Nonetheless, in 2015, President Barack Obama signed the US Commercial Space Launch Competitiveness Act, which grants private companies the right to use and claim non-living resources from asteroids, moons and other celestial bodies, though not the bodies themselves. Similar laws have been enacted in countries such as Japan, Luxembourg and the United Arab Emirates, raising fears that space ownership issues could be resolved through a "first mover advantage" paradigm. Essentially, those who reach the stars first can claim ownership rights to whatever they can get out of them. This trend highlights



President Barack Obama visiting the NASA Kennedy Space Center in Cape Canaveral in 2010.

the evolving landscape of space ownership and the potential impact this could have on future space exploration and resource utilisation.

Outer space: the new battlefield?

Due to the widespread presence of missiles and satellites, the threat to outer space is growing, leading to an escalation of militarisation and the arms race in this area. This raises the important question of whether it is possible to prevent the transition from the militarisation of space to its weaponisation and thus prevent the outbreak of a “space war” in the future.

The United Nations has made numerous efforts to prevent the proliferation of weapons in space and to enact regulations against their use against and by space objects. The UN Committee on



Space Force Gen. John W. Raymond.

the Peaceful Uses of Outer Space (UNCOPUOS) focusses on issues related to the commercial and civilian use of outer space, while discussions on military concerns and challenges are held at the Conference on Disarmament and the UN General Assembly. These platforms actively pursue initiatives aimed at preventing an arms race in outer space.

The conflict in Ukraine has certainly highlighted the increasing importance of space capabilities for ground-based armies. In October 2022, General Jay Raymond, the then head of the US Space Force, emphasised in an interview with the BBC that *“this conflict is the first case in which commercial space capabilities have played a significant role”*. It is also the first major conflict in which both opposing sides have developed a strong dependence on space assets.

General Raymond, who was naturally reluctant to disclose specific details, pointed out that the US and its allies are supporting Ukraine in various ways: *“Space assets are being used to enable precision strikes and provide early warning systems for missile threats that could potentially strike the United States, its allies or partners”*.

There are currently over 5,000 satellites in space, most of which serve commercial purposes. However, there are also a significant number of military satellites, of which the United States, Russia and China have the largest number.

Ukraine has no military satellites, but has received extensive

support from Western states in a variety of forms. One of these is the provision of intelligence, surveillance and reconnaissance (ISR) capabilities. Ukraine has gained access to an unprecedented amount of commercial satellite imagery, enabling better monitoring and surveillance.

According to Air Vice-Marshal, the head of the UK Space Command, in addition to commercial and civilian intelligence, surveillance and reconnaissance (ISR) support for Ukraine,



Air Vice-Marshal Paul Godfrey.

numerous countries with military space capabilities are also closely monitoring the situation in Ukraine.

The use of space-based ISR played a crucial role in identifying the initial deployment of Russian troops prior to the invasion on 24 February, as well as monitoring the ongoing movement of troops and military equipment. Satellites have played an important role in tracking Russian warships in the Black Sea, including the cruiser Moskva, which was eventually sunk by Ukraine.

Air Vice-Marshal Godfrey emphasised that ISR satellites are also crucial for *“telling the truth”* about the war.

He cited the massacre in Bucha, near the Ukrainian capital Kyiv, as an example. Russian claims that the bodies of civilians were already lying in the street when they arrived have been disproved by the time-stamped satellite images, which prove the opposite.

Troubling developments

As recently as February 2024, the US expressed concern and warnings about Russia’s alleged development of a nuclear anti-satellite weapon (Cosmos 2553), whilst also emphasising that it has not yet been deployed. In Moscow’s view, the US was using the claims about this weapon as a pretext to force Congress to authorise additional

aid for Ukraine by any means necessary.

Be that as it may, on April 25, 2024 at the UN Security Council, Russia while reaffirming its strong commitment to the existing treaty, used its right of veto to prevent a resolution calling on all



Cosmos-2553.

nations to prevent the escalation of an arms race in outer space. The resolution, co-sponsored by the US and Japan, was intended to reaffirm a principle originally laid down in the 1967 Outer Space Treaty.

The draft resolution also emphasises the importance of complying with the Outer Space Treaty, which prohibits the placement of objects containing nuclear weapons or other weapons of mass destruction in Earth orbit.

Of the 15 members of the UN Security Council, 13 voted in favour, while Russia, as one of the five permanent members with veto power, voted against the resolution. China decided to abstain from voting.

The US ambassador to the United Nations, Linda Thomas-Greenfield, expressed her bewilderment at Russia's decision to veto the resolution. She described the resolution as a clear reaffirmation of a legally binding commitment and said, *"President Putin himself had publicly stated that Russia had no plans to deploy nuclear weapons in space. So, this veto begs the question, why? Why, if you are following the rules, would you not support a resolution that reaffirms them?"*

She expressed the suspicion that there may be hidden motives behind the veto and asked what Russia could possibly be hiding.

The increasing dependence on space gives rise to fears that disputes could spread beyond the terrestrial, maritime and aerial domains. What seems certain though, is that the militarisation of space is well under way.



Ambassador Linda Thomas-Greenfield.

A just distributuon of space

The reality is that current circumstances suggest that space and its resources are shared out on a "first-mover advantage" basis, so that whoever takes possession of them first gains ownership of them. However, this approach departs from the high ideals expressed in previous treaties. Space exploration is usually promoted as a way to expand our understanding of the universe and ourselves, and to serve the betterment of humankind as a whole. These ideals have led many people to accept, if not wholeheartedly embrace, the public costs and risks associated with space exploration. Regrettably, we do not always live up to these standards.

Granting rights of use and possibly even control to both public and private organisations undeniably benefits certain parties. For example, SpaceX's Starlink project, with its deployment of 12,000 communications satellites in low-Earth orbit, has facilitated internet access for remote communities and even assisted Ukraine in its defence against Russian attacks. By allowing near-Earth space mining, we create opportunities for greater space exploration as spacecraft can gather the necessary resources en route, reducing the need for resupply from Earth. This opens up the potential for the discovery of minerals that can contribute to domestic industry.

However, it must be recognised that most of these benefits will primarily accrue to wealthy companies and nations that are able to actively participate, exacerbating the growing divide between wealthy societies and those that lack resources. As a result, the less well-endowed societies will fall further and further behind, exacerbating existing inequalities.

At present, investors are faced with the dilemma of which space sector to invest in, as all of them seem to have great potential with the prospect of considerable profits. The question remains whether to favour asteroid mining, space lifts, the colonisation of Mars or high-speed global satellite internet. While these decisions may seem insignificant given the primary focus on financial gain and the uncertainty of short-term profitability, they will ultimately determine our future. It's about the kind of space we envision for ourselves and future generations.

There are currently well over 2000 operational satellites in low Earth orbit. As part of the Starlink project, up to 12,000 additional satellites are to be placed in low Earth orbit, with an application submitted for a further 30,000 satellites. At this rate, low Earth orbit is likely to be saturated in the near future. It is worth noting that SpaceX is not the only player trying to capitalise on this burgeoning market. Competitors such as Facebook's Athena project, O3b Networks' OneWeb, Softbank and



© SPACEX

Starlink satellites before deployment.

Qualcomm are already in the game and plan to deploy their own constellations of several thousand satellites in the coming years.

We have also reached a turning point; China is gradually catching up with the United States as India and Japan continue to become serious players in low-orbit satellite technology. Hundreds of companies have been created to support all these new programmes. And as in any fast-growing sector, there will be winners and losers in the years to come.

Will there be enough space?

As we expand our presence in space, we run the risk of repeating the same mistakes we made on Earth. Will we pollute low Earth orbit to such an extent that navigating to the moon becomes a treacherous obstacle course of satellites? And what is the future of space tourism and its impact on the space environment? As the exploration and development of space progresses, it is crucial to reflect on these important issues.

The crucial difference between the new and old space travel may not lie in the cost of launching a satellite into orbit or in the ability to land a rocket stage on a sea-based platform. The real difference may be ethical. If there is innovation, it should focus on discovering new ways to utilise space, with a particular focus on avoiding repeating the mistakes made on Earth.

How can we work together to ensure that all societies have equal opportunities and access to the benefits of space? Is it possible to create an ownership framework for space that goes beyond mere competition for control of its resources? The encouraging news is that we have the ability to do so. The provisions of the Moon Agreement may be complicated, but they establish a precedent for a more egalitarian distribution of the benefits arising from space exploration. The difficult reality, however, is that realising these egalitarian ideals in space would require significant changes to national and international laws, particularly for the leading spacefaring nations. Given the current geopolitical situation, the realisation of such change may prove to be a distant goal.

Nevertheless, it is not inconceivable that by the time the Japanese Hayabusa2 mission returns to Earth in 2030, the world could have made significant progress in clarifying and establishing equity in the ownership of space. The key question is whether space nations and organisations are able to have meaningful discussions and reach agreements on ownership arrangements that are consistent with the aspirational ideals of the Moon Agreement.

Many may view this moral endeavour as an impossible goal, a moonshot that cannot be achieved. But as the 18th century philosopher Jean-Jacques Rousseau observed, "The limits of the possible in moral matters are less narrow than



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Hayabusa2 and Ryugu asteroid

we think."

Our limitations, our flaws, our biases and our self-interests may limit our moral vision, but we have the ability to look upward and imagine a better future that benefits all of humanity.

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TWO WHEELS, ONE FUTURE

**The evolution
of cycling**

The history of the bicycle is a captivating journey through two centuries, characterised by numerous innovations and cultural changes. The forerunner of today's bicycle is the draisine (a two-wheeled vehicle without pedals) invented by Karl von Drais. Riders propelled it by pushing themselves against the ground with their feet, similar to the way children use balance bikes today. Later, in 1860, the first pedal-powered bicycle was invented in France. The velocipede had pedals attached to the front wheel, but this led to a very rough ride on the cobbled streets of the time, hence the nickname "boneshaker".

Ten years later, the penny-farthing with its large front wheel and small rear wheel was considered a significant improvement in terms of speed and efficiency, but was also quite dangerous due to its high centre of gravity. The bicycle as we know it today, with equally large wheels and a chain-driven rear wheel, was developed in the 1880s. In 1888, John Boyd Dunlop invented the pneumatic tyre, which significantly improved the comfort and speed of bicycles. In the 1890s, the bicycle became an absolute must. Almost anyone could learn to ride a bicycle, and almost everyone did. The bicycle also played a role in the emancipation of women, as it offered them more mobility and a symbol of freedom. After the great wars, the popularity of the bicycle declined in many Western countries as the car and cheap oil emerged. In many developing countries, however, they remained indispensable.

Recently, interest in bicycles has increased significantly, mainly due to debates and concerns about health, climate change and urban congestion. Innovations in materials (e.g. carbon fibre), design (e.g. mountain bikes and road bikes) and electric bikes (e-bikes) have contributed significantly to this development. The 21st century brought a boom in the production of different types of bikes, including mountain bikes, racing bikes, hybrid bikes and e-bikes. Bike-sharing alternatives and infrastructure improvements in many cities have promoted the bicycle as a sustainable mode of transport. Bicycles today are equipped with advanced technology, e.g. electronic gears, GPS navigation and intelligent sensors. In the meantime, the e-bike industry has experienced rapid growth, making cycling even more accessible and popular.



Giant Group Headquarters in Taiwan.

Giant Manufacturing Co. Ltd. is the largest bicycle manufacturer in the world today. Founded in 1972 and is headquartered in Taiwan, the company produces a wide range of bicycles, including road bikes, mountain bikes and e-bikes. Giant Manufacturing is known for its innovative designs and high-quality products. It has production facilities in Taiwan, the Netherlands and China and distributes around 70 per cent of the bicycles sold worldwide, making the company a leader in both production volume and market reach.

In Europe, the largest competitor is the Accell Group N.V. from the Netherlands, which owns a number of well-known bicycle brands such as Raleigh, Haibike, Winora, Ghost, Batavus and Koga. The company produces a wide range of bicycles, from traditional models to e-bikes, and is recognised as a major player in the European



The Haibike owned by Accell Group.

market, known for its innovation, quality and extensive distribution network throughout Europe.

China is the world's largest bicycle market in terms of sales. The great popularity of bicycles among the Chinese is due to the fact that the country attaches great importance to environmentally friendly means of transport, the bicycle infrastructure in urban areas has recently been expanded at an accelerated pace and health and fitness awareness is increasing among the population. The market for e-bikes is also booming in China, along with an extensive network of bike-sharing programmes.

As far as Europe is concerned, Germany represents the largest market on the continent, with a strong cycling culture supported by an extensive infrastructure, many kilometres of dedicated cycle paths and bike-friendly urban planning. The growth of the German market is also favoured by numerous government initiatives to promote cycling, which strengthen the population's environmental awareness, while cycling is perceived as a healthy way of life. The e-bike segment in particular has experienced accelerated growth in recent years.

Despite all this, the Netherlands is the country with the most bicycles per capita in Europe. With a long-standing and deep-rooted cycling culture, where the bicycle is the main mode of transport for many Dutch people, the Netherlands offers an extensive and impressive cycling infrastructure with bike-friendly cities and extensive bike parking facilities, making cycling a convenient and popular choice for both commuting and leisure. It is said that there are more bicycles than people in the Netherlands (around 23 million bicycles in a country of



A German biker performing a dirt jump.

around 17 million inhabitants), which perfectly reflects the declared Dutch commitment to a sustainable and healthy lifestyle.

The transition from using the bicycle as a leisure activity to an environmentally friendly means of transport in everyday life took place gradually over the years. The infrastructure of large cities, which used to be unfriendly and dangerous for cyclists, is now designed in many parts of Europe as if it were specifically designed for cyclists. With the significant increase of cyclists on the roads, the need for stricter regulations for this activity has also arisen. In most European countries, cyclists are not allowed to ride without holding the handlebars with at least one hand, are not allowed to be towed by cars and must have bicycles with working brakes, bells and



A poster from London's cycling marketing campaign in 2013.

night lights. Some countries have also introduced additional requirements in terms of visibility, wearing a helmet, special



A Oslo City poster promoting their cycling strategy: "This way Oslo will become a better cycling city".

seats for children and a minimum age for cycling in road traffic.

The first cycle paths in Europe were built in cities at the beginning of the 20th century, starting in the 1920s and 1930s. However, the pioneers were the Netherlands, where the city of Utrecht built separate cycle paths as early as 1885. Berlin began building cycle paths in the 1920s, Copenhagen a decade later. After the Second World War, cycling declined due to increasing car use, but since the 1970s there has been a resurgence of interest in cycling infrastructure, particularly in the Netherlands and Denmark, which openly prioritised cycling in urban planning and significantly expanded their cycle path networks, setting an

example for other European cities.

Today, the Netherlands is the European country with the most extensive network of cycle paths covering the entire country. Dutch cities such as Amsterdam, Utrecht and Rotterdam are particularly well known for their well-developed and safe cycle paths. Dutch cycle paths are often separated from car traffic and offer cyclists safer and faster routes for commuting and leisure. The flat Dutch landscape has also contributed to the popularity of cycling in the country. The infrastructure includes not only urban cycle paths but also overland routes, making cycling a convenient option for longer journeys. In general, people today prefer more environmentally friendly modes of transport and are looking for cheaper and faster ways to get around. Various factors such as infrastructure, safety, urban planning and government policies can encourage people to cycle more often. Local measures such as congestion charges, green vignettes or limited parking facilities in cities can discourage car use.

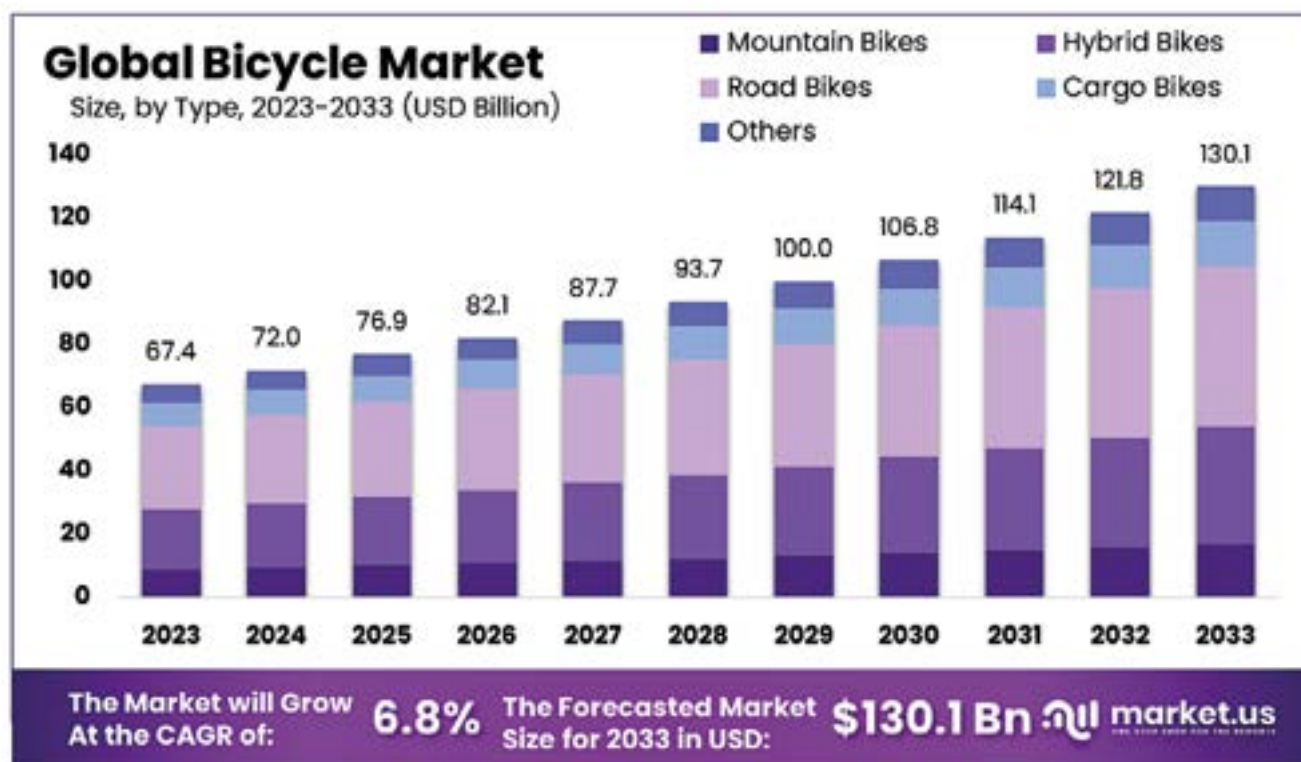
Social attitudes towards cycling also play an important role in this decision. The growing awareness of environmental issues and the desire to reduce the carbon footprint can encourage people to favour the bicycle over the car. Recognising the health benefits of cycling, including improved fitness and mental wellbeing, can often do the same. Cycling is also a cheaper mode of transport. Economic incentives such as the rising cost of cars and fuel and the increase in taxes on car ownership have recently made cycling an attractive alternative. Across Europe, there are around 300 tax incentives, mainly offered at national or local level, to make the purchase and use of bicycles instead of cars more attractive. In the Netherlands, for example, employees can receive a significant tax rebate if they buy a new bike through their employer. Since 2017, the German Bundestag has approved a rebate of up to €500 for electric bikes and some federal states have successfully implemented

it. In Belgium, the tax allowance for bicycles has just been increased from €0.27 per kilometre to €0.35 per kilometre at the beginning of 2024, with an annual maximum of €3,500. (Source: KPMG.com) In January 2016, the city council of Oslo launched a subsidy programme amounting to 20 percent of the purchase price of new electric bicycles, with a maximum amount of €500. Newer innovations such as bike-sharing apps are also making cycling more accessible and convenient for many. People are encouraged to rent their bikes instead of buying new ones, and this trend is also on the rise. A hire bike is often



Peloton of Tour de France 2023 in Tourmalet, France.

cheaper and you don't have to worry about theft or maintenance.



Favourable weather conditions and terrain can influence cycling mode share, but there are good examples that sunny weather is not so important when it comes to people's preference for cycling. The lower number of cyclists in Italy and Spain compared to the Netherlands, despite the better weather, can be attributed to various factors, from existing infrastructure or urban planning (Italian and Spanish cities, especially larger ones, sometimes have urban planning that prioritises car traffic, with sprawling layouts that make cycling less practical) to cultural differences. In Italy and Spain, for example, the cultural preference for the car is more pronounced and cycling is seen as a leisure activity rather than a primary mode of transport. The perceived and actual safety of cycling is also an important reason. While in the Netherlands roads and intersections are specifically designed to protect cyclists, in Italy or Spain bicycles often have to share the same roads with cars, which can be intimidating and more dangerous. Finally, extreme heat waves in the Italian or Spanish summers can make cycling uncomfortable and unattractive for most. The reduced economic incentives for cycling can also lead to more people opting for the car. Despite all this, some of the most famous and most watched cycling races in the world take place every year in Italy, Spain or France. Competitions such as the Tour de France or the Giro d'Italia, televised annual multi-stage cycling races that pass through many large and small towns and villages, have contributed significantly to the popularity of cycling and inspired many people to take it up either as a sport or a leisure activity. Watching professional cyclists can motivate people and emphasise the benefits of this activity. Professional cyclists often become role models, especially for young people. Cycling is often portrayed in the media as an exciting and prestigious activity and a viable mode of transport. Major cycling events can boost the local economies of host cities and regions, often leading to improved cycling infrastructure which can subsequently encourage more everyday cycling. Many fans travelling to races often cycle themselves and explore the region by bike, encouraging a wider cycling culture.

It's essential to recognise that bicycles are not only an ecological and healthy mode of transport, but also represent a global economic sector with a turnover of several billion dollars. The global bicycle market was estimated to be worth over \$110 billion in 2023 and is expected to almost double by 2030. Around 100 million bicycles are produced worldwide every year. In recent years, Portugal has been the largest bicycle producer in the European Union. The most popular and modern bicycle brands in Europe include Cervélo, Gigant, Pinarello, Scott, Specialised, Trek, Merida and Bianchi.

Technological improvements have greatly helped the cycling industry by making it easier

for consumers to access high quality and trendy equipment. GPS tracking has created online communities of cyclists who share their experiences and motivate each other. Groups of cyclists, many of whom are past their prime and are out on the roads in their well-fitting suits, especially on weekends, have become commonplace.

Cycling has become a popular leisure activity, but also a favoured choice for commuters who can travel to work by bike, which is much cheaper and often faster. The cycling industry is growing at a significant annual rate across the world, with millions of cyclists joining every year. Technological improvements and increased production volumes have made it possible to produce relatively high-performance bicycles for all budgets. At the same time, more and more consumers are looking to reduce their spending and their environmental footprint, and the cycling offers an answer to both questions.

E-bikes seem to be a good alternative for less sporty people. The American Ogden Bolton Jr. is regarded as the inventor of the battery-powered bicycle (1895). Asian countries are currently the largest producers of electric bicycles. In the EU, over 80 per cent of all imported electric bicycles come from China. Sales of these bikes are rising steadily. Demand has risen significantly in Germany, France and the Netherlands in particular. Currently, a quarter of bicycles sold in Europe are electric (source: Brussels Times), with around 26 million e-bikes expected to be sold in the region in 2022 alone.

The price of bicycles rose slowly and steadily over the last few decades until the start of the coronavirus pandemic. As a result, many factories had to close overnight; manufacturers had major problems with the supply chain and transport costs increased up to 20-fold. This situation led to enormous competition between manufacturers for the scarce components available, while the demand for bicycles skyrocketed. The logical consequence: an excessive price increase. Some manufacturers capitalised on this situation and accelerated production at great expense. However, many saw all the excess production from the pandemic period in their warehouses afterwards. People preferred to spend their money on holidays or other hobbies instead of buying expensive bikes. This is the reason why almost all major brands offered deep discounts and launched sales last year. All the classic online shops are currently offering a large selection of bikes with discounts of over 30% in some cases. Now seems to be an excellent time to buy a bike, as prices are falling and the supply of bikes is significantly higher than demand at the moment.

From the draisine to today's high-tech e-bikes, the bicycle has come a long way, reflecting both technological progress and changing social dynamics. Bicycles are not only efficient and cheap means of transport, but sometimes also represent status or influence cultural and social change; they have become symbols of freedom, efficiency and the transition to environmental awareness.

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PROJECT 821

**The World's First
Hydrogen Fuel-Cell
Superyacht**

The boat, rumoured to have been commissioned by Microsoft billionaire Bill Gates, is currently available for purchase for a listed price of €600 million (\$647 million).

Feadship's Amsterdam shipyard has unveiled Project 821, the world's first hydrogen fuel-cell superyacht, marking a significant advancement in sustainable yachting. Designed by RWD with owner representation by Edmiston, this 100-meter-plus yacht aims to explore the boundaries of green technology in superyachts, featuring a zero-diesel, emission-free power system driven by green hydrogen.

| Innovation and Technology

The five-year development of Project 821 has resulted in a yacht powered by hydrogen fuel cells, which generate electricity with pure water as the only by-product. This approach aligns with Feadship's commitment to creating "net zero" yachts by 2030. Hydrogen fuel cells have been used in space missions and automobiles but were unprecedented in the maritime sector. Feadship collaborated with Edmiston, Lloyd's Register, and other industry experts to develop the necessary equipment, protocols, and safety regulations for this new energy system.

One of the significant challenges was storing liquid hydrogen at -253°C on a luxury yacht. This required a double-walled cryogenic storage tank, which occupies significantly more space than traditional diesel fuel tanks. Project 821's fuel tank holds 92 cubic meters of hydrogen, powering sixteen compact fuel cells that connect to the yacht's DC electrical grid. The yacht also utilizes methanol, which can be converted to hydrogen, offering a practical alternative for longer journeys.



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"The aim has been to develop a new, clean technology not just for this project, but for the world. The value of the research as well the development of class and flag safety regulations for an entirely new type of energy generation is an advancement we are proud to have made available to all" said Jan-Bart Verkuyl, Feadship Director / CEO Royal Van Lent Shipyard.

| Environmental Impact

Project 821 primarily addresses the substantial energy demands of a yacht's hotel load—heating, air conditioning, and other amenities—

which constitute 70-78% of annual energy use. By supplying this load with hydrogen fuel cells, the yacht can operate silently and emission-free for a week at anchor or navigate protected marine zones at 10 knots. For longer voyages, the yacht's ABB pod drives are powered by MTU generators using HVO, a biofuel that reduces emissions by 90%.



© X.COM/FEADSHIP

Feadship CEO Jan-Bart Verkuyl

The yacht also incorporates an efficient waste heat recovery system to heat the pool, Jacuzzi, and other areas, alongside a Smart AC system that adjusts to occupancy, further reducing energy consumption.

| Design and Features

RWD Studio designed Project 821 with a luxurious, modern aesthetic. The yacht features five decks above the waterline and two below, with an owner's deck 37 meters above the water. It boasts numerous hull openings, including fourteen balconies, five shell doors, and seven large platforms, enhancing the connection to the sea. The interior, designed with light, neutral tones and luxurious materials, provides a seamless coastal vibe across all decks.

| Future Implications

Project 821's innovations are expected to influence future yacht designs and inspire the maritime industry towards greener solutions. The yacht's development highlights the feasibility of cryogenic hydrogen storage and fuel cell technology, paving the way for future advancements in sustainable maritime travel.

"The brief was to build the greenest and most environmentally advanced yacht ever built, without compromise. It was a huge challenge, but one that the team has embraced and delivered on. The yacht we see today, designed by RWD and built by Feadship is without doubt the best yacht ever built." says Jamie Edmiston, Chief Executive of super yacht broker Edmiston who is offering the yacht for sale.

Project 821 is available for sale through super yacht broker Edmiston.

TIMELESS CHIC

STANDOUT FASHION AND BEAUTY TRENDS

STYLE SET AND MATCH

There's no way around it - the tennis fashion trend will conquer your wardrobe this summer. This sporty trend encompasses all the classic tennis codes: Polo shirts and pleated skirts, white dresses, sleeveless jumpers and other subtle striped accessories in the purest "tenniscore" style.

| Inspirations : 3 tennis-themed outfits



© MANGO



© MANGO



© PINTEREST



© PINTEREST

| To grab !



© MANGO

| Contrast-detail braided cardigan



© ABERCROMBIE & FITCH

| Pleated tennis dress



© LACOSTE

| Cable knit contrast trim V-neck sweater



© LACOSTE

| White polo shirt



© RALPH LAUREN

| Pleated skirt



© CELINE

| Tennis bag in textile and calfskin



© MANGO

| Cap with embroidered logo



© GUCCI

| Leather Ace sneakers

HELLO JULY !

Let's dive into the top trends and irresistible shopping highlights that this month has to offer. This is the place to be!



© INSTAGRAM @KAJIA_MINIMAL

| Straw tote bags are back

Whether you're soaking up the sun on the beach or enjoying a summer evening in town, straw bags are the ideal accessory to enhance any outfit. Plus, they boast an impressive capacity, making them perfect for carrying all your must-haves. You can find variations of these stylish straw tote bags across major designer labels, contemporary stores, and even in the fast fashion realm.

Here are our favourites



2. You can never go wrong with this iconic Celine Classic Panier, in palm leaves and calfskin (celine.com)



1. Chloé's iconic logo is prominently displayed on the durable canvas straps of a spacious tote, expertly woven from straw for a chic, beach-ready appearance ([spotted on nordstrom.com](http://nordstrom.com))



3. The DeMellier Santorini Raffia Basket Bag exudes a refined yet laid-back appeal, thanks to its exquisitely handwoven design and elegant leather accents ([spotted on saksfifthavenue.com](http://saksfifthavenue.com))

| Succumb to the charm of the butter-yellow trend

Butter yellow conquers the catwalks, high street fashion and social media. True to its appetising namesake, this hue lies in the middle of the spectrum between beige and yellow and brings softness and radiance to our outfits... a real mood lifter!



© PINTEREST - THE EVERYGIRL

| Put your heels away

Unless you're effortlessly strutting around like a catwalk model in high heels, you'll probably regret the decision to prioritise height over comfort as you navigate endless office corridors or pound the pavement during a shopping marathon. Luckily, fashion trends have crowned flat shoes the queens of summer.

Choose your side!

Mesh ballet flats

An unlikely look that has nevertheless become a must-have this summer. Fashionistas have turned it into a versatile staple in their wardrobe. They combine them with distressed denim for a casual-chic aesthetic or level up their style by pairing them with a flowing midi skirt or dress.



Leather-trimmed mesh ballet flats (& Other Stories)



Mesh ballet flats with strass (Dune London)

Ballerina flats

They are an excellent investment because they are timeless and never go out of fashion. They go with all summer outfits, from the most casual to the most 'preppy' (if you opt for two-colour models, which are a safe bet in this category).



Velvet ballerina flats (Chanel)



Leather ballerina (Prada)

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