

The European Security and Defence Union

Climate and Security

Protecting our planet
and its people



Facing the Covid-19 crisis in conflict zones worldwide

Hilde Hardeman,
Director, EU Commission's Service
for Foreign Policy Instruments,
Brussels



The green deal in the Asia Pacific Region

Olzod Boum-Yalagch,
Chairman of the
Mongolian Green Party,
Ulaan-Baatar



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Taking climate security seriously!

The adverse impacts of climate change are being felt across the world and the pressures on our planet are increasing.

The protection of our environment is no longer an option and urgently requires strong and even radical measures to reduce the impact of greenhouse gases.

It is therefore of the utmost importance to tackle the manifold threats that climate change poses to the security, peace and stability of countries and regions worldwide. In recent years we have witnessed extreme weather, water and food scarcity that can exacerbate local and regional tensions leading to conflict, migration and even global security consequences. Climate change and security are therefore global issues that need global action. That is why we need to harmonise the EU's Global Security Strategy with the Green Deal, in an integrated approach analysing climate security in conjunction with other areas of security such as terrorism, nuclear proliferation, maritime security, and last but not least, development. Cooperation on climate change and success-oriented diplomacy can therefore be good entry points for strengthening trust and preventing conflicts. This understanding will lead to action on the ground and become a source of sustainability, strength and efforts for peace by addressing at the same time climate, energy distribution, development and other security threats.

Mitigating climate change is of unprecedented importance. On the basis of the 2016 Paris Agreement, all countries need to define a comprehensive and global set of measures to which each nation can make its own

contribution, including research in space, sea and earth. Such a strategy must also take account of the capacity of developing countries to translate their Paris commitments into initiatives and projects. These are often hampered by the lack of predictable and sustained financing, most often provided by the "rich" countries.

As climate change has to be considered as a multiplier of existing security instabilities, what role can the European Union (EU) play in this concert?

The Union is currently defining its strategic compass for the next decades. Within this compass, the Green Deal is a most important issue and decisions that the EU has already taken to mitigate the effects of greenhouse gases demonstrate that it can take on the important role of pace maker.

In view of the political and technological capabilities of the EU, I am convinced that the Union should have a leading role in climate security both by keeping this issue on the global agenda but also by supporting other countries in their efforts to mitigating climate security threats. The EU could even be a facilitator between the "big" contraveners like China and the United States of America.



Hartmut Bühl

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European Union

The Conference on the Future of Europe

On 10th March, a joint declaration on the “**Conference on the Future of Europe**” was signed by Portugal’s Prime Minister António Costa, on behalf of the Presidency of the Council, European Parliament President David Sassoli, and Commission President Ursula von der Leyen. This was the kickstart of a series of debates and discussions that will enable people from every corner of Europe to share their ideas on its future.

The objective is to create a new public forum for an open, inclusive, transparent, and structured debate with Europeans around the issues that matter to them and affect their everyday lives, such as health, climate change, social fairness, digital transformation, the EU’s role in the world, and how to strengthen democratic processes governing the EU. By spring 2022, the Conference is expected to reach conclusions and provide guidance on the future of Europe.

A multilingual digital platform for the Conference on the Future of Europe was launched on 19th April. Via this platform people can engage with one another and discuss their proposals with citizens from all Member States, in the EU’s 24 official languages. People from all walks of life and in numbers as large as possible are encouraged to contribute via the platform in shaping their future, but also to promote it on social media channels, with the hashtag #TheFutureIsYours.

 **Fact sheet** <https://bit.ly/3dHLZny>

 **Digital platform** <https://futureu.europa.eu/>



Signature of the Joint Declaration. From left to right: António Costa, David Sassoli, and Ursula von der Leyen, Brussels, 10th March 2021

photo: © EU, 2021; EC- Audiovisual Service/Etienne Ansotte

Security and Defence

UK Integrated Review

In March 2021, the UK Government launched a policy paper entitled “Global Britain in a Competitive age: the Integrated Review of Security, Defence, Development and Foreign Policy”. The Review sees four overarching trends to be of particular importance to the United Kingdom over the next decade:

- Geopolitical and geo-economic shifts with the growing importance of the Indo-Pacific.
- Systemic competition between democratic and authoritarian values and systems of government.
- Rapid technological change becoming an arena of intensifying geopolitical competition.
- Transnational challenges that require collective action such as climate change, biosecurity risks, terrorism and others.

The Integrated Review is a clear commitment to NATO and to the United States. Future challenges have to be answered by strategy advantages through science and technology and by shaping the open international order of the future. Furthermore, the Review underlines the importance of strengthening security and defence at home and overseas.

Regarding relations with the European Union, the Review states that “our commitment to European security is unequivocal, through NATO, the Joint Expeditionary Force and strong bilateral relations.”

 **Web** <https://bit.ly/2QTTgrq>

→ See the article by Robert Walter on page 16

EDA Annual Report 2020

On 30th March, the European Defence Agency (EDA) released its 2020 Annual Report, reflecting the progress made in the areas where the Agency plays a central role, such as the implementation of the EU defence initiatives (CARD, PESCO, EDF), the increasing number of defence research and capability development projects and programmes, and the EDA’s growing interface role towards wider EU policies.

 **Report** <https://bit.ly/3nbAKHt>

→ See interview with EDA’s CEO, pp 36-39

EU-Turkey

Relations with Turkey at a historic low point

(ed/Nils Cazaubon, St. Germain en Laye) In a report adopted on 19th April by a vast majority, the Members of the European Parliament’s Foreign Affairs Committee (AFET) call on Turkey to credibly demonstrate the sincerity of its commitment to closer relations with the European Union (EU).

In the last few years, the Turkish government has increasingly distanced itself from European values and standards, MEPs warn. This, in addition to provocative statements against the EU and hostile foreign policies, have brought EU-Turkey relations to a historic low point, they say. MEPs would like the government of Turkey to sincerely show their commitment to being a member of the EU, else accession negotiation should be suspended. One of the main areas of concern, MEPs point out, is the misuse of anti-terror measures, and the mass incarceration of political opponents, journalists, etc. Rapporteur Nacho Sánchez Amor (S&D, Spain) said: “This report is probably the toughest ever in its criticism towards the situation in Turkey. (...) We urge the other EU institutions to make any positive agenda they might pursue with Turkey conditional upon democratic reform.”

On the other hand, the report also underlines the important role of Turkey in hosting almost 4 million refugees, mainly from Syria, and encourages EU support of refugees and Turkish host communities.

 **Draft report** <https://bit.ly/2S5osoh>

Climate change

Climate protection at the heart of Biden's National Security Strategy

In March 2021, the “Interim National Security Strategic Guidance” was released, laying out the Biden administration’s overarching vision for US national security policy. The paper puts climate change at the forefront of US national security and foreign policy, which is a significant break with President Trump’s last National Security Strategy, which did not mention climate change as a national security concern.



Excerpts:

Paris Climate Accord


“We have already re-entered the Paris Climate Accord and appointed a Presidential Special Envoy for climate, the first steps toward restoring our leadership and working alongside others to combat the acute danger posed by rapidly rising temperatures.”

Needed action

“The climate crisis has been centuries in the making, and even with aggressive action, the United States and the world will experience increasing weather extremes and environmental stress in the years ahead. But, if we fail to act now, we will miss our last opportunity to avert the most dire consequences of climate change for the health of our people, our economy, our security, and our planet.”

Clean energy transformation

“That is why we will make the clean energy transformation a central pillar of our economic recovery efforts at home, generating both domestic prosperity and international credibility as a leader of the global climate change agenda. And, in the coming months, we will convene the world’s major economies and seek to raise the ambition of all nations, including our own, to rapidly lower global carbon emissions, while also enhancing resilience to climate change at home and in vulnerable countries.”

 **Web** <https://bit.ly/3neXDJR>

Recycling...



Agreement on European Climate Law

On 21st April, the European Commission, the European Parliament and the Council reached a provisional agreement on the European Climate Law, one of the key elements of the European Green Deal.


Executive Vice-President for the European Green Deal Frans Timmermans said: “We have reached an ambitious agreement to write our climate neutrality target into binding legislation, as a guide to our policies for the next 30 years. (...) This is a good day for our people and our planet.”



Investing in green technologies

photo: © xiaoliangge, stock.adobe.com

The law aims to ensure that all EU policies contribute to the objective set out in the European Green deal, which means achieving net zero greenhouse gas emissions by 2050 for EU countries as a whole, mainly by cutting emissions, investing in green technologies and protecting the natural environment. The new law sets the long-term direction of travel for meeting the 2050 climate neutrality objective through all policies, creates a system for monitoring progress, and will provide predictability for investors and other economic actors. Progress will be reviewed every five years, in line with the global stocktake exercise under the Paris Agreement.

 **Web** <https://bit.ly/2QuHUKI>

→ See our main chapter on climate change, pp. 17-34

In the Spotlight

+++ EU Strategies +++



Facing new realities after the Covid-19 pandemic

It is high time for the EU to make strategic choices

by David McAllister MEP, Chairman of the Committee on Foreign Affairs, European Parliament, Brussels/Strasbourg

As Europe begins its path to recovery from a major health crisis, foreign policy issues that have been temporarily out of the spotlight are bound to resurface. This comes at a time when instability and unrest characterise the European Union's borders, and major decisions on relevant topics are being considered.

A stronger foreign and security policy

The Covid-19 pandemic reinforced the call for a stronger, more autonomous, more united and assertive foreign and security policy to step up the EU's leadership on the international scene. Both the European Parliament and the High Representative of the Union for Foreign Affairs and Security Policy (HR/VP), Josep Borrell, have addressed this topic by underlining the need to intensify the EU's efforts to be more strategically sovereign while also strengthening cooperation with allies. As the HR/VP recently stated, multilateralism "defines common standards and introduces stability in international relations". By increasing cooperation with third countries, based on trust and mutual benefit, as well as building alliances with other democracies, the EU can diversify its partner base while simultaneously adding new stakeholders to common causes.

Step up action for conflict mediation

From Donetsk to Minsk to Kastellorizo and the southern Mediterranean, the proliferation of disputes and frozen conflicts in our closest neighbourhood risks becoming a permanent, endemic concern. The EU needs to step up its action concern-

ing conflict mediation and resolution, while also promoting solutions based on the norms and principles of international law. The use of the EU foreign policy toolbox should be adapted in recognition of the idiosyncrasies and unique background of each conflict.

Crucial to enhancing stability are our partners in the Western Balkans, as well as the eastern and southern neighbourhood countries. By pursuing the strategic responsibility to foster region wide security, peace and prosperity, the EU can help promote the development and democratic resilience of neighbour countries, and therefore maintain its commitment to enlargement as a key transformative policy.

EU-Russia relations remain a serious challenge on key issues such as Syria, Libya, Nagorno-Karabakh, Belarus, and Ukraine. The HR/VP considers that Moscow is "progressively disconnecting itself from Europe and looking at democratic values as an existential threat". Without any doubt, the relations between the European Union and the Russian Federation are at a low point. The recent developments in Russia force us to rethink and reframe the EU strategy vis-a-vis the Kremlin. It is therefore high time for the EU to take stock of the situation and make strategic choices.

The EU's genuine partner: Africa

The new Covid-19 reality has also heightened the importance of the EU's relationship with Africa. The Commission's proposal for a new comprehensive strategy with Africa hopes to deepen existing cooperation based on shared interests and values in order to enable both sides to achieve common goals and tackle global challenges. In a recent report, the European Parliament called for more coordination of the development, humanitarian,

and security strategies in the Sahel region, where the EU has heavily invested and where six CSDP missions are currently active.

Future relations with the UK and the USA

With Brexit concluded, the public debate has mainly focused on the economic implications. Cooperation on foreign and security policy might very well be the next major challenge in the future EU-UK relationship. The EU's initial proposal for a structured, legally binding framework of cooperation was rejected, signalling that the UK might seek to prioritise bilateral relations on these and other issues. London has given some first answers in its "Integrated Security, Defence and Foreign Policy Review" which has just been released (*see page 16*). The inauguration of a new administration in Washington has provided an opportunity to strengthen the transatlantic bond. As Europe strives for more strategic sovereignty, the US remains an effective partner, who is once again willing to place diplomacy at the centre of its foreign policy and engage the wider international community, as witnessed by the recent decisions to re-join the Paris Agreement and the World Health Organization. I welcome the administration of President Biden

“The pandemic is a wake-up call for a more united European foreign policy and an effective multilateral global order.”

and sincerely hope we can renew the EU-US strategic partnership in order to jointly address pressing global challenges, in particular the Iran nuclear deal, Russia, the southern Mediterranean, the Middle East, the Gulf and China – our biggest geopolitical test of the 21st century.

Covid-19: a wake-up call for Europe

The pandemic is a wake-up call for a more united European foreign policy and an effective multilateral global order. The EU must look within to understand what lessons can be learned from our common response to the Covid-19 crisis, and without, in order to address the shifting power dynamics that define today's international system.

New EU-Africa strategy

(ed/hb, Paris) On 25th March 2021, the European Parliament (EP) adopted a Resolution on a new EU-Africa strategy laying the foundation for a partnership that reflects the interests of both sides and gives African countries the means to achieve sustainable development.

Investing in people is a key pillar of the strategy with priority given to the fight against inequality, education of young people and the empowerment of women. Strengthening national health systems and producing own health products should make populations more resilient to crises.

Reducing Africa's dependence on imports by leaving behind the donor-recipient relationship. Supporting Africa's domestic production through sustainable investment and boosting intra-African trade through the continental free trade area, investment in transport infrastructure and better access to global markets are a real paradigm change. Public-private partnerships and the funding of small and medium enterprises are considered essential.

Partners for a green and digital transition by supporting a transition to a clean and circular economy through investment



Market in Ethiopia

photo: © Rod Waddington, CC BY-SA 2.0, Flickr.com


in sustainable transport, green infrastructure and renewable energy, thus protecting Africa's biodiversity.

Partnership on sustainable agriculture developing environment-friendly farming practices as essential. Digital transformation should play a key role in the modernisation of the farm sector and making

agreements compatible with human rights, labour and environmental standards and in line with UN Sustainable Development Goals

A migration policy based on solidarity and shared responsibility has to put the dignity of refugees and migrants at its core. The EP is addressing migration as a shared responsibility between EU countries of destination and the African countries of origin, emphasising the need to tackle the root causes of displacement, guarantee fair asylum procedures and establish a migration policy that would create opportunities for skilled and unskilled workers.

The International Monetary Fund and the World Bank are called to do more to relieve the debt burdens of African countries.

 **Web** <https://bit.ly/3wLW8Hr>

The pandemic is a multi-dimensional crisis on social, economic and political levels

Facing the Covid-19 crisis in conflict zones worldwide

by Hilde Hardeman, Director of the European Commission's Service for Foreign Policy Instruments (FPI), Brussels

The EU launched a comprehensive response to the Covid-19 pandemic, focussing both on the needs at home and on the situation in partner countries, notably with our support for the COVAX mechanism (Covid-19 Vaccines Global Access) in close cooperation with the World Health Organization (WHO). Soon after the announcement of the pandemic in March 2020, it was clear that conflict-affected areas would face particular challenges. The EU Commission's Service for Foreign Policy Instruments (FPI) decided to focus its initial efforts on three priorities: first, helping those whom conflict had already rendered vulnerable; second, countering disinformation on the pandemic; and third, supporting the UN Secretary-General's call for global ceasefires.

Inequalities and vulnerabilities increase

The impact of Covid-19 is devastating in many parts of the world, exacerbating inequalities and vulnerabilities and putting conflict-affected populations at increased risk of stigmatisation, exclusion, exploitation and violence. This is particularly true for refugees and migrants who often remain excluded from national health systems, and who, in addition to any traumas they may have faced in their places of origin or during their journey, often face xenophobia and stigmatisation.

Recent events in Bosnia and Herzegovina are one but certainly not the only example of growing tensions between host communities and migrants/refugees that further increase the risk of instability in an already fragile context.

In Latin America, the Covid-19 pandemic coincides with the largest refugee and migrant crisis the continent has ever seen. As many countries in the region closed their borders in response to the pandemic, thousands of refugees and migrants are stranded, often without access to basic services and protection. While there are many examples of solidarity among host populations, there

are also worrying examples of the increase in the number of evictions from rental accommodation and forced closures of shelters. Gender violence is on the rise and criminal gangs are expanding their activities: recruiting, providing social services and taking control where state authorities fail to reach. The EU provides assistance to both refugee and host communities to reduce suffering and tensions in an effort to reduce the risk of violence and conflict. In Bosnia and Herzegovina, for example, activities to address the concerns of local communities are being supported. In Lebanon, public hospitals that serve both host communities and refugees have been supported with the aim of alleviating tensions between the two groups.

The fight against disinformation

The Covid-19 pandemic is not just a health crisis. It is a multi-dimensional crisis with impacts at social, economic and political levels. It challenges the cohesion and the resilience of states and societies. As the virus started to spread last year, we saw a parallel rise in disinformation around the pandemic. There were rumours and misinformation, but there was also deliberate disinformation and political propaganda aiming to create confusion and undermine collective trust in the responses that were taken. The World Health Organization referred to this trend as an "infodemic".

While disinformation is as old as mankind, the magnitude and global scope of this "infodemic" seems unprecedented in terms of speed and scope. Disinformation is a cause of serious concern not only because it hampers effective public health responses, and risks therefore to cause loss of life, but also because it polarises opinions, creates divisions within societies and increases the risk of stigmatisation and conflict.

As the European Commission's first crisis responder, we have been working with a number of organisations to promote reliable information and conflict-sensitive communication on the pandemic. This includes, for example, supporting journalists, fact checkers and media professionals in the Sahel,

Hilde Hardeman

has been Head of the European Commission's Service for Foreign Policy Instruments (FPI) since 2017. She holds a PhD in Slavic Philology and History from the University of Leuven after studies in Stanford, Paris, Moscow and Amsterdam. Ms Hardeman has spent over twenty years working for the EU Commission, covering external relations and economic and competitiveness issues. Previously, she headed the Commission's Units for Relations with Russia, Ukraine, Moldova and Belarus.



“The impact of Covid-19 is devastating in many parts of the world, exacerbating inequalities and vulnerabilities.”

photo: © EU / Dat/Bendo

the Horn of Africa, the Middle East, Latin America and Central Asia. In Iraq, for instance, close to 1000 journalists have been trained on how to identify and debunk disinformation. They have worked closely with the ministries of health to stop the spread of erroneous information. In Latin America, a regional online platform called “Portalcheck” makes a series of tools, educational resources, news and tips available in Spanish and Portuguese. Similar resource hubs will soon be launched in other regions.

In many places, making sure that information reaches conflict-affected populations is challenging. For that reason, we have also supported the distribution of solar powered radios, for example in camps for internally displaced people in Burkina Faso. In other contexts, reliable information about Covid-19 is being made available through toll-free numbers accessible with a mobile phone.

The pandemic as a motivator for peace

Covid-19 can feed conflict by rendering affected populations even less visible and by emboldening belligerent forces to use the openings that the pandemic offers to weaken public institutions further. But the pandemic can also be the inflection point where warring partners realise they do have something in common: the need for the pandemic to end. On 23th March 2020, UN Secretary-General António Guterres called for a global ceasefire to allow the focus to be on the fight against Covid-19. The EU strongly supported this appeal and in response, we geared mediation support in conflict-affected countries towards supporting the Secretary General’s call.

In Libya, a mediation support initiative facilitated the launch of a call for unity by a thousand leading figures from across the

country to combat the Covid-19 pandemic. In Yemen, Nigeria, South Sudan and Somalia, the Service for Foreign Policy Instruments supports dialogue initiatives to reduce violence and tensions and to strengthen collaboration between conflict parties, communities and humanitarian actors to respond to Covid-19. These efforts have led to twelve humanitarian ceasefires, allowing the targeted distribution of hygiene materials and personal protective equipment to over 450,000 people in hard-to-reach areas, as well as reaching an estimated 3.7 million people in vulnerable communities with reliable, conflict-sensitive information campaigns via social media. The ceasefires – even if temporary in nature – made a concrete contribution to alleviating the pressure of conflict on communities, allowing them to seek and receive relief and information about the virus and how to prevent its spread. The trust our partners have gained by reaching out – sometimes as the first to do so – with information on Covid-19 will be crucial to sustaining their dialogue efforts as the pandemic evolves.

Thus, the threat of the pandemic has opened opportunities for dialogue. Afghanistan may serve as an example. There, the spread of the virus created an impetus for the Taliban to engage on the importance of avoiding violence against healthcare facilities. While it is by no means clear that this will result in an actual reduction of violence, the opening that is created by the threat of the pandemic should be used to build confidence and trust at community level, and to encourage armed groups to take part in intra-Afghan dialogue, which is needed to advance the Afghan peace process.

If some of the initiatives outlined here do lead to a better, more peaceful tomorrow, they would be the silver lining to the hardship that conflict and Covid-19 are still causing now.

The sluggish progress of European defence

Is PESCO able to reinforce the credibility of the Common Security and Defence Policy?

by Natalia Pouzyreff and Michèle Tabarot, members of the French National Assembly, Paris

In October 2020, the Foreign Affairs Committee and the Defence Committee of the French National Assembly entrusted us with a mission on Permanent Structured Cooperation (PESCO). It took place in the context of the first strategic review of PESCO with the evaluation of the initial phase (2018-2020) and the preparation of the second phase (2021-2025). It also took place in the context of a lasting health crisis, which underlined the urgency of strengthening European strategic autonomy.¹

Until recently, defence was not a priority for the European Union, even though it was erected as a self-standing European policy by the treaty of Lisbon (2007) within the Common Security and Defence Policy (CSDP). PESCO was introduced by the same treaty, but ironically described as a “Sleeping Beauty” by former Commission President Jean-Claude Juncker. It finally materialised 10 years after the Lisbon treaty in December 2017. The decision made by the UK to leave the EU and the increased threat level outside the EU’s borders led Member States to act on its effective implementation.

PESCO, an original initiative

PESCO is a unique forum of cooperation involving 25 participating European Union Member States that have subscribed to a list of 20 binding commitments. Among them, states agree to increase their expenditure, support external operations and adopt procurement policies favourable to the European Defence Technological and Industrial Base (EDTIB). The aim is to achieve a coherent full spectrum force package (FSFP), fill capability gaps, and strengthen the European defence pillar within NATO.

47 projects have been launched since 2017. These projects vary greatly in scope. Some of them are directly related to capability shortfalls and next generation capabilities that remain top priorities for European defence (eg the land battlefield missile systems BLOS, materials and components for tech-

nological EU competitiveness (MAC-EU), the MALE drone and military mobility). Some others bring together only two states with a rather limited impact regarding the strengthening of European defence.

Underlying difficulties and uneven progress

Initially, PESCO was intended for a restricted number of Member States, “whose military capabilities fulfil higher criteria”. But Germany called for a more inclusive approach and finally 25 out of the 27 Member States joined PESCO. This resulted

in a heavier governance process as unanimity is required for decision-making.

In its findings, the 2020 PESCO strategic review reveals that only 3 projects have reached initial operational capability (IOC), while 23 are expected to reach this status in the period 2020-2023. More than two thirds of

PESCO projects are still in their ideation phase. Projects were all the more difficult to assess as a common understanding of terms and definitions related to project development and management was lacking.

Moreover, Member States pursue different strategic interests. Their level of ambition and their resources vary greatly. Some do not comply with the binding commitments and still favour the United States’ military equipment. PESCO remains a legal framework without judges or sanctions.

In addition, the promise that EU Battlegroups (EUBGs) would be reinforced by PESCO was not kept. Contrary to the commitments made, the waiting time in the rotating mobilisation of national troops has multiplied.

The difficult integration of third-party states

Our attention was drawn to the integration of third-party states which finally came to a resolution at the end of a three-year negotiation in November 2020. Although conditions have been set for third state participation through unanimous approval of the Council, we raised some concerns regarding the possible

“The success of the CSDP relies on Member States’ commitment and political will to bring about a powerful Europe.”

Natalia Pouzyreff



Photo: private

is a member of Parliament in the French Assemblée Nationale in Paris. She was elected to the LaREM party in Saint Germain en Laye. She is a professional engineer who worked for Thales for 17 years, followed by eight years at Eurocopter, where she was the company's represent-

ative in China from 2006 to 2009. At the French Assembly she sits on the Defence Committee and she is a member of the Franco-German Parliamentary Assembly as well as the French coordinator of its foreign and defence policies working group.

Michèle Tabarot



Photo: private

is a member of Parliament in the French Assemblée Nationale in Paris. Born in Alicante, Spain, she is a former executive of a real estate company. From 1993 to 2002 she was elected member of the Alpes-Maritime General Council and Vice President the last two years. From 1995

to 2020 she was mayor of Le Cannet, a town of 35,000 inhabitants. In the French Parliament she is the chair of the Cultural and Education Affairs Committee and she sits on the Foreign Affairs Committee and the Committee of European Affairs.

involvement of the United States in PESCO projects. Indeed, European sovereignty could be jeopardised due to the US International Traffic in Arms Regulations (ITAR) restrictions or any disputes regarding industrial or intellectual property. To this end, we recommend that binding agreements regarding those matters should be concluded for each project, so that third-party state participation does not generate any kind of dependence.

Ultimately the European Defence Fund (EDF) should exert “European preference”, meaning it should concentrate its funding on the projects that most structure European strategic autonomy.

Make better use of PESCO

As the framework for cooperation, PESCO should contribute to the edification of a strong EDTIB in order to ensure independence in terms of technology and capabilities.

We also recommend that the scope of PESCO projects be tightened, focusing on those with the greatest impact on future European military capabilities and the most strategic ones eligible for the EDF.

Overall, the CSDP should benefit from the directions given by the “strategic compass”. This initiative was launched under the German presidency of the European Union in 2020 and will be concluded under the French presidency in the first semester of 2022.

Still, the success of the CSDP relies on Member States’ commitment and political will to bring about a powerful Europe. PESCO remains an instrument with which to achieve this objective.

documentation

Facts on PESCO

(ed/nc, Paris) The Permanent Structured Cooperation (PESCO) in the area of security and defence policy was established by a Council decision on 11th December 2017.

Introduced by the Lisbon Treaty on European Union (article 42.6, 46 and Protocol 10), PESCO is a framework and process to deepen defence cooperation between those EU Member States who are capable and willing to do so.


The key difference between PESCO and other forms of cooperation is the legally binding nature of the commitments undertaken by the 25 Member States to invest, plan, develop and operate defence capabilities together, within the Union framework.

The objective is to collaboratively develop a coherent full spectrum force package and make the capabilities available for national and multinational (EU CSDP, NATO, UN, etc) missions and operations.

47 projects have been launched since 2017, covering areas such as grosse mereing, land, maritime, air, cyber, and joint enablers.

PESCO has a two-Layer structure:

- **Council Level:** Responsible for the overall policy direction and decision-making, including as regards the assessment mechanism to determine if participating Member States are fulfilling their commitments.
- **Projects Level:** Managed by those Member States that take part in it, under the oversight of the Council. To structure the work, a decision on general governance rules for the projects has been adopted by the Council.

 Web <https://pesco.europa.eu/#>

¹ <https://bit.ly/3xclFJ2>



Strengthened Arab-Israeli relations: development prospects and many unanswered questions

The great test of the new Arab-Israeli relationship is yet to come

by Gerhard Arnold, Theologian and Publisher,
Würzburg

The Arab “axis of resistance” against Israel has broken, even if two long-standing hostile neighbours, Lebanon and Syria, will not hear of normalisation of their relations with the Jewish state. The “Abraham Accords”, brief and general statements about future cooperation between Bahrain and the United Arab Emirates (UAE) and Israel, which were brokered under heavy pressure from US diplomacy, without the participation of Arab organizations and signed on 15th September 2020 in Washington, generated worldwide media attention. Egypt signed a peace treaty with Israel as long ago as 1979, Jordan followed suit in 1994. In December 2020, President Trump announced further political normalisation between Morocco, Sudan and Israel. But the King of Morocco is having difficulty going any further, just like the Saudi Crown Prince, Mohammed bin Salman, who has had discreet relations with Israel for years. However, these rulers have to take account of their peoples’ anti-Israeli and pro-Palestinian sentiments, driven by the long-standing Arab support for a separate Palestinian state and the demand

for an end to the expansion of Jewish settlements, etc. This also explains the great reluctance of Kuwait, Qatar and Oman, which, while maintaining trade relations with Israel, uphold the rights of the Palestinians. They are a long way from signing the “Abraham Accords”, but Israel is no longer an enemy.

The Arab-Israeli rapprochement

The establishment of diplomatic relations with the Jewish state by Bahrain and the UAE did not come as a surprise. Middle Eastern experts unanimously consider that the seeds of this development were sown some years ago. The two main reasons for the Arab-Israeli rapprochement are the growing concerns among numerous Arab states in the Middle East about Iran’s destructive foreign policy and its clear determination to build a nuclear bomb. The second reason is the US political and military withdrawal from the region, initiated by President Obama and continued by President Trump.

How do the participating Arab states view the opportunities for developing relations with Israel and the further handling of the Palestinian question?

“The great test of the new Arab-Israeli relationship is yet to come: how to deal with Iran.”

Assessment in the UAE

It is no exaggeration to say that the UAE has been the most welcoming of the normalisation of relations with Israel. The media and the business community have spoken of the dawn of a new era of great mutual benefit in economic, technological and other areas. By the end of 2020, 130,000 Israeli tourists had visited the Emirates. In a joint newspaper article on 1st March 2020, the UAE ambassador to Israel and the Israeli head of mission in Abu Dhabi wrote: “Our conversations focus on growing economic ties, trade and tourism, health and educational exchanges and deepening people-to-people contacts. We facilitate and update each other on the near-daily announcements of new agreements between our universities, research institutes, start-ups and medical centers”.

In view of the post-petroleum age, one would like to benefit from Israel's high technology in the long term. But its long experience in agriculture with very economical water consumption is also interesting for the UAE (food security).

Saudi Arabia and the question of Iran

Crown Prince Mohammed bin Salman would also like to join the Abraham Accords because he has little sympathy for the Palestinians, who irritate him more than anything else. But his father, King Salman, and public opinion will not allow any official cooperation with the Israelis. A newspaper article by Ronald S. Lauder, chairman of the World Jewish Congress, in the well-known Saudi daily, Arab News, on 1st March 2021 attracted attention. The author proposes the formation of a “NATO for the Middle East”. In contrast to the Emirates, he expresses political objectives in plain language. In the face of the great Iranian threat, Arabs and Israelis are growing ever closer because they can no longer trust the West. They should “work together to save the Middle East from the looming catastrophe of extremism and nuclearisation. “A strategic alliance, a Middle East Defense Organization (MEDO), would be a strong bulwark against Iran and against the imperialist aspirations of Turkey. This is exactly what Mohammed bin Salman wants.

Strengthening Jewish life in the GCC countries

The foreseeable growth in tourism between Israel and the UAE and Bahrain has raised hopes among the Jewish communities on the Arabian Peninsula that they will now be able to step out of their shadowed existence and benefit from the Abraham Accords. Around 1,000 Jews live in Dubai, around 100 in Bahrain and there are small communities in Oman, Qatar and Kuwait. In February 2021, these communities founded The Association of Gulf Jewish Communities (AGJC), with plans to establish the

Gerhard Arnold



Photo: private

is a German protestant theologian. Born in 1948, he studied Theology in Neuendettelsau, Heidelberg and Erlangen from 1967 to 1973. He served as minister in the Lutheran Church of Bavaria and was teacher of religion at a High School in Kitzingen from 1982 to 2009. Mr Arnold published numerous monographs and essays in the field of contemporary church history on the themes/issues of ethics of peace and international security policy. Since 2012, the focus of his studies has been on the conflicts in the Near and Middle East region.

region's first Jewish court. They also hope that Jewish life will be strengthened by the settlement of Jewish business people in the region.

Qatar and the Palestinians

The Qatar government left no doubt that it would not join the Abraham Accords as it does not consider the normalisation of relations with Israel as a solution to the Palestinian conflict. “The core of this conflict is about the drastic conditions that the Palestinians are living under as people without a country” as a spokeswoman for the Ministry of Foreign Affairs put it. Qatar supports and protects the extremist Muslim Brotherhood, providing substantial financial aid to Hamas, a branch of it, in the Gaza Strip. However, discreet political relations with Israel have existed for years.

Reluctance in Egypt

The peace treaty with Israel in 1979 was never really given a chance to flourish, although there is effective military cooperation on counter-terrorism between the two countries on their borders. President Al-Sisi will not therefore join the Abraham Accords. The main reason is the Israelis' uncompromising attitude towards the Palestinians and their settlement policy in the occupied territories. In the media however, Al-Sisi welcomed the peace agreement and expressed the hope that it would bring stability to the Middle East.

Fresh prospects from Biden's Middle East policy

The Abraham Accords make no reference to the two-state solution for Israel and Palestine, but President Biden supports the project, unlike his predecessor, Trump.

At their meeting in Cairo on 9th February 2021, the foreign ministers of the Arab League reaffirmed their long-standing position that only a two-state settlement can resolve the Israeli-Palestinian conflict and bring real peace.

The great test of the new Arab-Israeli relationship is yet to come: how to deal with Iran.

In the Spotlight

+++ Brexit +++

Excluding post Brexit Britain from the security and defence debate would be short-sighted

British vision of future cooperation in European security and defence

by Robert Walter, former MP and President of the European Security and Defence Association, London

On 16th March, the United Kingdom published its Integrated Review of Security, Defence, Development and Foreign Policy. This document, in the words of the Prime Minister, Boris Johnson, was clear that “Having left the European Union, the UK has started a new chapter in our history”. He reiterated that the UK will exceed its NATO spending commitments, at 2.2% of GDP, and embark on a modernisation programme that embraces the newer domains of cyber and space, equipping the armed forces with cutting-edge technology.

Leading European ally within NATO

Focussing on Europe, he said that the UK would continue to be the leading European ally within NATO, bolstering the Alliance by tackling threats jointly and committing British resources to collective security in the Euro-Atlantic region. As a European nation, he stressed that the UK would enjoy a constructive and productive relationships with its neighbours in the EU.

“Having left the European Union, the UK has started a new chapter in our history.” Boris Johnson

Disappointingly, although it was clearly stated as the third pillar of the October 2019 Brexit Political Declaration, discussions on future foreign policy, security and defence cooperation did not feature in the discussions on the new EU-UK Trade and Cooperation Agreement. This was despite the EU’s adopted negotiating mandate suggesting that any partnership agreement was a single package including foreign and defence policy. However, the new UK policy reinforces its commitment to European security, through NATO, the Joint Expeditionary Force and strong bilateral relations. It states “Our European neighbours and allies remain vital partners. The UK will be the greatest single European contributor to the security of the Euro-Atlantic area to 2030. We will work with our partners to defend our common values, counter shared threats and build resilience in our neighbourhood”.

The UK acknowledges the important role played by the EU in the peace and prosperity of Europe and it will find new ways of working with Brussels on shared challenges. Collective action

and co-creation with allies and partners will, in the government’s view, be vitally important. But it emphasises quite clearly that “The United States will remain our most important bilateral relationship”.

Cooperation with individual nations continues

In a more positive vein, it goes on to detail the current cooperation with individual European nations including what it describes as “the deep and long-standing security and defence partnership with France, underpinned by the Lancaster House treaties and exemplified by our Combined Joint Expeditionary Force”. Then Germany is described as an “an essential ally, with which we have deep economic ties and a growing foreign policy partnership, as members of the E3 and bilaterally” and looks forward to a Joint Declaration on Foreign Policy they hope to sign in 2021.

The document names other European partners, both within and outside the EU, who will remain essential to the UK approach. It is clear that they will work with all allies in support of common objectives, to meet what Britain sees as shared defence and security challenges. Finally, the UK commits to continue to develop a Future Combat Air System (FCAS) with Italy and Sweden.

Whilst there may be some disappointment in Brussels at the lack of commitment to work directly with the EU on defence initiatives it must be recognised that the United Kingdom spends more on defence than any other European nation. It is also one of the two nations in Europe both with nuclear weapons capability and permanent seats at the UN Security Council.

In my view, it would therefore be very short-sighted to exclude post Brexit Britain from the wider European security and defence debate. We must work to ensure that all the initiatives both within EU structures and those created outside are properly coordinated. That must be done without undermining the existing NATO architecture, but be complimentary to it.

The Review published on 16th March 2021 describes the British government’s vision for the UK’s role in the world over the next decade and the action to be taken to 2025.

Web <https://bit.ly/3clJhUh>



MAIN TOPIC:

Climate and security

Climate change increases social vulnerability and the risk of conflict. The Covid-19 pandemic has worsened the situation of many people in the world, exacerbating inequities and harm. Today, the importance of monitoring, predicting and reacting to climate change related consequences has never been higher. Drawing a complete picture of the situation, the authors in this chapter define Europe's role in finding sustainable solutions.



EU Cohesion Policy: leaving no one behind in the green transition

We need to achieve a green but just and fair transition

by Marc Lemaître, Director-General,
DG for Regional and Urban Policy,
European Commission, Brussels

Climate change and environmental degradation are an existential threat to Europe and the world. European Commission President von der Leyen has chosen climate and environment-related challenges as the top priority of her mandate, setting up the **European Green Deal** [<https://bit.ly/3skvzFS>]. The EU's main investment policy for local and regional development, the **EU Cohesion Policy** [<https://bit.ly/3e2uJsp>], will massively contribute to the European green transition, making sure no one is left behind in the process.

Green Deal and Cohesion Policy

The European Green Deal is the new growth strategy that aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy. With the aim to achieve EU climate neutrality by 2050, the European Green Deal provides a roadmap for a transition across all sectors of the economy, such as transport, energy, agriculture, buildings and industry. It also highlights the need for a long-term transformative change. Thanks to the long-term EU budget and **#NextGenerationEU**, [<https://bit.ly/3tpppWg>] unprecedented investments in green solutions and sustainable practices will propel the transformation across all sectors.

These investments must ensure that the climate-neutrality transition takes place across territories, and that all EU regions benefit from it.

EU Cohesion Policy is a key instrument to deliver the goals of the European Green Deal on the ground, in all regions and cities. The policy is expected to contribute with more than €100 billion to climate and environment related projects over the 2021-2027 EU budget period. During the current EU programming period 2014-2020, Cohesion Policy funds are already contributing with more than €55 billion investments in climate action.¹ Cohesion policy also has the advantage of galvanising its strong pan-European network of local and regional decision-makers, who are the real implementers of the green transition on the ground and in every corner of the continent.

A green, just and fair transition

While all regions will require funding for the green transition, the transformation will affect some territories more than others. This is particularly true for regions and territories highly dependent on fossil fuel mining and use, as well as highly carbon-intensive activities. Fossil fuel mining and exploration will face a significant decline and highly-carbon intensive industries will undergo a deep transformation. Regions and territories that strongly depend on these activities will need to restructure their industries, ensure through new economic activities that this restructuring will not bring negative socio-economic effects on the

**“EU Cohesion Policy is
a key instrument to
deliver the goals of the
European Green Deal
on the ground.”**

Marc Lemaître



Photo: European Union

Marc Lemaître has been Director-General for Regional and Urban Policy (REGIO) since 9/2016. He studied economy at the Free University of Brussels and earned his MA of in European Economy from the College of Europe of Bruges in 1996. He then started his career at the Foreign Affairs Ministry of Luxembourg. After several positions at the Permanent Representation to the EU in Brussels (1996-2006) and then in his Ministry at home, he served from 2007-2013 as Head of Cabinet of the three Commissioners Hübner, Samecki and Lewandowski, before becoming Director of the EU Office for the Administration and Payment of Individual Entitlements (PMO).

local population, and provide the necessary training to the workers concerned to shift their professional profile towards those new economic activities.

Last year, the Commission identified 104 European priority territories that will be particularly affected by the green transition, representing about 42 million

people (9% of the EU population).² These territories cover all Member States and represent coal, peat and oil shale regions as well as carbon-intensive regions with industries like steel, cement, pulp and paper or the chemical sector.

There are still more than 200,000 direct coal-related jobs in the EU's coal regions. As coalmines are closing, and will continue to do so, these jobs will progressively disappear.³ At the same time, there is a large potential for other economic activities, and hence workers in these regions. For instance, the deployment of renewable energy technologies in the coal regions can create up to 315,000 jobs by 2030, reaching more than 460,000 by 2050.⁴ With the **Just Transition Mechanism** [<https://bit.ly/3adg15S>] to generate the necessary public and private investments, the European Commission will provide targeted support to the territories most affected by the shift towards a greener economy. This includes €17,5 billion of fresh funding from the **Just Transition Fund** [<https://bit.ly/3af8dvb>] – a new EU Cohesion Policy instrument – aimed at the most vulnerable people and regions.

The central focus of this support will be twofold. On the one hand, investments will support economic diversification and the creation of new job opportunities in a region, with help to SMEs, startups and incubators to create new economic prospects. On the other hand, it will contribute to develop workers' skills for the future job market.

In addition to the Just Transition Fund, we can rely on **InvestEU** [<https://bit.ly/32jq16R>], a dedicated just transition scheme focused on attracting private investments. It will benefit just transition regions and help their economies find new sources of growth by supporting investments in sustainable energy and transport, economic diversification as well as social infra-

structure. Lastly, a public sector loan facility backed by the EU budget will be used for loans to the public sector. Implemented together with the European Investment Bank, it will foster investments ranging from energy and transport infrastructure, district heating networks, energy efficiency measures, as well as social infrastructure.

A long and demanding journey

It is clear that moving towards a climate-neutral economy by mid-century will be a long and demanding journey. To make it a success, the Cohesion Policy's **partnership principle** [<https://bit.ly/2REKazp>] is crucial: authorities and key stakeholders at local, regional, national and European level must join forces to deploy EU funding, such as the Transition Fund, in the best possible way for the success of the green and fair transition. As initiators of the global green wave and as the ones who will live with the consequences of the investment decisions made today and over the coming decade, young people deserve to be heard and involved in this process.

When it comes to transition regions, we must create the conditions to motivate young people to build their future in these territories, by embracing their fresh ideas and staying in open dialogue with them. The recently published '**Youth for a Just Transition**' toolkit [<https://bit.ly/3sm96lo>] offers many examples of best practises for achieving this.

This involvement of stakeholders and youth will help ensure that the investment framework that will be set for the next decade will have maximum impact in promoting economic renewal and equipping workers with upgraded and new skills, helping them to participate in the gains from the socio-economic renewal.

The Commission is ready to mobilise the necessary expertise on relevant industries, stakeholders and authorities via the **Just Transition Platform** [<https://bit.ly/3wWC3ym>] to make this process a real success for our continent.

¹ <https://bit.ly/3sDKmwr>

² <https://bit.ly/39sTOuQ>

³ <https://bit.ly/3sGCzhj>

⁴ <https://bit.ly/2QVbuZS>

The importance of aerosol, cloud and wind research for Europe

Europe must invest in high value space technology

by Dr Johannes Bühl, postdoctoral researcher
at the Leibniz Institute for Tropospheric
Research (TROPOS), Leipzig

Aerosol, clouds and winds form inextricably intertwined components of the Earth's atmosphere. They act on the Earth's climate, both directly and indirectly, in ways that science is only just beginning to understand. But what is the significance of aerosols, clouds and winds for Europe's future? Why do they matter?

Atmospheric exchange systems

The complex global interaction of aerosol, clouds and winds has many positive facets. Since ancient times, wind takes up mineral dust particles from the Sahara Desert and transports them over the Atlantic in a continuous lofted stream. When this stream arrives over the Amazon basin, turbulence and tropical thunderstorm clouds reach up and wash down the mineral dust. This constant supply of dust from the Sahara Desert naturally fertilises the Amazonian rain forest, the highly diverse biome that we know today (Baars et al, 2011; Yiu et al., 2015). The connection between the Sahara Desert and the Amazon basin is one of the most obvious examples of how the atmosphere drives globally interconnected ecosystems. Europe is also engulfed in a couple of long-range atmospheric transport systems. What does this mean for the future? Aerosol is com-

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Photo: private

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of Leipzig in 2015. In his current position as postdoctoral researcher he studies aerosol-cloud interaction with ground-based and space borne remote-sensing instruments.

posed of tiny particles suspended in air with a large variety of physical and chemical properties that can have an enormous significance for life on Earth. However, aerosol also has its darker sides. Prominent examples most relevant to Europe include the 2010 Eyjafjallajökull volcanic eruption in Iceland which brought nearly all air traffic over Europe to a complete halt. Recent aerosol uptake by wild fires in the Chernobyl area (Evangelidou and Eckhardt, 2020) fall into the same category of complex scenarios in which aerosols, clouds and winds together pose a sudden threat.



Leipzig Aerosol and Cloud Remote Observations System at Cyprus University of Technology, Limassol, Cyprus

photo: J. Bühl

The influence of a changing climate

On several occasions in Earth's recent geological history, changes in aerosol emissions have affected incoming solar radiation in such a way that global temperatures went into oscillations with devastating effects. Aerosol and clouds will behave very differently in a future warmed climate. Wind systems, precipitation patterns and ocean currents will quickly adapt to new conditions and the composition of our atmosphere will be distinctly different from the one we know today. Deserts will shift, clouds will change in size and the distribution of precipitation will be modified. The highly intercon-



Dust cloud arriving at Larnaca Airport (Cyprus) in March 2017

photo: J. Bühl

nected physical processes in the atmosphere will need to be newly researched and understood.

Observational networks and satellites

Large-scale ground based observational networks must work together with spaceborne sensors in order to precisely measure and understand the current state of the atmosphere and its reaction to climate change. Such detailed observations of aerosol distribution, cloud properties and wind systems can be a starting point for mitigation of threats and solving scientific problems.

Europe is advancing in this direction and **ACTRIS** (European Aerosol, Clouds and Trace Gases Research Infrastructure) is in the process of combining, among others, the **EARLINET** (European Aerosol Research Lidar Network) and **Cloudnet** (European network for active remote-sensing observations of clouds) remote-sensing networks with ground-based observation stations within and outside the European continent. ACTRIS is therefore one cornerstone for Europe's future resilience against short-term aerosol-related crises, a long-term response to climate change and a highly effective tool for solving other complex problems in atmospheric science.

Satellites – especially those equipped with active laser and radar sensors – are another critical component for enabling a global overview. Only such active remote-sensing instruments can deliver first-hand information about the spatial distribution and physical properties of atmospheric constituents. Missions like **ADM-Aeolus** (Atmospheric Dynamics Mission / satellite) and the upcoming **EarthCARE** (Earth, Aerosols and Radiation Explorer) satellite will together deliver the whole package of aerosol, cloud and wind observations, providing irreplaceable input to numerical models. Aeolus was a risky experiment, but it paid off and greatly extended the limits of what is possible in terms of global wind observations.

Extending the frontiers of knowledge

Extending Europe's capabilities for atmospheric observations can only happen through a synergetic combination of ground-based, ship-borne and airborne field experiments and synergetic space-borne observations (Bühl et al., 2017).

The remote-sensing researchers of **TROPOS** are currently in

the front line of contributions to this philosophy. **Lidar** (Light Identification Detection And Ranging – a laser instrument for probing the atmosphere) observations of aerosol were made close to the North Pole during the recent **MOSAIC** experiment on board the Polarstern research vessel (Engelmann et al., 2021). In addition, a measurement campaign at Punta Arenas, Chile, is ongoing and a new permanent ground-based observation station is being built on Cabo Verde island.

In the context of the EU Teaming project **EXCELSIOR** (Excellence Research Centre for Earth Surveillance and Space-Based Monitoring of the Environment /EU Teaming Project), the **ERATOSTHENES Centre of Excellence** (ECOE) for synergetic remote-sensing research is being founded at Limassol, Cyprus, with the help of a consortium of The National Observatory of Athens, **The German Aerospace Research Center** (DLR) and **TROPOS**. The ECOE will be a European outpost for atmospheric observations in a region where a complex mixture of aerosol and clouds poses great challenges for human health and the future climate.

Fast exploration and slow integration actions are equally important for the future and will enable better sensing of the physical processes and constituents of the atmosphere. This ability to see further will give us resilience against short-term atmospheric crises and critically important information for the sustained fight against climate change.

References:

- Baars, H., et al. (2011), Further evidence for significant smoke transport from Africa to Amazonia, *Geophys. Res. Lett.*, 38, L20802, doi:10.1029/2011GL049200.
- Bühl, J. et al. (2017), Remote Sensing. *Meteorological Monographs*, 58, 10.1–10.21, <https://doi.org/10.1175/AMSMONOGRAPH5-D-16-0015.1>.
- Engelmann, R. et al., (2020), UTLS wildfire smoke over the North Pole region, Arctic haze, and aerosol-cloud interaction during MOSAiC 2019/20: An introductory, *Atmos. Chem. Phys. Discuss.* [preprint], <https://doi.org/10.5194/acp-2020-1271>, in review.
- Evangeliou, N., Eckhardt, S. (2020), Uncovering transport, deposition and impact of radionuclides released after the early spring 2020 wildfires in the Chernobyl Exclusion Zone. *Sci Rep* 10, 10655 <https://doi.org/10.1038/s41598-020-67620-3>.
- Yu, H. et al., (2015), The fertilizing role of African dust in the Amazon rainforest: A first multiyear assessment based on data from Cloud?Aerosol Lidar and Infrared Pathfinder Satellite Observations. *Geophys. Res. Lett.*, 42, 1984–1991. doi: 10.1002/2015GL063040.

There is glory in prevention

Why boosting climate policy must be at the heart of our coronavirus pandemic recovery

by Dr Anton Hofreiter MdB, Co-chair of the parliamentary group Alliance 90 / The Greens in the German Bundestag, Berlin

The coronavirus has shed a light on a new type of security threat. Everyone became aware that no border and no weapon on the planet can protect us from the deadly virus. The same applies to the climate crisis, the biggest threat of our time. We must take the lessons learned from the Covid-19 pandemic, rethink security, and end short-sighted policies by using the recovery to invest in forward-thinking, coherent, and strong climate policies. This would give us a chance to tackle the climate crisis and rebuild a greener, safer, and more secure world.

Lessons learned from the pandemic

It makes sense to learn from the Covid-19 crisis because it has several factors in common with the climate crisis: firstly, both require scientific evidence to inform sound decision making and they require preventive and decisive action. Our goal is to flatten the curve of the pandemic and to prevent the virus from spreading exponentially. The same is true for the climate crisis: now is the time for more ambitious climate action as the impacts of the climate crisis will intensify with the global temperature rise. A second commonality is that they are borderless. We must therefore address these threats across borders in a spirit of multilateral cooperation, collaboration, and solidarity. The Global North bears a special responsibility to support the Global South in coping with both crises. Thirdly, the two crises disproportionately affect the most vulnerable groups – a fact that should be taken into account when drafting policies.

Fourthly, once the threats materialise, they undermine critical systems including public health, food supply, finance, as well as national and human security.

Climate crisis: ever worsening extremes

The climate crisis differs however from the Covid-19 pandemic in one very fundamental aspect: it brings ever worsening extremes. Despite the pandemic lockdown, followed by an economic slowdown, we only had a short-term reduction in greenhouse gas emissions, while the dangerous concentration of carbon dioxide (CO₂) in the atmosphere continued to rise. In 2020, CO₂ emissions reached the highest level in human history.

While there is no vaccine in the literal sense for the climate crisis, we know fairly accurately what needs to be done to tackle the biggest threat of our time: limit global warming to well below 2°C, preferably 1.5°C. In order to save our future, we have to finally listen to science, and policy makers worldwide have to communicate the unprecedented threat of the climate crisis which could be further exacerbated once we pass climate tipping points. According to a recent climate study, up to 3.5 billion people could be living in extreme heat conditions in 2070, well outside the human comfort range, if we fail to implement the Paris Agreement. Only if we keep climate change high on the political agenda do we have a chance to combat the crisis and to mitigate the most devastating impacts. Secondly, we need to plan because there is glory in prevention! Thirdly, this leads to the need for governments worldwide to put climate policies at the heart of their national Covid-19 recovery programmes to transit into a green future. Currently, that is not the case. Countries around the globe are not doing

“Only if we keep climate change high on the political agenda do we have a chance to combat the crisis and to mitigate the most devastating impacts.”

Dr Anton Hofreiter MdB



Photo: Paul Bohnert

Dr Anton Hofreiter MdB has been serving as co-chair of the parliamentary group Alliance 90/The Greens in the German parliament since 2013. Born in 1970 in Munich, he holds a PhD in botany from the Ludwig Maximilian University of Munich. He became a member of the Green party in 1986 and a member of the German parliament in 2005, serving as chairman of the Committee on Transport, Building and Urban Development (2011-2013) before taking up his current position.

enough, bailing out fossil industries unconditionally, with CO₂ emissions rebounding strongly.

How green is the Covid-19 recovery?

Let's have a look at the European Union as it is the largest economic area in the world and the third largest emitter on this planet. In February 2021, the European Parliament adopted the Recovery and Resilience Facility (RRF), an unprecedented instrument designed to help the EU to “build back better” after the pandemic. The RRF will make €672.5 bn in grants and loans available to Member States to support their investments and reforms to navigate the green transition. There are two pieces of good news: firstly, for the first time, funds were raised collectively at the EU level to be allocated in solidarity to member states based on the impact of the pandemic. This is the approach that we need in times of borderless threats and crises. Secondly, the RRF sets a mandatory green investment target of 37% for each country's plan. As the Greens, we wanted every other euro of the total budget to be spent on climate protection but applaud that the RRF is setting the right direction. Now, it is up to the EU Member States to apply this goal rigorously and even exceed wherever and whenever possible. Moreover, the national investment plans are being scrutinised at the EU level based on the principle of “do no significant harm” and in line with new EU sustainable finance rules. The EU Commission must monitor closely that this principle and climate goals are not watered down.


Pledging a record sum of money is one thing, while spending it wisely is another. Unfortunately, the German government is missing the opportunity to make ambitious investments into a green transition. Instead, it plans to invest 80% of the RRF

funds into the already up and running stimulus programme. The German research organisation, the Wuppertal Institute, along with the think tank E3G, reviewed the national plans, concluding that Germany's draft RRP does not achieve the minimum climate quota and, when assessing all recovery measures, Germany reaches a green spending share of just 22%. In contrast, 36% of all measures have a negative impact or are at least at risk of having a negative effect on the green transition. According to a calculation of the RRF by the think-tank Agora Energiewende, the largest green EU pledge ever still leaves a huge funding gap to enable accelerated climate action in this decade. To meet the EU's emissions goals, €2.4 tn in climate-friendly investments are needed. A missed chance that will be costly for future generations.

A historic opportunity we cannot fail to grasp

Our Covid-19 recovery so far is not enough for a climate-safe future. Even with the ambitious green EU pledge we fall far from the necessary climate actions. What we need is a more coherent and more comprehensive boost of climate policies across all policy departments from agriculture and finance to security and development because rapid global warming is affecting all areas of our lives.

To combat the climate crisis, we need to put our focus on climate justice. The same applies to the Covid-19 recovery. Huge financial investments in rich countries – even if they are green – are by far not enough. Germany, Europe, and other strong countries must link short-term efforts to alleviate the pandemic emergencies also outside of Europe by investing in long-term, crisis-resilient and climate friendly partnerships. Simultaneously, and with particular urgency, rich countries must eliminate unfair mechanisms such as protectionist trade regarding medical instruments and agricultural products that harm countries in the Global South. Given the devastating consequences on the lives and livelihoods of societies around the world that both current crises have, it is clear that the main security threats of our time are global threats, impacting all humans, that we have to tackle. This makes security more than ever a question of international solidarity, common ambitious action, resilience, and ability to regenerate. Highly important prerequisites for a more secure planet are ecological and climate protection, fair international trade, partnerships based on climate justice, and investments in sustainable, climate-resilient and green development.



The potential of digitalisation is still difficult to quantify or qualify

Digitalisation and climate protection: can they go hand in hand?

by Oliver Bruzek, Policy officer of
CompuGroup Medical (CGM), Berlin

The question of whether the comprehensive digitalisation of our society can contribute to sustainable economic activity and active climate protection, or whether it is more likely to place a greater burden on our planet, is the subject of controversial debate. Today's high consumption of resources, especially for the production of hardware, contrasts with a considerable potential for savings in a wide range of areas. However, before any closer consideration, the following should be clear to everyone: it is pointless to even think about whether we need more or less digitalisation for climate protection reasons. It will be comprehensive and successively penetrate (almost) all areas of life. Even today, we would simply no longer be able to cope with our everyday lives without digital solutions, starting with the organisation of infrastructure and extending to production processes and trade.

Using the full potential of digitalisation

Science today cannot cope without big data and our communications would collapse. In addition, citizens consider the benefits to be so high that they simply no longer want to live without digital tools. From today's perspective, the potential of digitalisation is still difficult to quantify or qualify. For the most part, we are still in a phase of electrification of many processes and are still in the early stages of developing and using IT-supported systems. The use of artificial intelligence has only just tentatively begun.

The benefits in the health sector

The benefits in the health sector, for example, can be illustrated in ecological and economic terms, quite independently of a purely medical consideration. Let us just take the current example of vaccine development against the Covid-19 virus. The speed at which vaccines have been developed based on data-driven research is almost ten times faster than conventional research. The saving of resources is significant. It is even easier for each of us to grasp the savings potential of digital healthcare when we think of the phenomenon of rare diseases.

Although only a relatively small number of people suffer from a particular rare disease, there are over 8,000 different ones, with about 4 million people affected in Germany alone. On average, it takes about five years before the

disease is diagnosed properly. This does not only mean countless trips to different doctors, but also often taking completely unsuitable drugs – which have to be produced and delivered. Digital diagnostic procedures controlled by algorithms can reduce this effort many times over, to the great benefit of the patients.

Saving resources in the manufacturing sector

In the manufacturing sector, maximum conservation of resources can nowadays only be achieved with IT-controlled systems, and the same applies to the agricultural sector. Heating and cooling systems only work efficiently with computer-controlled systems that have the highest level of economy, achieved in terms of both resource use and emissions. Without digitalisa-

“What we need is more investment in digitalisation, rather than less.”

Oliver Bruzek



Photo: private

is the global chief public affairs officer of CompuGroup Medical. Prior to this, he managed a business consultancy agency in Warsaw after having held management positions in the aeronautical sector with the Canadian company CAE Inc. and having acted as director of government relations for Airbus Industries (former EADS). Within the German parliament, he was an advisor on security and foreign politics to members of parliament and the defence committee.

photo: ©weerapah1003, stock.adobe.com

tion, mobility can neither be managed intelligently nor in line with demand at all times. This applies to the control of the drives themselves as well as the networking and thus convenient and efficient coordination of means of transport. The control of energy demand as well as the precise timing of the supply of the most environmentally friendly energy sources is not feasible without IT. The result is that a reduction in energy consumption and emissions can hardly be achieved, if at all, to the extent required without the use of digital control systems, which are themselves energy hungry.

Cloud-based solutions to save energy

Therefore, the fine-tuning we need to do is first and foremost to reduce the amount of energy required to manufacture and use IT-based systems and digital products. A pragmatic approach would be to forgo, wherever possible, the part of digitalisation that requires the most resources today: the hardware. Instead of a multitude of tiny computer centres and local infrastructure, we need more cloud-based solutions and “Software as a Service (SaaS)” approaches. These must guarantee at least the same high level of security as local data storage and must not be inferior to on-site solutions in terms of availability. A high usage rate of such offers would significantly increase the efficiency itself. At the same time, we need to invest in research into new materials for hardware and create greater efficiency here as well. Results would create a significant advantage on the balance sheet. What we need is more investment in digitalisation, rather than less, and not just for competitive reasons. Doing without a new smartphone every year would then be a very personal contribution to climate protection.

documentation

Digitalisation for the benefit of the environment

(ed/nc, Paris) At the EU level, discussion on the links between digitalisation and the environment have gained momentum in recent years. On 17th December 2020, the Council of the European Union approved conclusions addressing the twin societal challenge of digital transformation and green transition, and explored ways to contribute to building the necessary bridges between them. The potential of the twin transition for new green and digital job creation, necessary for economic recovery after the Covid-19 pandemic, is highlighted and it is stressed that the digital transition should be fair, inclusive, and should leave no one behind.

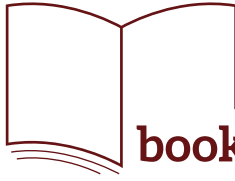
The Council conclusions give political guidance to the European Commission. The latter should present appropriate initiatives to exploit the opportunities offered by digitalisation for environmental protection and climate action, and to limit the negative environmental impacts of digitalisation itself.

Svenja Schulze, Federal Minister for the Environment, Nature Conservation and Nuclear Safety of German stated:

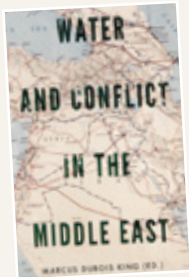
«Digitalisation is an excellent lever to accelerate the transition towards a climate-neutral, circular and more resilient economy. At the same time, we must put the appropriate policy framework in place to avoid adverse effects of digitalisation on the environment. These conclusions reflect in a balanced way where the EU needs to act to make the most of this twin transition.»

The Council encourages the Commission to develop, among others, an ambitious policy agenda for the use of digital solutions to achieve the zero-pollution ambition. It also calls on the Commission to propose regulatory or non-regulatory measures to reduce the environmental footprint of data centres and communication networks, as well as to present an action plan by the end of 2021 on how to reduce the amount of disposed ICT products by 2025.

 **Web Council Conclusions:** <https://bit.ly/32dYBwk>



books & publications



Water and Conflict in the Middle East

Edited by Marcus DuBois King and published by Hurst Publishers, 9/2020; 288pp; £ 25.–
ISBN 13: 9780197552636

Water scarcity in the Middle East highlights risks to peace all over the world

Conflicts in the Middle East go back to very early civilisations who shared the waters of the Tigris and Euphrates rivers. These conflicts continue in various forms today, endangering peace in the region. The use of water as a weapon by states, and nowadays by terrorists and subnational actors too, is a grave danger to peace for whole regions. These actions have grown in tandem with a litany of accelerating global climate impacts on water resources including higher temperatures, changes in precipitation, extreme weather and flooding events rising seas. DuBois King's reader, a case study of seven regionally specialised authors on "Water and Conflict in the Middle East" is an essential contribution not only to understanding the instability of the Middle East, but also sheds light on the growing relevance of water to global conflicts and the need for appropriate solutions. The book focuses on the example of Turkish hydro hegemony, for instance, invites policymakers to consider the consequences for lower riparian countries and to prepare for political and humanitarian actions-policies for both prevention and cure, if prevention fails!

The authors demonstrate that regional conflicts have their roots in geostrategic imperatives (see the actions of Turkey, Iraqi, Kurdistan and the UAE) or unilateral development of infrastructure, like the Grand Ethiopian Renaissance Dam, that will impound waters destined for Egypt or, quite simply, a nation's will to survive (groundwater resources overuse).

DuBois King's reader is essential to gaining a better understanding of the problems of this turbulent region, the Middle East, but in more general terms, that water scarcity is a threat to peace all over the world.

COVID-19 et rechauffement climatique*

Plaidoyer pour une économie de la résilience

by Christian de Perthuis
De Boeck Supérieur, 10/2020
143 pp, € 16.–
ISBN: 978-2-8073-3218-8



The pandemic will pave the way for an alternative model of growth and societal development

Once the pandemic is behind us, Europe will be plunged into an economic and social crisis. The post-crisis challenge will be to strive for greater social justice but also to move towards an alternative model of growth, the transition to renewable energies and better ways of living together in society. Christian Perthuis, Professor of Economics at The University of Paris Dauphine, identifies the lessons that can be learned from the haphazard way in which governments reacted to the pandemic crisis and pinpoints a number of principles that can be applied over the longer term to protect our planet. Chapters 1 to 3 focus on measures to contain the spread of the coronavirus and show how Covid-19 has led to a dramatic drop in global CO₂ emissions. Chapters 4 and 5 look at how economies will revive at the end of CO₂ lockdown and advocate resilience in all areas of production (with full employment) supported by financial intervention by states. Chapter 6 focuses on the post-pandemic world in which health and climate issues will determine the resilience of our societies to global risks while governments make sincere attempts to reduce social inequalities and focus investments on zero carbon production.

The author conveys a persuasive and well-argued message in favour of a vigorous and wide-ranging recovery: we will succeed if we show greater respect than before for social cohesion and treat it as the key factor of resilience and progress. It is the human factor that must drive every decision.

* Covid-19 and global warming



A pragmatic way of thinking and acting

The green deal in the Asia Pacific Region

by Olzod Boum-Yalagch, Chairman of the Mongolian Green Party, Ulaan-Baatar

In these days of “pandemic” disasters, mankind is looking for solutions to address social, economic and environmental challenges. We believe that the way from this impasse is the concept of a green deal based on a pragmatic way of thinking and acting. Younger generations are active in developing a green deal, which is defined as ecological oriented social and economic sustainable development. This is why parties are keen to place their own green deal in their political programmes to attract future voters.

The Global Greens Charter

The Mongolian Green Party (MGP) is first Green party in Asia and is part of the Asia Pacific Greens Federation as a founding member of the Global Greens movement. Following the Global Greens Charter, we represent in our country our core values of ecological wisdom, social justice, participatory democracy, nonviolence, sustainability and respect for diversity, focusing on actions against climate change and gender discrimination, which are the main problems in the Asia-Pacific region. The Pacific Greens are successful in implementing environmental goals like the zero-carbon bill, which was passed by the Aotearoa New Zealand Greens.

As the most populated continent, Asia has many socio-economic and environmental issues which need much quicker solutions than other places in the world. We produce almost

half of the world’s carbon pollution and the region also encapsulates social injustice with the enormous disparity between rich and poor.

Following the resolution adopted by the Global Greens states, the Global Greens Charter set up mechanisms for collaboration to combat climate change:

- Accelerating the global transition to 100% renewable energy: campaigns to keep fossil fuels in the ground, abandon nuclear power and develop renewable energy solutions.
- Promoting climate finance delivery, justice and accountability: campaigning for divestments, green bonds and ending fossil fuel subsidies.
- Facilitating the implementation of the United Nations Paris Agreement on Climate Change between state and non-state actors through cross-sectoral work to reduce emissions production.
- Protecting nature: campaigning for biodiversity, the integrity of ecosystems, and the resilience of life sustaining systems.

The Mongolian Green Party is pushing ahead

The MGP, one of oldest political parties in Mongolia, supports social movements close to our goals and encourages the candidacy of NGO representatives to parliament elections. We give a lot of attention to participatory democracy at a local level. In this context, we are willing to be the strong voice for the environment in our society with representation in parliament and to increase public concern about environmental issues by putting them in a top position. Concrete actions are also being taken: since the pandemic our party has a position on a “basic income” based on the production of renewable energy and financed by higher taxation of mining resources. This is in line with the constitution of Mongolia, which states: “Natural resources are in the hands of the people of Mongolia and under state protection.” We are trying to find both short- and long-term solutions.

Members and supporting members of our party and citizens of Mongolia are working closely together to implement this concept of basic income through a project named “Mongolian Union”. This is one example of social problems, such as poverty, being addressed with a just distribution of environmental resources based on the green deal concept of the Greens of the Asia Pacific Region.



Green Parties of the Asia-Pacific Greens Federation:

Australian Greens, Green Party of Bangladesh, Uttarakhand Parivartan Party (UKPP), Green Party of Iraq, Greens Japan, Jordanian Democratic Nature Party, Green Party Korea, Green Party of Lebanon, Mongolian Green Party, Nepali Greens, Green Party of Aotearoa New Zealand, Pakistan Green Party, Green Party of the Solomon Islands, Green Party Taiwan, Green Party of the Philippines

Taking climate change seriously

(ed/Céline Merz, Linz am Rhein) On 11th December 2019, the European Commission presented the European Green Deal, a growth strategy with the objective of making Europe the first climate-neutral continent by 2050, and at the same time boosting the economy and improving people's health. The European Green Deal covers all sectors of the economy, notably transport, energy, agriculture, buildings, and industries.

Climate action initiatives under the Green Deal

Pursuing green finance and investment and ensuring a just transition

To achieve the ambition set by the European Green Deal, there are significant investment needs. On 14th January 2020, the Commission presented the **European Green Deal Investment Plan** together with the **Just Transition Mechanism** <https://bit.ly/332t0CU>. The aim is to mobilise public investment and help to unlock private funds through EU financial instruments. The Just Transition Mechanism will provide tailored financial and practical support to help the regions that will undergo a profound economic and social transformation.

Increasing the EU's climate ambition for 2030 and 2050

On 4th March 2020, the Commission proposed the first **European Climate Law** <https://bit.ly/32VaEiy> to achieve a climate neutral EU by 2050. The EU institutions and Member States are bound

“Our goal is to reconcile the economy with our planet, to reconcile the way we produce and the way we consume with our planet and to make it work for our people.”

Ursula von der Leyen, President of the European Commission, 11.12.1019

to take the necessary measures at EU and national levels to meet the target. An agreement on the climate law was reached by the Council, the European Parliament and the Commission on 21st April 2021.

Preserving and restoring ecosystems and biodiversity

On 20th May 2020, the **EU Biodiversity Strategy for 2030** <https://bit.ly/3t8U9u0> to protect the fragile natural resources of the planet was presented. The new strategy tackles the key drivers of biodiversity loss, such as unsustainable use of land and sea, overexploitation of natural resources, pollution, and invasive alien species.

A fair and healthy food system

The **Farm to Fork Strategy for a fair, healthy and environmentally friendly food system** <https://bit.ly/3t8U9u0> adopted on 20th



What does climate change mean?

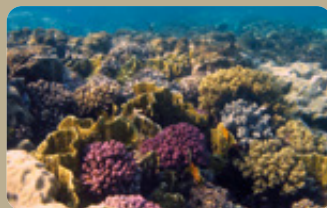
Global temperatures rise



The Earth's average temperature has increased by 1.18 °C (NASA data) during the 20th century, and most of the warming has occurred in the past 35 years. Even though this may sound like a small amount, it is however an unusual event in the planet's recent history. Small changes in temperature correspond to enormous changes in the environment.

Photo: © climate.nasa.gov

Warming oceans



As the planet warms, it's the ocean that gets most of the extra energy by absorbing much of the increased heat from the atmosphere, with the top 700 meters of ocean showing significant warming since 1971 (+0.5 °C, NOAA data). The plants and animals that live in the ocean must adapt to the warming, or die.

Photo: Matthias Hiltner, CC BY 2.0, Flickr.com

Arctic sea ice decline



Both the extent and thickness of Arctic sea ice has rapidly declined over the last several decades. Arctic sea ice reaches its minimum each September. According to NASA data, September Arctic sea ice is now declining at a rate of 13.1 % per decade. The Arctic Ocean is expected to become essentially ice free in the summer before the mid-century.

Photo: © NASA Goddard Space Flight Center, CC BY 2.0, Flickr.com

Shrinking ice sheets



The Greenland and Antarctic ice sheets have decreased in mass. According to NASA, Greenland lost an average of 279 billion tons of ice per year between 1993 and 2019, while Antarctica lost about 148 billion tons per year during the same time period. The rate of Antarctica ice mass loss has tripled in the last decade.

Photo: © Goddard Space Flight Center, CC BY 2.0, Flickr.com

March will strengthen the efforts of European farmers and fisherman to tackle climate change, protect the environment and preserve biodiversity. It will aim to significantly reduce the use and risk well of chemical pesticides, as well as the use of fertilisers and antibiotics.

Supplying clean, affordable and secure energy

Further decarbonising the energy system is critical to reach climate objectives in 2030 and 2050. Energy efficiency and renewable sources must be prioritised and complemented by the rapid phasing out of coal and decarbonising gas. On 7th July 2020, the Commission presented an **EU Strategy for Energy System Integration** <https://bit.ly/3e0sDdv> providing the framework for the green energy transition.

A zero-pollution ambition for a toxic-free environment

To protect Europe's citizens and ecosystems, the EU needs to better monitor, report, prevent and remedy pollution from air, water, soil, and consumer products. On 14th Octo-

ber 2020, the Commission adopted the **EU Chemicals Strategy for Sustainability** <https://bit.ly/3e3JwUE> to boost innovation for safe and sustainable chemicals and increase protection of human health and the environment against hazardous chemicals.

Accelerating the shift to sustainable and smart mobility

Transport accounts for a quarter of the EU's greenhouse gas emissions and is still growing. To achieve climate neutrality, a 90% reduction in transport emissions is needed by 2050. The **Sustainable and Smart Mobility Strategy** <https://bit.ly/3vuqhd2>, which was presented on 9th December 2020 together with an Action Plan of 82 initiatives, will ensure that the EU transport system stays on track in its development towards a smart and sustainable future.

“Parliament overwhelmingly supported the Commission's proposal on the Green Deal and welcomes the fact that there will be consistency between all EU policies and the objectives of the Green Deal.”

Pascal Canfin MEP, Chair of the European Parliament Environment Committee.

Glacial retreat



Glaciers are also retreating almost everywhere around the world — including in the Alps, Himalayas, Andes, Rockies, Alaska and Africa. Glacial melting is impacting freshwater ecosystems. Over a billion people rely on these glaciers for drinking water, sanitation, agriculture and hydroelectric power.

Photo: © Dimitry B. CC BY 2.0, Flickr.com

Sea level rise



The global sea level rose significantly in the last century (around 20cm) as a result of added water from melting polar ice sheets and glaciers in combination with the expansion of seawater as it warms. This results in flooding and erosion of coastal and low-lying areas. Rising sea levels also contaminate freshwater sources, and saltwater interferes with agriculture by stunting crop growth.

Photo: dronepicr, CC BY 2.0, Flickr.com

Biodiversity loss



Global warming is likely to be the greatest cause of species extinction this century. The Intergovernmental Panel on Climate Change says a 1.5 °C average rise may put 20-30% of species at risk of extinction. Many of the world's threatened species live in areas that will be severely affected by climate change.

Photo: Tchami, CC BY-SA 2.0, Flickr.com

Extreme weather events



Climate change has increased extreme weather events like severe droughts and heat waves in some regions, and extreme precipitation and coastal flooding in others. Climate change is also supposed to have a worsening effect on tornados and hurricanes, like in the Caribbean.

Photo: Sonse, CC BY 2.0, Flickr.com

Water stress threatens global political and economic stability

Climate change related migration will become one of the most substantial global challenges

by Dr Marcus DuBois King, Elliott School of International Affairs, George Washington University, Washington, D.C.

Governments, industry, and civil society are facing urgent political and economic risks to water security. As the impacts of climate change become more apparent, demand grows and supply is increasingly constrained. Each year at least 4 billion people experience severe water scarcity for at least one month of the year and nearly 500 million are exposed to water scarcity all year long. In the future, water stress will touch on almost all aspects of life including human security, economic growth, political stability and interstate conflict and it will be an increasing push factor for environmental migration.

Water crises – the role of climate change

Today, poor governance and resource management are behind the majority of water crises, but climate change is playing an increasing role. Climate change's impact on water resources is multidimensional affecting the quantity, quality and timing of water supply. Multiple climate models predict increasing variability, intensity and occurrence of droughts and floods. Rainfall will almost certainly decline in mid-latitude regions, and all regions are expected to experience higher temperatures. At the same time, climate change creates more water in the atmosphere increasing the likelihood of typhoons and hurricanes.

Global water demand is reaching unsustainable levels. In addition to environmental factors, population growth, lifestyle changes, and agricultural practices will contribute to excess demand for water in the next 20-30 years as the quality and quantity of water declines. Global water use is likely to increase by 20-50 percent by 2050 with industrial and domestic use sectors growing at the fastest pace.

Developing countries experiencing steady economic growth are especially prone to water insecurity. As people move up the economic ladder, their lifestyles are more water intensive. This will be seen largely through indirect means such as changes in diet and increased demand for goods that are water-intensive to produce such as cars, electronics, clothing and home construction materials. Countries may have trouble meeting expectations from their populations to improve water infrastructure.

Global water supply is also a concern. The world's aquifers are being depleted at an alarming rate. In large parts of the Middle East and North Africa (MENA), South Asia, as well as China and Mexico, groundwater use is already the prime water source. Years of over withdrawal extraction, pollution and ineffective water policies have degraded supply, in some cases irreversibly.

A growing base for water disputes

Nation states' unilateral development of water infrastructure on shared international rivers signals potential conflict. About 3700 hydropower dams are under construction world-wide,

“Nation states’ unilateral development of water infrastructure on shared international rivers signals potential conflict.”

notably in Africa and in Asia. In Asia, new dam construction threatens the food security of the lower riparian states in the Mekong River System.

Currently, the preponderance of water stress-related conflict occurs within states where local competition for water

exacerbates social or economic cleavages and corruption is prevalent. In recent years, mass protests involving these issues have occurred in Algeria, Brazil, China, Egypt, India, Iran, Iraq and South Africa.

There are nearly 300 transboundary surface water basins and many aquifers that cross international borders. The presence of an agreement between countries to share a water source does not guarantee effective or sustainable use. In some cases, including in the Indus and the Nile River Basin existing treaties themselves constrain governments' willingness to enact more sustainable water management practices. Ongoing transnational water disputes diminish national capabilities to effectively manage water resources.

Implications for Environmental Migration

Egypt is an example where transnational water disputes and the encroachment of climate change could combine to disastrous effect. This scenario was played out in a role playing exercise at the Emirates Diplomatic Academy in 2019 where I acted as a facilitator. It unfolded in 2030, starting with impacts of the Grand Ethiopian Renaissance Dam on the upper reaches on the Blue Nile. The dam had severely impounded water reducing the flow of the river which provides over 90% of Egypt's water supply. Climate change-induced sea level rise caused tidal surges, flooding and salinization of the Nile Delta and river banks where the country's breadbasket lies. These conditions along with desertification were chief factors leading to a mass exodus of migrants, many of whom fled to southern Europe where the capacity and willpower to absorb them was limited. Much of the population that remained in Egypt was radicalized against the government. Regional and international institutions were caught flat-footed by the scale of the crisis.

Environmental migration is already discernible in the Americas in the dry corridor including the nations of El Salvador, Nicaragua, and Honduras. These countries are experiencing some combination of population growth, climate change induced environmental degradation and existing violence. A poverty gap between urban and rural populations is caused in part by rural poor people's high reliance on water resources for agriculture. These push factors drive migration to the cities where desperate conditions endanger personal security and encourage a stream of migration to the United States. As of March, the Biden Administration is grappling with renewed pressure on the southern border.

Climate change related migration including from nations under water stress will be one of the most substantial global challenges by the middle of the century. The exact number of migrants will be difficult to discern because it depends on variations in emissions and adaptation policies. Most of the migrants probably stay within national borders. But if they cross a border, they will not be considered refugees. This calls for international recognition of the problem, a better understanding of its dimensions and a willingness to tackle it. It is incumbent on nations to develop humane immigration

Dr Marcus DuBois King



Photo: private

is the John O. Rankin Associate Professor and Director of the Master of International Affairs Program at George Washington University. His research focuses on the consequences of climate change for fragile states.

Prior to his appointment Dr King was a researcher at CNA Corporation's Center for Naval Analyses. He has held positions in the U.S. Departments of Energy and Defense. His book, *Water and Conflict in the Middle East* was published by Oxford University Press in 2020.

policies. The Nansen Initiative, a state-led consultative process launched in 2012 by Switzerland and Norway to build consensus on a protection agenda to address the needs of people displaced across borders by climate change is a good start.¹ Under the Nansen framework, states may voluntarily admit environmental migrants based on humanitarian considerations while building consensus on practices to manage climate displacement risk in the country of origin.

Preparing a report on climate migration

A great deal more research is needed to understand the causes and consequences of climate migration. Recognizing this, President Biden called on the U.S. government to prepare a report that meets three objectives. It must

1. Assess the international security implications of climate-related migration
2. Provide options for the identification, protection and resettlement of climate migrants and include recommendations for foreign assistance to mitigate negative climate impacts in origin countries and
3. Identify modalities for the U.S. to work collaboratively with other countries to respond to climate migration.²

Encouraged by renewed U.S. engagement in international climate politics, U.S. and European policymakers have the opportunity to use the report's findings as a basis to develop joint solutions and best practices to address the common challenges of environmental migration.

 **Web:** <https://elliott.gwu.edu/marcus-king>

¹ The Nansen Initiative, About Us: Towards a Protection Agenda for People Displaced across Borders in the Context of Disasters and the Effects of Climate Change, <https://www.nanseninitiative.org/secretariat/>

² Joseph R Biden Jr. "Executive Order 14013-Rebuilding and Enhancing Programs To Resettle Refugees and Planning for the Impact of Climate Change on Migration February 4, 2021." Daily Compilation of Presidential Documents (2021): 1-6 <https://bit.ly/3eAo88N>

Global Earth Observation strategies for the reduction of climate-security threats

Entering a new era

by Sinéad O'Sullivan, Research Fellow,
Center for Climate and Security, Washington, D.C.

The last year has created ample evidence showing that the impacts of climate change and climate-related threats are in line with, or exceeding, projections of global physical change. Climate change has created consequences for threats that can no longer be contained by borders; an increasingly destabilized climate has moved beyond being just an environmental threat and now also poses dire economic and security challenges that infiltrate an already-fragile system. Globalization, with its increased interconnectivity and interdependence between human systems, has led to enormous volatility and increased competition within energy and resource distributions. Additionally, such disruptions have altered the underlying fabric of how communities and cultures exist and cooperate, with global changes posing economic and security risks in the local context. Earth observation (EO) by way of satellites and drones has been a core threat-mitigation strategy, by collecting crucial data about climate change for the benefit of national security with a focus on three types of climate change impacts. Since being able to measure threats is vital to being able to reduce them, the ability to collect imagery and non-visual data to monitor these global changes has in turn led to a global commitment and response to slow down and even reverse the

current climate trajectory. Primary climate effects include long-term changes that are easily observable over time and include phenomena such as melting glaciers, sea levels rising and desertification. Secondary effects largely focus on a) a global increase in natural disasters, both in count and severity and b) a reduction or change in available natural resources in a given geographic location. Tertiary effects of climate change are more difficult to measure through EO technologies, although satellites do play a vital role. In this instance, third level effects of resource insecurities and natural disasters are largely intertwined with the downstream effects of socio-economic and geopolitical stresses, which can inevitably lead to long-duration human and as such national security disasters.

Disruptive technology serving climate security

To date, technological disruption has existed at the heart of the contemporary climate security mitigation strategy. A multiple-factor decrease in the cost to launch satellites to space via novel rocket launching startup capabilities such as with SpaceX and Rocket Lab has incentivized a wave of private sector actors to enter the satellite and EO space, increasing data availability and reducing the price of such data. With over 230 satellite startups in 2021¹, the race to model our changing Earth has become fiercely competitive, with 2020 investments in space startups topping \$12.1 bn². With the private space sector's revenue forecast to grow by 30%³ in the coming years,

space-enabled climate and security risk detection and monitoring is reaching commoditization as the technology and data enters the mainstream. Whereas the space domain is predominantly thought of as an offensive capability at the disposal of space-faring governments, the space sector must now be utilized as a core tool of national security defense against long-term tertiary effects of climate change. The private sector has shown

“The changing climate, which is a rapidly evolving and exponential risk, needs to be addressed by time-optimizing iterations of experimental technologies.”



Photo: © Mike Mareen, stock.adobe.com

an increasingly important role in this strategy by demonstrating that it can cut not only the cost of innovation in defensive EO capabilities, but more crucially that it can cut the time to innovate. The changing climate, which is a rapidly evolving and exponential risk, needs to be addressed by time-optimizing iterations of experimental technologies through which multiple governments have access. Similarly, by engaging the private sector, governments can leverage global national cooperation instead of competition to progress towards a global framework and goal. However, disruptive technology alone cannot solve a problem that is so complex in nature. As satellite imagery proliferates national and global security programs, it must be recognized that generating this satellite data through the private sector is a low hanging fruit amongst the

backdrop of a globally challenging context; financial and other incentives to create and propagate the technology across private and public sectors have previously aligned in a way that has enabled the disruption to date, and that may not continue. An international earth observation strategy to reduce risks of climate change and security must move beyond using the private sector to create satellite imagery in isolation to enabling a private sector to create a digital-first, end-to-end solution driven by data at its core.

The next wave of radical innovation that needs to disrupt to eventually further the climate-security nexus is that of “last-mile delivery” (LMD) of satellite observation systems. This LMD needs to build and eventually commercialize the infrastructure that can take existing technological capabilities and move from “insights” to “application” in the geographies which are experiencing the most instability and which pose the highest security threats- the emerging markets of Africa and Asia.

Last Mile Delivery – future recommendations

Far from the low-hanging fruit of technological innovation, the private and public sectors must now work together in an environment where it is not clear that interests and incentives are aligned. As such, the LMD of the climate-security framework can only be created with imaginative and bold, new business models that are currently nascent at best. This means moving from a “science push” environment where existing technology such as satellite imagery and data is pushed from the top-down to individuals and organizations who need it on the ground, to a “use-case pull” environment whereby the private sector and non-governmental organizations work together to understand the needs of the communities, to provide bottoms-up solutions around those specific needs.

The new focus of the government, when considering global security frameworks, needs to be on creating innovative ways



Photo: © Matthew Gullory 2013

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to incentivize the private sector, whose business models do not optimize for “use-case pull”, to allow for rapid iterations to get to solutions in emerging markets – the same markets which are most severely disrupted by climate-induced risks. By reducing the cost of satellite imagery and data, by enabling data sharing and structuring the emerging-market governments to invest in weather and climate infrastructure, the governments, non-governmental organizations and private sector acting in tandem can enable a system change that benefits the confluence of multiple stakeholders. It is diplomacy, not technology, that must be disrupted next.

By aligning the interests of the economic buyers of satellite data with the organizations that use the data – since the two are usually not the same in geographies of high climate risks – the technology and as such the climate-security frameworks can mitigate threats at the global, instead of national, level. The interconnected and interdependent nature of our globalized threats demands that our space-enabled frameworks exist within an end-to-end solution, not in isolated data silos. This level of disruption will require long-term government and private sector cooperation across industries and geographies, with the goal of diminishing risk in not only the local, but global, context.

1 <https://angel.co/space-satellite>

2 <https://www.spacecapital.com/quarterly>

3 <https://mgstn.ly/3toY6vo>

Space NEWS

Synergies +++ Spin-offs +++ Spin-ins

Creating synergies between innovation in space, defence and civil research

(ed/hb, Paris) On 22nd February 2021, the European Commission adopted the Communication on an Action plan on synergies between civil, defence and space industries.

The main goals of the Action Plan:

Synergies: Enhance the complementarity between relevant EU programmes and instruments covering research, development and deployment to increase efficiency of investments and effectiveness of results, **Spin-offs:** Promote that EU funding for research and development, including on defence and space, has economic and technological dividends for European citizens, **Spin-ins:** Facilitate the use of civil industry research achievements and of civil-driven innovation in European defence cooperation projects.

The Commission announces **11** targeted actions that focus on the interplay between

civil, defence and space industries. These actions prepare, among others, the launch of three flagship projects with the potential of becoming game changers:

- 1) EU drone technologies** to favour technology allowing more automation in drone traffic. This project should enhance Europe as an competitor.
- 2) EU space-based global secure communications system** to elaborate a European system of space communications aiming at providing access to high-speed connectivity through multi-orbit space infrastructure, including low orbit satellites



Margrethe Vestager, European Commission Executive Vice-President for “a Europe fit for the Digital Age”

photo: © EU, 2021, EC-Audiovisual Service/Claudio Centonze

“With the European Defence Fund we have a strong potential for synergies between innovation in space, defence and civil research & innovation. We need this for a number of critical technologies. This action plan is a systematic and methodological approach to synergies in critical technologies across the three worlds. The idea is for

innovations to systematically reach multiple uses by design. And to allow tapping into the huge innovation potential of researchers and start-ups.”

and complementing Galileo/EGNOS and Copernicus as the third EU satellite system. By integrating quantum encryption, it will ensure highly secured connectivity and communication

3) Space Traffic Management which should avoid collision risks of satellites with space debris. The Commission wants to roll out European norms and avoid the risk of dependence on non-European norms.

 **Web more information:** <https://bit.ly/3v3adP2>

 **Web Action plan:** <https://bit.ly/3ao9H6u>

The ESA's new Director-General

(ed/hb, Paris) As of 1st March 2021, Dr Josef Aschbacher has taken up duty as Director-General of the European Space Agency (ESA) in Paris.

Dr Aschbacher, born in Austria, has a long experience with the ESA since 1990 when he started at the European Centre for Earth Observation (ESRIN) near Rome.

After having been Scientific Assistant to the Director of the Space Applications Institute at the EU Commission Joint Research Centre (EU JRC) in Ispra (Italy) from 1994 to 2001, he joined the ESA HQ as the Programme Coordinator, responsible for Copernicus within ESA.

In 2006 he became Head of Copernicus Space Office at ESRIN and was promoted to Head of ESA's Earth Observation (EEO) Programme Planning and Coordination in 2014.



photo: ©ESA – S. Corvaja

In 2016, Dr Aschbacher was appointed as Director of Earth Observation Programmes and Head of ESRIN. Under his leadership, Europe developed the world's leading Earth Observation Programme.

 **Web** www.esa.int

Security and Defence

The understanding that the United States will not guarantee Europe's security in all situations has made the EU put new impetus on European defence capabilities, adapting to a wide spectrum of threats, including cyber warfare. Whereas the European Defence Agency (EDA) has become the hub of the EU's collaborative capability development, the operational capabilities of the Union can be assured by multinational flexibly deployable entities such as Eurocorps.





The role of EDA in shaping European defence

The Agency is the European hub for collaborative capability development

Interview with Jiří Šedivý, CEO of the European Defence Agency, Brussels

The European: *Mr Šedivý, you have been the Chief Executive Officer of the European Defence Agency (EDA) since May 2020 and started your mission in the midst of the corona pandemic. How have you managed to exercise your leadership in this situation?*

Jiří Šedivý: It is true that the general conditions in which I took over as EDA Chief Executive in spring 2020 were – and still are – very difficult due to the Covid-19 pandemic. Therefore, my prime objective has been to ensure business continuity and to keep on course the good work that has been done in recent years to enhance defence cooperation in Europe. However disruptive this pandemic is, the need will not go away for our Member States to improve Europe's defence capabilities, and to do so through cooperation. This crisis, and more generally the emergence of completely new types of hybrid threats, make this need all the more urgent. Therefore, we need to stay on course and continue the implementation of the new EU defence tools that have been created since 2016 to boost the development of collaborative defence capability in Europe.

The European: *May we have a brief review of what the EDA has achieved up to 2020, relative to the Union's level of ambition set out in 2016?*

Jiří Šedivý: EDA has become a key player in the new EU defence framework created since the publication of the revised EU Global Strategy in 2016. In concrete terms, this means that we play a role in each of the new instruments for European Defence.

Firstly, we are the architect of the Capability Development Plan (CDP) which is periodically reviewed to list the European defence capability development priorities (currently 11), approved by Member States.

Secondly, we are the driving force and penholder for the Coordinated Annual Review on Defence (CARD), collecting data and information from Member States on their national defence development and spending plans in order to make a realistic

Jiří Šedivý

has been the Chief Executive Officer of the EDA since May 2020. He earned his PhD in Political Science at Prague's Charles University and his MA in War Studies at King's College London. From 1998 to 2004, he was the Director of the Institute of International Relations in Prague, and the external advisor of President Václav Havel. Mr Šedivý became Defence Minister in 2006 and Deputy Minister for European Affairs in 2007. He served as NATO Assistant Secretary General for Defence Policy (2007-2010) and was Czech's Permanent Representative to NATO (2012-2019). From 2016 to 2018, he was the President of the Berlin Security Conference (BSC).

“We need to stay on course and continue the implementation of the new EU defence tools that have been created since 2016.”

photo: © European Defence Agency

assessment of the current European defence landscape and identify opportunities for future cooperation. Finally, we play a central role in the precursor programmes of the European Defence Fund (EDF), notably the Preparatory Action on Defence Research (PADR), which we managed for the European Commission, and the European Defence Industrial Development Programme (EDIDP). EDA has to ensure that these four tools are used in a coherent and complementary way.

The European: *These tools were already up and running before the Covid-19 crisis hit. What needs to be done now?*

Jiří Šedivý: Member States need to stick to their political and legal commitments and actually use these new EU instruments. The first objective is to ensure their full integration into Member States' national defence policies and planning processes.

A second objective that I set myself was to mitigate, within the Agency's remit of course, the potential budgetary impact of the Covid crisis on defence cooperation and send out a clear message: more cooperation, more pooling and sharing of knowledge, resources and capabilities among our Member States is the best response to the threat of shrinking defence budgets.

The European: *The Covid-19 pandemic is thus “offering” an unexpected and unique opportunity to reinvigorate cooperation and use the new EU defence tools to the maximum...*

Jiří Šedivý: ...you are right. Joint capability planning and development at EU level is more efficient and cost-effective than having each Ministry of Defence doing its own thing in isolation. This is the most logical and efficient way for Member States' to safeguard and even increase their defence capabilities, by pulling together and planning, developing and operating their defence capabilities together.

The European: *In working towards the 2016 revised EU Global Strategy's (EUGS) objectives of enhancing defence cooperation, has the EDA obtained the full support of Member States?*

Jiří Šedivý: Absolutely. Member States agreed, in 2017, to reinforce EDA's mission and to make it the priority instrument to support collaborative capability development in Europe. EDA is the preferred forum for the development of collaborative defence technology and capabilities. The agency is acting as the interface for EU policies with impact on defence and is the central operator for EU funded defence activities.

The European: *I would like to come back to the European Defence Fund that you mentioned. What are the strands of this instrument which is a novelty insofar as this is the first time that EU funding has been earmarked for defence in the Union's multiannual budgetary framework?*

Jiří Šedivý: The EDF is a fund, proposed by the EU Commission and financed through the EU budget, to support cross-border cooperation between EU countries and enterprises, research centres, national administrations, international organisations and universities. The fund has two strands: the first is related to defence research that will provide funding for collaborative defence research projects, the second is related to the development of defence products and technologies, under which the EU will create incentives for Member States and companies to collaborate on the joint development of defence products and technologies through co-financing from the EU budget.

The European: *But is there enough money to achieve all these objectives, especially with the recent downsizing to €7 bn from the €13 bn that the Commission proposed in 2018?*

Jiří Šedivý: If you are asking me whether the budgetary allocation agreed at the European Council Summit of July 2020 is sufficient, my answer is that nobody can tell in advance how the EDF will be used and if the money available will be sufficient. We'll see. But I expect the fund to serve as a genuine incentive for more European industrial cooperation on defence.

The European: *After a test run in 2018, the first full CARD cycle was launched in September 2019. Over a period of 10 months, EDA collected and analysed information from individual Member States on their respective national defence plans, in order to identify current trends and future cooperation opportunities. Was this a highlight for you in 2020?*

Jiří Šedivý: The rationale behind the CARD is that regular reviews every two years will lead, over time, to more synergies

→ Continued on page 38



and increased coherence between Member States' defence planning, spending and capability development, through targeted cooperation. In terms of the results so far, CARD's assessment of the current picture is unequivocal: Europe's defence landscape remains fragmented and lacks coherence in several aspects! Also, collaborative defence spending remains well below agreed collective benchmarks. This includes military capability development, Research and Technology (R&T) efforts, defence industry support and operational aspects. The report concludes that continuous efforts will be needed over a long period in defence spending, planning and cooperation to overcome costly fragmentation and benefit from synergies and enhanced military interoperability.

The European: *So, will the CARD bring about a change of mindset in national defence planning?*

Jiří Šedivý: Yes, the CARD is there to help Member States get such multinational projects up and running! The first report identifies a total of 55 collaborative opportunities throughout the whole capability spectrum, and Member States are recommended to concentrate their efforts on six specific "focus areas" ranging from Main Battle Tanks (MBT) and Soldier Systems to Patrol Class Surface Ships, Counter Unmanned Aerial Systems, Defence Applications in Space and Military Mobility.

The European: *And what about in Research & Technology?*

Jiří Šedivý: 56 options to cooperate in R&T have been identified, ranging from Artificial Intelligence (AI) and cyber defence, to new sensor technologies, emerging materials and energy efficient propulsion systems as well as unmanned systems

and robotics. So, in a nutshell, CARD has identified plenty of opportunities for cooperation. Now it is up to Member States to take them up!

The European: *Mr. Šedivý, what is your feeling about the Permanent Structured Cooperation (PESCO) which is outside your remit?*

Jiří Šedivý: PESCO is indeed a Member States driven initiative. I expect more projects to be added in the future to the existing 47 projects launched since December 2017 when PESCO was established. I think PESCO will grow further and be an essential tool to boost defence cooperation.

The European: *Is your Agency involved in PESCO projects?*

Jiří Šedivý: As the Agency is the European hub for collaborative capability development, it has the necessary experience and expertise for such work. We therefore encourage Member States to make full use of our know-how and support in driving their PESCO projects forward. Five PESCO projects are currently receiving dedicated EDA support, three of which were already being implemented as Agency projects. And 14 PESCO projects out of the 47 launched so far are benefiting in one form or another from Agency support.

The European: *In the strategic domains such as maritime security, cyber and space, resilience is missing. What is being done by the Agency in these areas? Let's take the example of maritime security first.*

Jiří Šedivý: EDA is indeed very active in these domains which are all mentioned in the 11 common European Capability Development Priorities.

“EDA is the preferred forum for the development of collaborative defence technology and capabilities.”



Transport of an Additive Manufacturing (AM) Factory in the frame of an EDA project designed to explore the potential of 3-D printing for enhancing defence capabilities

photo: © European Defence Agency

As regards maritime security and surveillance, EDA's long-standing MARSUR network project, which involves all coastal EDA Member States plus the European Union Satellite Centre (EU SatCen), entered a new phase in November 2020 when the Agency launched its third phase, focused on the development of a next generation system. MARSUR III will enhance the system's interoperability with other maritime security regimes and investigate options for the exchange of classified information within the network.

The European: *And in the space sector?*

Jiří Šedivý: We are working on the "Governmental Satellite Communication Pooling & Sharing Demonstration" project which supports the 17 contributing Member States as well as the Common Security and Defence Policy (CSDP) missions and operations by providing reliable, secure and cost-effective access to governmental satellite system capacities and services through available pooled resources. The Agency's REACT (Radar imagERY application supporting ACTIONable Intelligence) project, improving geo-information and satellite imagery analysis, delivered its prototype capability, installed in premises in France, Italy, Poland and Spain and at the EU SatCen. Another initiative to exploit Artificial Intelligence tools in imagery intelligence was launched in cooperation with the EU SatCen.

The European: *Let's conclude with EDA's work in cyber security, which is recognised as the fifth domain of warfare, equally critical to military operations as land, sea, air, and space.*

Jiří Šedivý: EDA supports Member States in developing their capabilities to improve cyber resilience. The agency is running a number of projects and programmes to support the creation of a risk management model for cybersecurity in the supply chain for military capabilities. Furthermore, we are defining requirements and business cases for the use of Artificial Intelligence in cyber exercises and we are also providing cyber defence education and organise joint cyber defence exercises.



EDA's ambitions in fighting climate change

The European Defence Agency is the "military voice" in EU climate and energy-related policies, acting at three different levels:

1. The Agency has been tasked to manage the Consultation Forum on Sustainable Energy in the Defence and Security Sector (CF SEDSS), initiated by the Commission and enabling Member States' experts from the defence and energy sectors to share best practices and expertise. Topics that are addressed include energy efficiency and the use of renewables by the Armed Forces.
2. Building on its previous Military Green initiative, EDA set up an "Energy and Environment Working Group" in 2014 to support Member States in their collective efforts to increase the resilience of their Armed Forces and defence industries towards rising threats related to energy security and dependence on fossil fuels, resources security of supply, water security, and climate change.
3. The Agency is contributing to the Green Deal Initiative by launching in 2021 an Incubation Forum on Circular Economy in European Defence (IF CEED) co-funded by the Commission, with a view to allowing the defence sector to further contribute to the Green Deal.

The European: *Finally, I would like to ask you for a brief assessment of EDA's activities in disruptive technologies.*

Are you attributing importance to these technologies?

Jiří Šedivý: Artificial Intelligence and quantum technologies are the focus of our innovation and R&T efforts as they will revolutionise many different aspects of our societies and economies, including the defence sector. Future AI applications in defence are key objectives of our Overarching Strategic Research Agenda (OSRA).

At the end of 2020, EDA finalised its Artificial Intelligence in Defence Action Plan (AIDAP) identifying ways and means for Member States to collaborate on the development of AI for their militaries. AI-related projects have been launched in 2020, including on Communications and Radar systems hardened with Artificial Intelligence (CRAI) in a contested electronic warfare environment, Autonomous DROne Services (AUDROS) and ATENA (Artificial intelligence for TErrainrelative NAVigation in unknown environments). This topic will keep us busy in the years to come!

The European: *Mr Šedivý, I thank you for this interview and wish you every success.*

The interview was conducted by Hartmut Bühl



Commentary

Globalisation accelerates invisible “wars”

Hartmut Bühl, Publisher, Paris



One year after its irruption into our lives, the Covid-19 pandemic remains at the top of the political agenda and media focus, to the extent that we risk forgetting that the world continues to turn and that its activities cannot be reduced to health issues alone.

On the contrary, globalisation is accelerating the competition between nations, regions and continents. And much of this competition is likely to take place in an invisible “cyber” mode, driven by hybrid techniques in fields that can profoundly affect our European security: the economy, energy, health and critical infrastructure.

The players in these conflictual situations will not only be states but also shadowy state-sponsored institutions and even criminal organisations. Cyber warfare, as we know only too well, covers a wide spectrum of military and paramilitary applications, including the aggressive use of information technology to damage the economy.

Governments, industry and academia worldwide are convinced that developing resilience and protection against cyber-attacks will become one of the crucial areas of our security. The consequence is that, to counter these attacks, a new type of civilian/military cooperation, especially in technology, is necessary and remains to be defined, alongside military capabilities that can defend territory in partnership with allies. However, military capability alone will not be decisive in protecting vital assets.

Europe is indeed adjusting its strategic compass in areas that are vital for its security and is focussing on the “high technology century” techniques of the 21st century: artificial intelligence, the influence of geo-engineering in relation to

climate change (modes of energy production and security of distribution) and data collection. These are all major instruments of power in the areas of climate, the environment, energy, digital platforms and cyber.

How therefore should Europe act and react? By developing an offensive strategy or by defining alternative, counter-strategic, defensive means? Europeans are not in general willing to engage in aggressive strategies to ensure their security, for example in cyber warfare, characterised by a wide spectrum of military, paramilitary, IT and economic techniques. Most EU Member States would never agree to pursue an aggressive common strategy to deter hybrid and mostly invisible threats – the kind of deterrence that has been developed in the nuclear area. The ethical question of proportionality will always prevail and so the only possible strategy is a defensive one: resilience!

The EU’s strategic compass aims to make the Union a credible global player in security and defence and is therefore procuring the necessary civil and military capabilities. Part of this credibility will rely on its signalling function towards those nations, regions or organisations which are apparently not interested in being “friendly” partners of Europe.

My dearest wish is that Europe’s political elites – most of whom are champions of harmonisation and reaching compromises on the basis of the lowest common denominator – will come to realise that even if compromise and goodwill should always remain fundamental, they are not always the best way of ensuring Europe’s security and defence. This would be a real paradigm shift for Europe, as it strives to be a strong partner for security and peace.



Photo: Klaus Dombrowsky

18 – 19 May 2021

Europe – a cohesive bond for strong power

Partner country BSC: Czech Republic

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Panel Programme, e.g.

- > Review of CDP / CARD / EDF / PESCO – how to achieve more synergy in defence and budget plans?
- > Land Forces in a Joint and Combined Environment – readiness and availability
- > China's military ascent and its implications for the West
- > How to maintain a credible nuclear deterrence in and for Europe?
- > Countering Cyber Threats – the progress of digital warfare in multidomain operations
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Reinforcing European defence with deeper and wider partnerships

Support multilateral efforts to maintain and build peace globally

by Dr Kinga Brudzinska, Policy Director, Centre for Global Europe, GLOBSEC Policy Institute, and Lucia Rybníkárová, MA, Project Coordinator, GLOBSEC Policy Institute, Bratislava

As the European Union (EU) comes to terms with a rapidly changing global environment, hardly anyone disputes the fact that the EU needs to do more to provide for its own defence and security. The continued economic rise of China, the UK's departure from the EU and growing confrontations with Russia jeopardise the EU's global strength and influence.

Deepening strategic partnerships and alliances

An assessment of EU defence capabilities and the range of threats confronting it underpins a shared understanding that a more robust European defence is only possible in cooperation with strategic allies and partners. In this context, more comprehensive and enhanced EU-NATO coordination is essential to ensure compatibility and complementarity without duplicating efforts.

The European Security Strategy (2003) and the EU Global Strategy (EUGS, 2016) place the importance of pursuing EU partnerships as one of the Union's strategic goals. Similarly, the **EU Strategic Compass** (<https://bit.ly/2Q1oTyU>), which is in the making, intends to foster a strategic deepening of EU relations with its partners. Interestingly, the **EU's agenda on renewed multilateralism fit for the 21st century** (<https://bit.ly/3IYrAgP>) of February 2021 defines more precisely what kind of relations the EU is looking for. While it will deepen partnerships and alliances with third countries and organisations with whom the EU shares democratic values and priorities, it will seek only a common ground on an issue-by-issue basis with others. This same logic applies in the defence and security realm. Even though the EU's pursuit of strategic autonomy has recent-

ly given rise to a lot of controversy, EU leaders have reaffirmed that increasing the EU's capacity to act autonomously, will not weaken but rather strengthen the partnership with NATO. Similarly, when examining EU political documents and administrative regulations, particularly those that govern the Permanent Structured Cooperation (PESCO) and the European Defence Fund (EDF), they indeed reveal no explicit intention of the EU to question the position of NATO and the transatlantic bond.

How to involve third countries?

According to the last **GLOBSEC study** (<https://bit.ly/2QE-fulxAX>), most EU Member States are open to the possibility of participating in emerging EU defence initiatives and structures of like-minded states (such as Norway, Canada, the US, the UK, etc.).

However they are not so open towards countries that do not share 'the values on which the EU is founded' or do not 'respect the principle of good neighbourly relations with Member States' (e.g. China or Turkey), in particular in PESCO projects or defence industry projects.

But considering the substantial interest shown by non-EU countries and the opportunities the partnership could lead to (for example in PESCO projects, Common Defence and Security Policy (CSDP) missions, the EDF, or cooperation with the European Defence Agency), EU Member States will need more time to overcome existing divergences in their attitudes towards third country participation in EU defence projects. It is becoming increasingly apparent that one path forward for overcoming the resistance of some EU Member States could be to differentiate the shape and form of relations that the EU establishes with different partners. It is likely that the EU will create three or four categories of partnership, each marked by different privileges such as access to the EU internal market

Lucia Rybníkárová, MA



Photo: Globesec

was born Slovakia and holds a master's degree in European studies from the Katholieke Universiteit Leuven in Belgium, where she focused on foreign and security policy of the European Union. She currently works as a project coordinator at GLOBSEC Policy Institute, studying the potential risks

and opportunities in the area of defence for Europe and its implications for non-EU member states and more specifically for Norway.

Dr Kinga Brudzinska



Photo: Globesec

holds a PhD in arts of political science from the University of Warsaw and a diploma in Latin American studies from the Monterrey Institute of Technology and Higher Education in Mexico. She has 10 years of professional experience in country-specific and policy analysis and advice. Her main

research interests lie in the fields of EU Common Foreign and Security Policy and EU institutional architecture, with a particular focus on the concept of differentiated European integration.

and possibly – though more controversial – access to some EU funding from the EU defence budget (*see box*).

There is no doubt that the United Kingdom will have a special role in the EU framework, once it is willing and ready to discuss mutually beneficial cooperation with the CSDP.

Strategic autonomy and the capacity to act

Generally, the EU should keep evaluating the type of institutional structure that will best accommodate its defence and security aspirations, reflect practical realities on the ground and fit Member States' interest. It is in the EU's best interest to continue developing and reinforcing its partnerships. Even though the EU reaffirms its goal of increasing its capacity to act autonomously and work towards its strategic autonomy, it has not always been possible either in terms of the defence industrial dimension or at the operational level. The EU's task therefore should now be to square "autonomy" with openness. This implies, in EU speak, a trajectory towards **"open strategic autonomy"** (<https://bit.ly/39MJz4S>). The EU is aware of this challenge and EU leaders have recently called for a technology roadmap to be ready by October 2021. The roadmap would assist in not only boosting research, technology development and innovation, but also in reducing their strategic dependencies on critical technologies and strategic value chains. But at the end of the day, the EU's primary rationale for cooperation with third countries in the defence realm should be interoperability and the efficient use of resources, in order to bolster "European capacity to act." More specifically, third countries, where necessary, could contribute resources and capabilities (military, technological and industrial) that might otherwise not be available, as well as bring technological know-how to EU Member States. It is also closely interlinked with the nature of the modern defence industry and the coalition character of any likely European military operation. While the former relates to

the complexity of modern armaments resulting in the costs of research and development increasing exponentially with each subsequent generation of technology, the latter manifests in the approaches of major EU Member States in addressing gaps in their industrial and technological capabilities following the end of the Cold War, according to another **GLOBSEC study** (<https://bit.ly/31MCEnY>).

Towards a global stage

To sum up, while reinforcing European defence through deeper partnerships with like-minded countries ('partners of choice') is already on the EU agenda, building wider partnerships will be more interest-based and tailored to the specific issue or partner. As the EU aims to bolster its position on the global stage, it will be crucial to define and project to the outside world what it views as its strategic ambitions. There is no doubt that building the EU's credibility as a peace actor and its security and defence structures can help support multilateral efforts to maintain, sustain and build global peace.




Possible categories of partnership with third countries

According to a recent GLOBSEC study, four 'categories' come to mind.

1. Associated 'partners of choice': the like-minded countries that could enjoy access to the EU market and its programmes but, as non-EU members, would be excluded from decision-making processes (for example the US, Norway, the UK).
2. 'Less privileged but still close': countries like Turkey that are part of NATO and have already participated in several CSDP missions, however, as of now, do not have 'good neighbourly relations' with all Member States.
3. 'Interested in involvement on its own terms': this would constitute an access for companies from countries where many businesses fear exclusion from EU markets on account of PESCO's terms (for example the UK or the US).
4. 'Ad hoc partners': a probably only symbolic opportunity for collaboration that would be available to regional partners, like the African Union, as seen in South Sudan.

Web GLOBSEC study: <https://bit.ly/3cSVb8o>



There are many ways to raise the cost of an attack for an aggressor

Deterrence in the 21st century: necessary, but not sufficient

by Michael Rühle, Head of the Hybrid Challenges and Energy Security Section, NATO's Emerging Security Challenges Division, Brussels

For over seven decades, deterrence has been a key concept of western defence and strategic thinking. The reason for this prominence is not difficult to fathom. Deterrence is congenial to democracies. As Lawrence Freedman, one of the most prominent analysts of deterrence, observed, when a state adopts a deterrence strategy “it signals that it does not seek a fight but still considers some interests to be so vital that they are worth fighting for. It implies a defensive intent without weakness. It seeks to prevent aggression while being non-aggressive. It sustains rather than disrupts the status quo.”

The principle of deterrence

It is therefore not surprising that many scholars are now trying to apply deterrence to new threats, such as cyber, disinformation, election interference, or “hybrid” combinations of such activities. If deterrence worked in the Cold War, when the threat of nuclear annihilation reminded all sides to act with caution and restraint, so the thinking goes, perhaps it can also be made to work against less visible, non-kinetic threats. If only it were so easy. Deterrence in the Cold War worked because the interests at stake were existential and, hence, threats of using force – even nuclear force – to defend these interests were credible. Moreover, both sides at least tacitly acknowledged – and largely respected – each other's spheres of interest. Finally, while the Cold War saw immense political and economic competition between East and West, both sides

tried not to overstep certain “red lines” or push the other side into a corner. In other words, it was a game for high stakes, but it was also a game that followed certain unwritten rules. Traditional (mostly nuclear) deterrence is still an important part of taming interstate relations, even if the emergence of new nuclear players, such as North Korea, and new technologies, such as hypersonic missiles, have made the game more difficult.

“Resilience requires investment in cyber defence, in the protection of critical energy infrastructure, and in public education on how to deal with fake news on social media.”

Still, the major challenge for traditional inter-state deterrence is less the question of whether it still works, but rather whether its most important means – nuclear weapons – are still morally acceptable. The Treaty on the Prohibition of Nuclear Weapons, or Ban Treaty, which has now entered into force, seeks to delegitimise nuclear weapons and thus create political and social pressure for their ultimate abolition. However, it is unlikely that the Ban Treaty will achieve its goal, given that no nuclear power or their allies have signed it. Hence, nuclear deterrence will be around for a long time to come.

Does deterrence apply to new threats?

The real challenge for the concept of deterrence today is whether it can also apply to non-kinetic, non-existential threats. Employing the term “deterrence” in this context may



photo: ©Macro, stock.adobe.com

be comforting, as it implies that one can preserve the status quo against one's competitors irrespective of their means of attack. However, a closer look reveals that there are no reasons for such comfort. Deterring non-kinetic, non-existent and sometimes non-attributable actions is far more difficult than deterring an adversary's military action. The very logic of classic (military) deterrence, namely to prevent one's opponent from doing unwelcome things, does not apply to the "grey area" of cyberattacks, fake news campaigns and similar threats. In a traditional military deterrence relationship, adversaries stay away from each other. The threshold for a military response is fairly clear. By contrast, cyberattacks, disinformation campaigns, or other hostile acts happen all the time, suggesting that deterrence is already "failing" day by day. Restraint – one of the key ingredients of a successful deterrence regime – has given way to a constant struggle by non-kinetic means.

Since most non-kinetic campaigns are not posing an existential threat, and since countermeasures such as economic sanctions also hurt the defender, many nations will be reluctant to punish each malign action of an aggressor with serious reprisals. This reluctance will be even greater if the attacker is a sizeable military power. Put differently, in the "grey area" there is neither a clear threshold for a response nor is there clarity as to the nature of the response. Moreover, one needs to take account of the asymmetry of interests between the attacker and the defender. If one assumes that the initiator of non-kinetic attacks does so because important interests are at stake, he will not be deterred by sanctions or similar acts of punishment. By the same token, if a hybrid aggressor believes that he is defending vital strategic interests, the prospects of him being publicly "named and shamed" by the defender will

hardly compel him to call off his attack. He will simply deny that he is the culprit, relying instead on the low likelihood that his culpability will ever be proven convincingly.

Raising the price for an aggressor

Does this mean that western states or alliances should simply accept such malign activities as the "new normal" of interstate competition? Far from it. There are many ways to raise the cost for an aggressor. For example, retaliating against a cyberattack with a cyberattack of one's own entails the risk of unintended escalation, yet it may also make the attacker realise that the costs of his actions outweigh their benefits. Another example is to respond asymmetrically with measures that target the vital strategic interests of the perpetrator. For example, in response to a sustained campaign of political interference or disinformation, western states, even without attribution, could provide a sizeable package of military or other support to a vulnerable nation in the perpetrator's sphere of influence. Such measures, designed to pose strategic dilemmas for the aggressor, are much more likely to influence his cost-benefit calculus and to change behaviour. However, one should not conclude that these types of deterrence measures could offer the near-perfect protection that nuclear weapons may have provided in the Cold War. In the "grey area", unwelcome actions of all kinds will continue to occur.

Resilience is the solution for the future

For all these reasons, perhaps the most important intellectual leap in the contemporary security debate is to put traditional notions of deterrence by punishment on the back burner and instead take a closer look at another concept: resilience. It proceeds from the assumption that attacks will happen and the stricken company, nation, or alliance must be able to take the hit and bounce back rapidly. Consequently, resilience requires investments in cyber defence, in the protection of critical energy infrastructure, and in public education on how to deal with fake news on social media. Such an approach, which focuses on how to cope with an attack rather than with deterring it, may be seen by some as too fatalistic. However, rather than trying to stretch or redefine the concept of deterrence to make it applicable to today's more complex lower-level threats, resilience is ultimately the more useful paradigm for coping with a world where interstate competition increasingly takes place in the "grey area".



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A Force for the EU and NATO

Eurocorps is a concrete contribution to the security of Europe and its allies

photo: © Eurocorps

Interview with Lieutenant General Laurent Kolodziej, Commanding General Eurocorps, Strasbourg

The European: General, you are the 13th Commanding General of Eurocorps, a multinational army corps, highly respected for its military capabilities and performance in international operations. Today, Eurocorps is a major military force that benefits both the EU and NATO. Personally, this fills me with pride as I was the first German officer with operational responsibility for the establishment of the Eurocorps headquarters in the 1990s. When my French counterpart, Colonel François Clerc, and I raised the European flag in the courtyard of the newly founded headquarters on 1st July 1992, we somehow dreamed that we were laying the foundation of a sort of European army, which seems unrealistic today, since a European army would trigger endless cultural, legal and administrative problems that would be unsolvable at present.

General, how do you see Eurocorps? As part of a vision for a European army or as a concrete pillar of European Strike Forces?

General Kolodziej: Eurocorps was founded in 1993 as a first step towards a European defence system. At the time, and this has not changed significantly today, the goal was to create a military unit that could make a concrete contribution to the security of Europe. In my opinion, it was particularly important to the founding fathers to set a clear signal for Europe on one hand without, on the other hand, creating a structure that is out of

touch with reality, but one that can make a concrete contribution within NATO, the European Union and the Framework Nations. That is why Eurocorps was assigned the task of leading the entire military operation in Bosnia and Herzegovina only five years after its foundation. We assumed a similar task in 2015/16, when Eurocorps was entrusted with planning and commanding the European Training Mission in the Central African Republic. In this sense, I see Eurocorps as a concrete contribution to the security of Europe and its partners.

The European: If in your opinion multinational units – be it battalions, brigades, divisions or corps – are the most efficient means of shaping European forces, then the question also arises as to whether these units, with their high degree of readiness, should be specialised and perform only very specific tasks or whether their training qualifies them for deployment in ANY kind of operation.

General Kolodziej: When I look at the missions in which Eurocorps has been deployed today, such as the NRF Standby Phase as Land Component Command, the European Training Missions or the upcoming missions such as the NATO Joint Headquarters role, my conclusion is that in order to meet today's security requirements, Eurocorps must be flexibly deployable. In other words, it must be

“In order to meet today's security requirements, Eurocorps must be flexibly deployable.”

able to assume the whole spectrum of functions, ranging from the role of Joint HQ through the deployment as a War Fighting Corps.

The European: *That means that you have to train your army corps for a high intensity combat role, as well as employment as a Security Force HQ and the assumption of European Training Missions?*

General Kolodziej: Yes, and it is precisely that bandwidth that requires highly specialised personnel, so that they can adapt optimally to each mission in terms of scope, structure and capabilities. At a time of limited military resources, this is the key to success.

If these forces are then quickly available and deployable, which requires a high level of operational readiness, this alliance represents the ideal tool for the participating nations. This is exactly the logic that we follow at Eurocorps and that is reflected, year in year out, by our portfolio of tasks.

The European: *How do you define the capabilities of Eurocorps as a whole, and what lessons have you learned from your various international missions?*

General Kolodziej: Eurocorps has led, or participated in, every significant NATO or EU operation in recent years. On the NATO side, the portfolio ranges from Bosnia and Herzegovina to Afghanistan; on the EU side, Eurocorps has completed missions in Mali and the Central African Republic. Currently, about 60 soldiers are deployed with the European Training Mission in Mali and in the summer Eurocorps will assume another rotation in Mali and a further one in the Central African Republic. At the same time, Eurocorps is preparing for its Stand-by Phase as a NATO Joint Headquarters in 2024.

The European: *That means that the Eurocorps has gained unique operational experience across the full spectrum of operations.*

General Kolodziej: You are right, but let me add that when one considers that Eurocorps has most of the equipment it requires at its disposal, participating nations can deploy Eurocorps at any time, even at short notice, a possibility that nations make ample use of, as the deployment commitments show.

The European: *Successful deployments of your servicewomen and servicemen – who are always employed in mixed and combined units – certainly generate motivation and cohesion. How many nations are acceptable for such a large multinational force to ensure that it remains efficient in military terms?*

General Kolodziej: A total of 10 nations currently participate in Eurocorps: Belgium, Germany, France, Luxembourg and Spain as decision-making Framework Nations, as well as Greece, Italy, Poland, Romania and Turkey as associated members. Other nations have expressed interest.

Lieutenant General Laurant Kolodziej

has been the Commanding General Eurocorps since September 2019. He was born in 1962. After a period at the French Foreign Legion in Djibouti, he joined the 4th Tank Regiment. Kolodziej was then employed at the Ministry of Defence (MOD) in Paris and became the French Liaison Officer at the British Defence Academy in Shrivenham. On promotion to Brigadier General he commanded the 6th Light Armoured Brigade, Nîmes.

From 2014 to 2016 he served as Head of Department for internationale Engagements at the MOD, Paris. He was then appointed Commander of the Rapid Reaction Corps France (RRC) in Lille and promoted to Lieutenant General in 2018.

The international composition of Eurocorps means that we have to consider each individual nation's approach and then adopt the best one. Numerous examples, especially during operations, illustrate the fact that efficiency and multinationality are not a matter of figures but of implementation.

The European: *Could you please develop this point further?*

General Kolodziej: Of course, let me mention a few examples: in EUTM Mali, 28 nations are currently working together under the command of Brigadier General Gracia, whose original function is Eurocorps' Deputy Chief of Staff operations (DCOS Ops). He has reported to me that work in the theatre is proceeding extremely well. The same situations can be observed in NATO's enhanced Forward Presence (eFP) operations in the Baltics or France's Takuba mission in the Sahel region, where a large number of nations are involved in order for it to be sustainable in the long term and to emphasise the mission's legitimacy. Especially at times of complex challenges, nations need to cooperate militarily and combine their strengths.

The European: *I can imagine that the months and weeks before an engagement are politically difficult as you are guided by a Common Committee of national chiefs of defence and directors of foreign affairs of 10 nations. How do you manage to make your military operational decisions on a common basis of political guidance? Just think of Germany with its "parliamentary" army and France with its "presidential" army, for example. Is it possible to find common ground there?*

General Kolodziej: I can only report from my perspective as Commanding General Eurocorps. I attended two Common Committee meetings in 2019 and 2020. On the basis of that experience, I can report that coordination on important decisions such as the participation in missions works relatively well. Eurocorps has a planning horizon that generally extends five years into the future. This year we will ensure a total of three rotations for the European Training Missions in Mali and the Central African Republic and another rotation in CAR in 2022. At the same time, we are starting our preparation cycle for

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Lt General Laurent Kolodziej (on the left) took over the command of Eurocorps from Lt General Jürgen Weigt in September 2019

photo: © Eurocorps



the role of Joint Headquarters. In 2023, we will be certified by NATO, in 2024 we will assume the actual Stand-by Phase, and in 2025 we will lead the EUBG. These are planning horizons that many large national units can only dream of.

The European: *As to other decisions to be taken, for instance with regard to equipment, what is the decision-making process?*

General Kolodziej: To be frank, and however surprising it may sound, it is also relatively fast-paced. For example, over the next few years we will migrate to SICF 2, the most modern command and control system, used in the French armed forces, with the agreement of all nations. This also shows that nations are keen on reaching agreements with the goal of forming a large military unit that can be employed by all of them.

The European: *This will allow further developments and adaptation. However, with regard to your forces' equipment, besides a unified communication system and a unified command and control system, you have to contend with a great variety of national weapon systems: five different infantry fighting vehicles, four different types of rifles and a variety of tanks. How do you see the future of equipment?*

General Kolodziej: Decisions on equipment standardisation are a political question and remain a national prerogative. However, initial trends have clearly emerged within the framework of PESCO, the Permanent Security Cooperation, like, for instance, the joint development of a next-generation combat

aircraft or a new common battle tank. At the same time, there are a number of other examples such as the A 400 M, the TIGER combat helicopter, etc., in which several nations have already combined their efforts.

The European: *That is of course true, but when we founded the Eurocorps in 1992, wasn't the intention to enable it to procure directly for the HQ and its units?*

General Kolodziej: At Eurocorps, our equipment is already largely harmonised in terms of the armament, vehicles and equipment at our disposal. This was either procured directly by Eurocorps, such as command post equipment, tents, power generators, etc., or was individually provided to Eurocorps by the nations – in this case mainly vehicles and weapons. This equipment is used by all Eurocorps personnel regardless of their nationality. Only in the context of special national requirements, for example in the context of mission preparation, is special equipment made available by the National Support Elements and used when necessary. We have had good experience with this approach over the last few years and it shows that synergies are possible and helpful in the context of burden sharing.

The European: *This is good news. Let me finally address the training of the forces you will soon be sending to the Sahel region and the way this training will be carried out as "uniformly" as possible?*

General Kolodziej: One of the great advantages of Eurocorps is

“The international composition of Eurocorps means that we have to consider each individual nation's approach and then adopt the best one.”



European Union Training Mission (EUTM) in Mali. On the right: Brigadier General Franz Xaver Pfrengle, former Chief of Staff Operations of Eurocorps and former Head of EUTM Mali

photo: © Eurocorps

that – and this is exactly why we have now been tasked by the Framework Nations with such a mission for the second time after 2015/16 – the Eurocorps personnel already know each other, train together and prepare together for each mission. The majority of staff members prepared together for the NATO Response Force (NRF) Stand-by Phase in 2019 and for a whole series of exercises that were subsequently certified successfully by NATO. Based on this, we have designed a central training module that is attended by all Eurocorps personnel for whom a deployment is planned, from the future Mission Force Commander to the non-commissioned officers as well as, incidentally, the key external personnel.

The European: *I understand that this is how you ensure that experienced personnel who, despite their different nationalities, know each other well and work together on a daily basis here in Strasbourg, are deployed on a mission as key personnel.*

General Kolodziej: Yes, this ensures that the otherwise sometimes lengthy familiarisation processes within a contingent are minimised. When this personnel is then replaced by fellow soldiers after six months of deployment, the advantages are obvious.

The European: *What impact on day-to-day service do the personnel returning from such missions have on the morale of the troops? What influence do these experiences have?*

General Kolodziej: Basically, deployments are part of soldiers' lives. Therefore, on the one hand they are normal, on the other hand, not only the individual soldiers but also the entire unit benefits from the experience gained in the course of deployment. This is all the more true if the soldiers remain as pragmatic when they return home as they need to be during missions, finding the appropriate solutions to accomplish those missions. In this respect, in my capacity as command-

er, I am particularly interested in the detailed evaluation of deployment experiences, which enables not only the individual soldiers to learn from one another but also the entire unit to benefit from the experience. The experience is then taken into account, for example, in the course of training planning to ensure that Eurocorps soldiers are continuously trained and prepared as realistically as possible, not only within the scope of direct pre-deployment preparation such as in the current preparation for Mali and the Central African Republic, but also within the scope of NATO's commitments.

The European: *General, perhaps an odd but nevertheless serious question: the special characteristic of Eurocorps is that you serve two masters. You can be employed by NATO and by the European Union. For whom does your heart beat, or in other words, do you and your leaders have a dual DNA?*

General Kolodziej: This dual DNA was instilled in us by our founding fathers, François Mitterrand and Helmut Kohl, and it is reflected in our motto "A Force for the EU and NATO". That is why this duality principle is particularly close to my heart as Commanding General of Eurocorps, and I am grateful that the framework Nations regularly underscore its importance and ensure that it is still applied 28 years later, especially in the operational planning process I have just outlined. This duality and the outstanding experience associated with it, the ability to see the bigger picture, as it were, distinguishes Eurocorps from all other comparable units in Europe and makes us, to a certain extent, unique.

The European: *Thank you, General, for this interview. I wish you and your troops continued success and that you bring all your soldiers back safe and sound from the Sahel region.*

The interview was led by Hartmut Bühl.



Unmanned systems – ethics and international law

Responsibility must remain in human hands

by Dr Michael Stehr, Advocate, Board Member
of EuroDefense, Bonn, Germany

A cultural bias seems to dominate debates on “autonomous systems” with perceptions and expectations shaped by an independently acting “Terminator” or “Skynet”, a superior and amoral artificial intelligence (AI) system with nearly unlimited faculties.

The mundane reality

The reality is that there is a variety of unmanned systems, in the air, on land and at sea: tanks, flying drones, mine hunting sub systems, ships and submarines. Today UxV¹ technologies are developed and designed to hit targets when remotely controlled by soldiers. They only can act independently during take-off and landing, automatically controlled cruising and the “lost-link-mode”. So far, no system is steered by a tactical computer although scientists are developing computers with advanced, AI driven capabilities. The technological outcome is not predictable.

In consideration of human responsibility, there is a need today, and even more in the future, to differentiate two categories of systems: automated systems and autonomous systems, as defined by the UK Ministry of Defence²:

“An automated or automatic system is one that, in response to inputs from one or more sensors, is programmed to logically follow a predefined set of rules in order to provide an outcome. Knowing the set of rules under which it is operating means that its output is predictable.”

“An autonomous system is capable of understanding higher-level intent and direction. From this understanding and its

perception of its environment, such a system is able to take appropriate action to bring about a desired state. It is capable of deciding a course of action, from a number of alternatives, without depending on human oversight and control, although these may still be present. Although the overall activity of an autonomous unmanned aircraft will be predictable, individual actions may not be.”

Violation of international law?

International law is binding on belligerent parties and their personnel in international armed conflicts. One has to consider the possibility that using automated or autonomous systems could be in violation of international law. **Three major rules** from the “Protocol Additional to the Geneva Conventions of 12th August 1949 and relating to the Protection of Victims of International Armed Conflicts (Protocol 1)”³ can be taken as examples:

Rule 1: Article 35

1. In any armed conflict, the right of the Parties to the conflict to choose methods or means of warfare is not unlimited.
2. It is prohibited to employ weapons, projectiles and material and methods of warfare of a nature to cause superfluous injury or unnecessary suffering (...)

Prohibited weapons are e.g. poison gas, lasers to blind someone permanently, ammunition which is invisible to x-ray devices. Methods of warfare that exceed the purpose of incapacitating or killing enemy combatants are also prohibited. Consequently, the operation of remote controlled or

automated or autonomous systems as such is no violation of this rule.

Rule 2: Articles 48, 51, 57

Article 48 Basic rule

In order to ensure respect for and protection of the civilian population and civilian objects, the Parties to the conflict shall at all times distinguish between the civilian population and combatants and between civilian objects and military objectives and accordingly shall direct their operations only against military objectives (...).

Article 51 Protection of the civilian population

(...) 2. The civilian population as such, as well as individual civilians, shall not be the object of attack (...)

(...) 4. Indiscriminate attacks are prohibited.

Indiscriminate attacks are:

- a) those which are not directed at a specific military objective;
- b) those which employ a method or means of combat which cannot be directed at a specific

military objective;

(...) 7. The presence or movements of the civilian population or individual civilians shall not be used to render certain points or areas immune from military operations, in particular in attempts to shield military objectives from attacks or to shield, favor or impede military operations. The Parties to the conflict shall not direct the movement of the civilian population or individual civilians in order to attempt to shield military objectives from attacks or to shield military operations.

Article 57 Precautions in attack

1. In the conduct of military operations, constant care shall be taken to spare the civilian population, civilians and civilian objects (...)

An attack aiming primarily at a legitimate military target is not an indiscriminate attack and does not violate these

Articles if it causes no excessive collateral damage – the latter effectively avoided by precision. The use of technically advanced unmanned systems is therefore no different from a legal perspective. On the other hand, the belligerent party that places a radar in a village or town and uses its population as a human shield is clearly in violation of Article 51 para. 7.

Rule 3: Article 41 Safeguard of an enemy hors de combat

A person who is recognized or who, in the circumstances, should be recognized to be hors de combat shall not be made the object of attack. (...)

Ethical challenges to soldiers and politicians

Soldiers are accustomed to C4ISR systems with increasing degrees of automation. The next revolution in military affairs will be the ongoing replacement of manned systems and remotely controlled weapons by UxV. Currently, soldiers tend to observe rather than operate systems. UxV is however an opportunity to withdraw soldiers from the first line of fire and from dull, dirty or dangerous operations. Some soldiers – not all! – will tend to become operators or technicians rather than combatants. What about the psychology of soldiers fighting enemy UxV while risking their lives? It may be easier to destroy machines than to kill humans – but there's also the knowledge of risking lives against mere objects.

Given the theoretical possibility that a future unmanned system could decide on the start, conduct and end of an operation without any human participation, the question arises as to whether the military should retreat from observing and controlling that process. The answer is a very definite No! There is not only the question of the ultimate responsibility of the military for all its operations but also the fact that the very act of applying lethal force is a core element of the soldier's job. Furthermore, even the most advanced AI system lacks a conscience and the link to existential issues. Humans are vulnerable and finite – and the knowledge about this is part of human intelligence. Decisions made by AI are very different from human decisions – to say the least.

Last but not least, UxV pose an inescapable question to political and military leaders. Can you take responsibility for your soldiers risking their lives fighting enemy UxV on the battlefield without using UxV themselves?

Dr Michael Stehr



Photo: private

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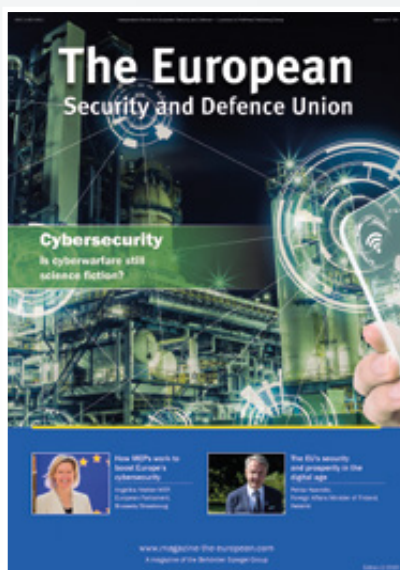
EuroDefense, Germany (<https://www.eurodefense.de>) and Vice-President of the German Naval Association (<https://deutscher-marinebund.de>).

¹ UxV stands for any one of the four categories of unmanned vehicles: ground, air, surface or undersea. Humans operate these vehicles from a remote location.

² UK Ministry of Defence, Joint Doctrine Publication 0-30.2 Unmanned Aircraft Systems, P. 9-20, <https://bit.ly/32sBWg3>

³ <https://bit.ly/3eiguzz>

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About us and our magazine

Our politically independent quarterly magazine The European – Security and Defence Union was launched in 2008 and has become a broad platform for discussion on European and international geopolitics, security and defence issues, as well as on global topics such as migration and refugee policy, climate change and energy, digitalisation, data protection and cyber security...

The publication is circulated worldwide but especially in Europe. It is largely distributed to selected personalities of the European Parliament, the EU Commission and other EU institutions, NATO HQs as well as the 27 national parliaments of EU member states, universities, think tanks and armed forces. It is supplied to governments worldwide through their embassies in Berlin.

The distribution of the magazine currently comprises 2000 hard copies and a broad digital reach.

Furthermore, each edition is available to read and download on our website:

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In 2011, the magazine received the first CIDAN European Award for Citizenship, Security and Defence under the patronage of the President of the European Council.

In 2019, the editorial team of the magazine was awarded with the CIDAN Jury Special Prize for outstanding journalism, enabling European citizens to better understand the European Union. On this occasion, the team also received a medal from the French President Emmanuel Macron.



The editorial team at the CIDAN award ceremony in Berlin, 26.11.2019

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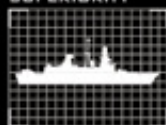
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