NATO Biotechnology Conference

BRUSSELS, BELGIUM, 28 OCTOBER 2025

On 28 October 2025, NATO and Belgium are pleased to welcome the representatives of NATO Allies along with NATO civilian and military officials to take part in the first NATO Biotechnology Conference.

This one day in-person flagship event aims to bring together stakeholders in the wider biotechnology community, including from government, industry, finance, and academia, to raise awareness and build capacity around the shared objective of fostering biotechnology innovation ecosystems in a defence and security context.

Faced with unprecedented growth of biotechnologies and their impact, NATO adopted its Biotechnology and Human Enhancement Technologies (BHE) Strategy in 2024: the first of its kind to guide the Alliance towards the development and integration of emerging biotechnologies, both to leverage their opportunities for the Alliance and safeguard against the risks they pose.

Biotechnologies are poised to improve many aspects of civil society, from healthcare to energy to environmental science. They are also considered increasingly relevant for defence and security, with a wide range of opportunities for the Alliance, from bio-engineered novel materials to human enhancement technologies. However, they herald increasingly pressing risks against which we must mitigate to retain NATO's technological edge.

In line with NATO's BHE Strategy, the conference aims to build a network amongst stakeholders, foster understanding and begin to establish priority applications for defence. An approach of international cooperation and supporting growth of biotech ecosystems, while safeguarding sensitive research, is essential to harness biotechnology development, acquisition and integration. Expert insights will highlight defence-relevant capabilities from Allied ecosystems, synergies with dual-use and civil bio-innovation, and considerations for resilient biotechnology ecosystems. This requires a proactive stance: whilst applications for defence are less well-established than in the civil domain, their opportunities and risks pose unique challenges for policymakers, scientists and industry that this conference seeks to explore.

General organisational information:

The NATO Biotechnology Conference is by invitation only, featuring a range of subject matter experts from across the Alliance as panellists and audience participation encouraged in line with the ambition to shape a community of practice around biotechnologies in the defence and security context.

During the morning sessions, expert views on priority biotechnology applications and their relevance for the Alliance will be discussed in panel format, along with identifying means and ways to support growth of biotech ecosystems in the defence and security context. This also includes the rapid response tasks of assessing biotech applications in convergence with other emerging and disruptive technologies critical to defence and security.

After lunch (provided), breakout sessions organised around five priority "Community Building Themes" will help to further deepen the discussion on how biotechnology applications can contribute to strengthen NATO's collective defence by bridging the gap between bio-innovation and military adoption. These sessions aim to explore opportunities for setting up a cooperative framework where government experts, researchers and industry stakeholders can share expertise and reflect on possible ways to achieve the objectives set out in NATO's BHE Technologies Strategy, with a key focus on emphasising the relevance of bio-innovation for defence across multiple dimensions. This includes risks and opportunities in synthetic biology, detection and protection against bio-threats, the safeguarding of sensitive biological data, and the resilience of bio-industrial bases ensuring defence critical supply chain security and preserving strategic know-how.

Finally, the **Key outcomes and ways forward** will be presented by session Chairs ("Theme Leads") in plenary. Discussions will close at 17:00 with final remarks by NATO's Assistant Secretary General for Defence Industry, Innovation and Armaments (D2IA), Ms Tarja Jaakkola. The closing remarks will be followed by the Networking Cocktail Reception – to which delegates, Allied and NATO officials are invited to in the central patio of the Royal Military Academy.

We hope this programme will allow for qualitative exchanges that will continue to foster the benefits of bio-innovation for defence across the Alliance.

We look forward to welcoming you on 28 October 2025 at the Belgian Royal Military Academy in Brussels.

FINAL AGENDA

Belgian Royal Military Academy, 8 rue Hobbemastraat, 1000 Brussels

Registration will open at 08:00 CET. Keynote speeches begin at 09:00.

Dress Code: business or service dress

08:00 – 09:00	***Registration Desk Open***	
09:00 – 09:10	**Welcome Keynote**	Bart DE WEVER, Prime Minister of Belgium
09:10 – 09:20	**Keynote Speech**	Mark RUTTE, NATO Secretary General
09:20 – 09:40	**Setting the Scene**	Jérôme VAN BIERVLIET, Managing Director Vlaams Instituut voor Biotechnologie (VIB, Belgium)
09:45 – 11:15	**Panel 1: Advances in Biotechnologies Critical to Defence and Security**	
	Chair:	Dr. Megan EDWARDS, Head of Innovation Policy and Ecosystems Section (IPE), Innovation Directorate, Defence Industry and Innovation (D2IA), NATO
	Speakers:	• Prof. Dr. Roman WÖLFEL (Director of the Institut für Mikrobiologie der Bundeswehr, Germany) • Dr. Caitlin FRAZER (Executive Director of the National Security Commission on Emerging Biotechnology, United States) • Brig. Gen. Dr. Florigio LISTA (Health Corps, Director of the Defence Institute for Biomedical Sciences, Italy) • Prof. Dr. Paul S. FREEMONT (Head of the Section of Structural and Synthetic Biology at the Imperial College London, United Kingdom) • Prof. Dr. Octavian BUCUR (Director-General of the Genomics Research and Development Institute, Romania)
11:15 – 11:30	***Coffee Break***	

11:30 – 13:00	**Panel 2: Fostering Biotechnology Ecosystems in Defence and Security**	
	Chair:	Dr. Rune LINDING, Resilience & Life Sciences Challenge Manager, NATO DIANA
	Speakers:	• Dr. Markus HERRGÅRD (Chief Technology Officer at the BioInnovation Institute, Denmark) • Mr. Frédéric DRUCK (Director General of Bio.be/Essenscia, Chair of the EU Biotech Campus, Belgium) • Dr. Katri HAILA (Secretary General of the Scientific Advisory Board for Defence, Ministry of Defence of Finland) • Dr. Robert KLEEMANN (Director of Science and Technology 'Health & Work' at The Netherlands Organisation for Applied Scientific Research, TNO) • Mr. Ion Arocena VELEZ (Director General, Spanish Association of Biotechnology Companies, Spain)
13:00 – 14:00	**Biotech Networking Lunch – Patio Hall of the Royal Military Academy**	
14:00 – 14:45	**NATO's Next Frontier: Biotechnology for Defence and Security**	
	Chair:	Dr. Nikos LOUTAS, Director of the Innovation Directorate, Defence Industry, Innovation, and Armaments Division (D2IA), NATO
	Speakers:	• Jim STOKES, Director of CBRN Policy Directorate, Defence Policy and Planning Division (DPP), NATO • Robert WEAVER, Deputy Assistant Secretary General, Defence Industry, Innovation, and Armaments Division (D2IA), NATO • Sander VERBRUGGE, Partner, NATO Innovation Fund
14:45 – 16:15	**Community Building Sessions (Break-out)**	
(15:15 – 15:30)	***(Coffee Break In-session)***	

- ***Theme 1: Synthetic Biology - Opportunities and Risks for the Alliance (Room Frank De Winne)***
  Aim: to explore possible application areas and tangible activities that can be pursued by NATO and Allies both to leverage and mitigate risks from synthetic biology.

  Facilitated by the UK Department for Science, Innovation, and Technology (DSIT)

  Chair: Dr. Aaron PAYNE, Defence Integration Lead | Engineering Biology (DSIT)

- ***Theme 2: Bridging the Gap between Biotechnologies and Military Adoption (Symposium)***
  Aim: to explore adoption pathways for biotechnology solutions in military applications and to identify ways to better connect biotech innovation ecosystem with military end-users.

  Facilitated by the Research, Science & Technology Directorate of the Royal Higher Institute for Defence (Belgian MOD), supported by Innovation Centre FRONT (Defence Staff of the Netherlands)

  Chair: Lieutenant General Michel VAN STRYTHEM, Chief Innovation Defence – Belgian Armed Forces

- ***Theme 3: Biotechnologies and Proliferation Risks – Biodefence and Detection (Studio 1 & 2)***
  Aim: to explore the "prepare" and "mitigate" dimensions; how to develop capabilities to detect, identify, monitor and mitigate novel biotechnology threats, and enhance preparedness. This includes options in the field of biodefence and resilience.

  Facilitated by the Bundeswehr Institute for Microbiology, supported by the Belgian MOD Defence Labs (DLD)

  Chairs: Dr. rer. nat. Markus ANTWERPEN (BIM), and Dr. Una JAKOB, Head of the Research Group Biological and Chemical Disarmament and Security at Peace Research Institute Frankfurt (PRIF)

	• ***Theme 4: Protection of Biotechnology Innovations and Ecosystems (Bloc K, Room K.00.28)*** *Aim: to identify challenges resulting from adversarial investments and undesired access to the Alliance's biological data, how to counter these challenges (data protection, cybersecurity), and any identified best practice.*	Facilitated by the National Security Commission on Emerging Biotechnology (NSCEB) - United States Senate Chair: Dr. Caitlin FRAZER, Executive Director NSCEB
	• ***Theme 5: Human Enhancement Applications in Defence and Security (Bloc K, Room K.00.29)*** *Aim: to explore possible applications relevant for NATO and Allies, and tangible activities that could be undertaken to adopt relevant human enhancement technologies in a responsible manner.*	Facilitated by the Norwegian Defense Research Establishment (FFI), supported by the Netherlands Defence Health Organisation Chairs: Dr. Øyvind VOIE, Research Manager FFI, and Lieutenant Colonel (Dr.) Olaf BINSCH, TNO Senior Research Scientist
16:15 – 16:45	**Plenary Session - Presentation of Key Outcomes by Community Building Session Chairs**	
16:45 – 17:00	**Closing Remarks,** by Tarja JAAKKOLA, Assistant Secretary General, Defence Industry, Innovation, and Armaments Division (D2IA), NATO	
17:00 – 19:00	**Biotech Networking Cocktail Reception – Patio Hall of the Royal Military Academy**	

Throughout the day, the Belgian Defence's **BIONEAR®** Rapidly Deployable Medical Mobile Lab for Epidemic Response and CBRN Preparedness will be accessible for discovery in front of the conference centre. An active demonstration session will be provided by the Belgian Defence Bio CBRN Defence Lab's team during the lunch break. Take the time to explore this unique capability which strengthens Belgium's and NATO's readiness for biological threats, pandemics, and bioterrorism, while supporting global health resilience.

ADMINISTRATIVE NOTICE

Visa and Travel	Participants are responsible for organising their own flights and obtaining a visa as required.
Venue and Time (from 8h00)	Delegates duly registered to the event should arrive at 8:00 (CET) at the main entrance of the Royal Military Academy (RMA), 8 Rue Hobbema, 1000 Brussels. We recommend arriving at 8:00 as there might be delays in the check-in. Unregistered persons will not be admitted to the site under any circumstances. The venue is conveniently located at walking distance from Schuman metro station, where a wide range of public transportation options are available. See map enclosed. We advise against coming by car as parking cannot be guaranteed.
Registration and Welcome coffee (8h00 – 9h00)	NATO D2IA and Belgium's staff will welcome you at the entrance of the Conference Centre of the Royal Military and provide instructions on the practicalities, meeting rooms and dedicated area for networking. Coffee and tea will be served in the lobby of the Conference Centre.
RMA House Rules	It is not allowed to take pictures of the military facilities. A limited number of photographs will be taken by an official photographer for NATO communication purposes. Should you not wish to be photographed, please inform the organisers, who will pass on your request. It is not allowed to walk around the RMA premisses outside designated areas. Please note that no open Wi-Fi network is available to external participants.
Networking Lunch (13h00 – 14h00)	A light networking lunch will be provided for all participants. A dedicated meal option will be available for those with dietary restrictions.

Biotech Networking Cocktail Reception (17h00 – 19h00)	All delegates are cordially invited to the Biotechnology Networking Cocktail Event which will close the conference. This reception will be held in the central patio of the Royal Military Academy. Finger food will be available.
Transportation	**General Directions:** Belgium's Royal Military Academy is conveniently located on the left side of the Cinquantenaire Park, at the heart of Brussels European District where the EU institutions are located. As a general guideline, you can follow signs directing you to the 'European Union/Community' or 'Schuman'. If you find yourself lost in Brussels, simply ask for directions to 'Parc du Cinquantenaire' which is directly across from the RMA. **From Brussels Airport:** • Train: Board a train stopping at Schuman train station from the airport, costing around 10 EUR. • Bus: Take bus number 12 or 21 to the Schuman metro station, with a fare of approximately 4 EUR and a travel time of about 30 minutes. • Taxi: You can take a taxi directly to the RMA, with an approximate cost of 40 EUR. **By Train**: The RMA is a 10-minute walk from the Schuman train station. If you are arriving at Brussels Midi (South) or Central Station, you might find it more convenient to take the subway. Connections with North Station are more complicated. **By Subway:** The RMA is located between Schuman and Merode metro stations, each about a 10-minute walk away. Both stations are on subway lines 1 and 5. **Reliable Taxi Companies:** • Autolux: +32 2 512 31 23 - www.taxisautolux.be • B TAXI: +32 2 201 73 73 - www.btaxi.eu • Taxi Victor Cab : +32 2 425 25 25 - www.victorcab.be

	• Taxis Verts : +32 2 349 49 49 - taxisverts.be • Handycab : +32 2 315 31 00 - https://booking.handycab.be/
Accommodation	Accommodation costs incurred during the NATO Biotech Community Conference are not covered by organisers and will be at the expense of the participants. Brussels European Quarter offers a wide range of accommodation covering a good variety of comfort levels and prices. To name a few: **Best Western Plus Park Hotel Brussels/ Park Hotel Brussels** (Located closely to the Royal Military Academy) Avenue de l'Yser 21, 1040 Brussels Tel.: +32 2 735 74 00 https://www.parkhotelbrussels.be/en **Holiday Inn Bruxelles Schuman** (Located closely to the Schuman Roundabout) Rue Breydel 20/24, 1040 Brussels Tel.: +32 2 280 40 00 info@hibrusselsschuman.com **9Hotel Chelton Bruxelles** (Located closely to the Royal Military Academy) Rue Véronèse 48, 1000 Brussels Tel.: +32 2 747 47 60 https://www.9-hotel-chelton-brussels.be/ **Sofitel Brussels Europe** (Located closely to the EU Council) Place Jourdan 1, 1040 Brussels Tel.: +32 2 235 51 00 H5282@sofitel.com **Thon Hotel EU** Rue de la Loi 75, 1040 Brussels Tel.: +32 2 204 39 11 eu@thonhotels.be **Hotel NH Brussels EU Berlaymont** Boulevard Charlemagne 11-19, 1000 Brussels Tel. : +32 2 231 09 09 nhbrusselsberlaymont@nh-hotels.com Webpage: NH Brussels EU Berlaymont Hotels in Brussels can also be booked on www.hotels.com or www.booking.com. We nonetheless advice to book reservation directly on the selected hotel website in order to benefit from better rates.

European Commission

Airport Express Bus stop Schuman (Lines 12 and 21)

Royal Military Academy Entrance: Rue Hobbema 8, 1000 Brussels

Schuman Roundabout

Cinquantenaire Park

Schuman Metro Station (Lines 1 & 5)
Access from Midi and Central Train stations
Direct Access to trains from/to Brussels Airport