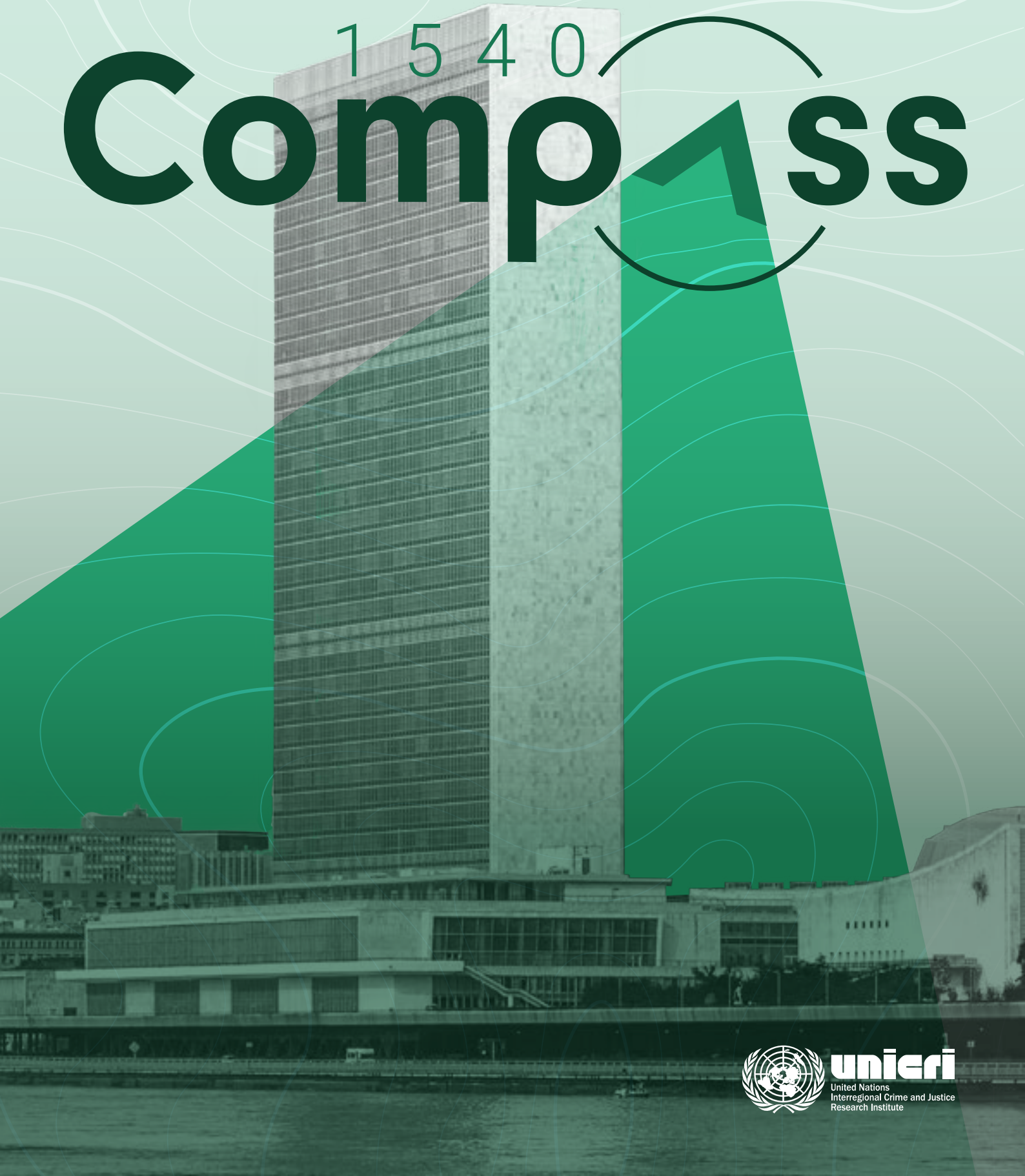
Issue 02

SEPTEMBER 2024

THE JOURNAL DEDICATED TO THE OBJECTIVES OF UNITED NATIONS SECURITY COUNCIL RESOLUTION 1540
for preventing the proliferation of weapons of mass destruction by non-state actors

1540 Compass



unicri
United Nations
Interregional Crime and Justice
Research Institute

United Nations
Interregional Crime and Justice
Research Institute

1540 Compass

THE JOURNAL DEDICATED TO THE OBJECTIVES OF UNITED NATIONS SECURITY COUNCIL RESOLUTION 1540
for preventing the proliferation of weapons of mass destruction by non-state actors

1540 Compass

ACKNOWLEDGEMENTS

If you wish to submit a letter to the Editor to be published in a future issue of the journal, or for any other enquiries, please contact: unicri-1540compass@un.org

You can find resolution 1540 in full here.

If you would like more information about the work of the 1540 Committee, please see: https://www.un.org/en/sc/1540/

Volume 1, issue 2, published September 2024

DISCLAIMER

The opinions, findings, conclusions, and recommendations expressed herein are those of the authors and do not necessarily reflect the views and positions of the United Nations and UNICRI, or any other national, regional or international entity involved. Contents of the publication may be quoted or reproduced, provided that the source of information is acknowledged. The designations employed and presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area of its authorities, or concerning the delimitation of its frontiers and boundaries.

This publication was produced with the financial support of the Department of State of the United States. Its contents do not necessarily reflect the views of the Department of State. In order to ensure the sustainability of the journal, the *1540 Compass* is looking for financial contributions from other Member States and international and regional organizations.

The *1540 Compass* was originally launched in 2012 by the Center for International Trade and Security (CITS) at the University of Georgia in hard copy format. Under the initial direction of Dr Igor Khripunov, and in cooperation with the UN Office for Disarmament Affairs, the 1540 Compass was designed to provide an accessible forum on the effective implementation of UN Security Council resolution 1540. Back issues of the *1540 Compass* can be found at: https://spia.uga.edu/departments-centers/center-for-international-trade-and-security-cits/publications/compass/

TABLE OF CONTENTS

CONTENTS

NOTE FROM THE EDITOR

EDITOR-IN-CHIEF | 1540 COMPASS
Francesco Marelli

UNICRI Head of Unit | CBRN Risk Mitigation and Security Governance

Dear Readers, Colleagues and Contributors,

Welcome to the second issue of the *1540 Compass*, our e-journal dedicated to exploring the critical components of United Nations Security Council resolution 1540 (2004) (UNSCR 1540). In this edition, we focus on the importance of border and export control systems for the full and effective implementation of the resolution, as outlined in operative paragraph (OP) 3, clauses (c) and (d). These are particularly significant because they require States to establish robust export and border control systems regardless of their membership in other international conventions, treaties or export control regimes. These clauses underscore the global community's commitment to a secure world, where proliferation risks are minimized through effective domestic controls.

This issue features a diverse range of contributions, with a strong focus on implementation in Africa. Isabel Bosman provides an overview of the status of UNSCR 1540 implementation on the continent, while Sonia Drobysz and Eliza Walsh explore the different approaches to export controls over biological weapons-related materials in Africa.

On page 16, we present an in-depth interview with Dr Janes Mokgadi, Deputy Director of Botswana's Chemical, Biological, Nuclear, and Radiological Weapons Management Authority. Dr Mokgadi shares Botswana's efforts to develop a voluntary national action plan, highlighting the support received from regional partners and through the 1540 Committee's matchmaking mechanism. For more on the Committee's matchmaking mechanism, see our explainer on page 14.

Equally significant is our conversation with Ambassador Taous Feroukhi, Algerian Ambassador and President of the 2015 Treaty on the Non-Proliferation of Nuclear Weapons (NPT) Review Conference, on page 24. Ambassador Feroukhi discusses the complementary roles of UNSCR 1540 and the

NPT in enhancing global security and offers insights on Algeria's approach to fulfilling its 1540 obligations. Additionally, we feature the second part of our interview series with Ambassador José Javier De La Gasca, as well as an interview with former U.S. 1540 Coordinator Thomas Wuchte.

This issue includes articles that shed light on best practices from Japan, Kenya, and Singapore—countries that have placed great importance on implementing strategic trade controls. These articles offer models and strategies that can serve as useful case studies for other States.

Given the dual-use nature of many emerging technologies, we also feature discussions on their impact on the resolution, especially in the context of OP 3 (d), which calls for end-user controls for exports. To learn more, see Hyuk Kim's article on artificial intelligence and Dr De Silva, Professor Martinez, and Dr Perera's piece on emerging technologies in the chemical domain.

On page 102, we are particularly honoured to present an article by Dr Jonathan Brewer, former Coordinator of the UN 1540 Group of Experts, who delves into the complex issue of proliferation finance. Dr Brewer unpacks the challenges posed by the absence of an official definition for the term and offers practical recommendations for the way forward. Giuseppe Di Luccia and Chandana Seshadri further develop the theme of proliferation finance in their articles on pages 108 and 114, respectively.

Recognizing the critical role that civil society plays in preventing weapons of mass destruction (WMD) proliferation, we feature two articles on pages 120 and 128, regarding how stakeholders such as industry and academia can collaborate with governments and international organizations to ensure compliance with the resolution.

As always, our goal is to foster a nuanced and thoughtful discussion within the community dedicated to UNSCR 1540's implementation. In this issue, we launch our Letters-to-the-Editor section with a reflective letter from O'Neil Hamilton, which we hope will inspire others to share their views in future issues.

In closing, I want to emphasize the critical importance of OP 3 (c) and (d) in the context of global security. By establishing and strengthening border and export controls, Member States are contributing to a collective effort to prevent WMD proliferation.

Thank you for your continued support of the *1540 Compass*. I hope you find this issue both informative and inspiring.

Warm regards,

Francesco Marelli

LETTERS TO THE EDITOR

Please send any letters to the Editor-in-Chief at UNICRI-1540compass@un.org
Letters should not exceed 750 words

O'Neil Hamilton
NON-RESIDENT FELLOW AT THE STIMSON CENTER FOCUSING ON NON-PROLIFERATION AND STRATEGIC TRADE CONTROL. HE COORDINATED A TARGETED NON-PROLIFERATION AND 1540 IMPLEMENTATION INITIATIVE FOR UN MEMBER STATES IN AFRICA, SE ASIA AND LATIN AMERICA FOR UNODC FROM 2021–2023 AND WAS THE FORMER UNSCR 1540 REGIONAL COORDINATOR FOR THE CARIBBEAN COMMUNITY (CARICOM) MEMBER STATES.

BEYOND PERFORMATIVE NON-PROLIFERATION

My many years spent labouring in the non-proliferation domain, initially in the Caribbean and then in other regions around the world, has afforded me the unique opportunity to interact with literally scores of officials who have central responsibility for the implementation of United Nations Security Council resolution 1540 (UNSCR 1540) and the core components of the global non-proliferation regime.

The typology is that of an earnest and often quite motivated functionary, committed to meeting key national non-proliferation priorities despite prevailing and intractable budgetary and other resource constraints. These constraints have largely impeded the development and enforcement of comprehensive non-proliferation measures, including the establishing of national export controls, strengthening border security, and implementing safeguards on sensitive materials and technologies.

Effectively servicing these obligations has been, understandably, an onerous and demanding challenge. Resultantly, these daunting reporting and administrative requirements, coupled with the lack of technical and financial resources, have often resulted in cursory rather than substantive engagement and, in essence, it has often become a largely performative exercise.

These constraints also occur within a context where issues such as food security, healthcare, and education understandably take precedence over investments in non-proliferation activities and where limited resources are generally, if not necessarily, allocated to more immediate development priorities rather than to other long-term security considerations.

This trade-off has often served to weaken the global consensus and cooperation essential for effectively addressing proliferation challenges, while also allowing these countries the functional space to attend to their development needs.

For example, developing countries increasingly seek access to nuclear technology for peaceful purposes, including energy production and medical interventions or research. However, concerns about diversion of nuclear materials or expertise for military purposes have tended to hinder international cooperation and willingness to provide assistance for these development-oriented nuclear programmes.

In addition to the developmental constraints, officials charged with advancing national non-proliferation action are often quite beleaguered, inundated by a plethora of responsibilities, including other reporting obligations corollary to UNSCR 1540. These often include the Chemical Weapons Convention (CWC), the Biological Weapons Convention (BWC) and the Nuclear Non-proliferation Treaty (NPT), among others.

This performative regimen is often characterized by symbolic gestures including resolute statements in support of the non-proliferation regime, but without concrete national policies to implement legal and regulatory mandates to prevent proliferation. It is also typified by selective compliance and the adoption of token measures which largely do not address the root causes of proliferation or reduce proliferation risks. Yet, given the objective reality facing these countries, this performative action is indeed understandable, if not inevitable.

Preventing the proliferation of weapons of mass destruction (WMD) and their delivery systems is highly dependent on the sustained involvement of key officials. In the Global South, this involvement and focus is often impacted by the loss of expertise and diminished institutional capacity, as a result of high attrition rates among these critical personnel. This diminution of skilled personnel with expertise in nuclear, chemical, and biological security, as well as export control, often serves to impair the ability of regulatory agencies to effectively monitor and enforce non-proliferation measures.

This attenuation can also weaken the overall institutional capacity of these countries to address non-proliferation challenges, as turnover within key agencies disrupts continuity, hampers long-term planning, and impedes the implementation of non-proliferation policies.

High attrition also undermines the effective leveraging of ongoing bilateral and multilateral partnerships which can limit a country's ability to further access beneficial technical assistance, training programmes, and resources. Indeed, the resultant combination of diminished national expertise, reduced technical support, weakened enforcement, and institutional instability resulting from high attrition rates can elevate the risk of WMD proliferation within and from vulnerable countries. This, in turn, further enhances existing threats to national, regional and global security by potentially enabling the acquisition of WMD capabilities by State or non-State actors.

Without question, successful non-proliferation engagement requires sustained international cooperation, robust enforcement mechanisms, and ongoing vigilance to address evolving threats and therefore must not be piecemeal or perfunctory. Absent this dynamic, the non-proliferation and disarmament continuum will continue to be incremental, if not moribund, for the overwhelming majority of countries in the Global South.

While there has been an uptick over the past decade in implementation rates for some countries in Africa, Asia-Pacific, and Latin America and the Caribbean, this movement has not necessarily shown the qualitative advances that are essential to measurably reducing proliferation risks. Likewise, increased frequency in the submission of reports has not necessarily translated into 1540 matrices that provide a robust depiction of legislative or regulatory action, or resulted in declarations, confidence-building measures, or comprehensive safeguards agreements that are substantive.

Undoubtedly, the establishment of national points of contact and national competent authorities responsible for technical and administrative action relating to UNSCR 1540, NPT, CWC and BWC implementation are important activities. However, even more important than checking the obligatory box, or denoting the designation of this or that official as the nominal responsible party, is the need to implement robust export controls to prevent the illicit transfer of WMD-related materials, technologies, and expertise. This involves monitoring trade flows and enhancing border security measures, while strengthening the physical security of facilities that handle WMD-related materials, including adopting secure storage and transportation protocols.

Meeting these demands also requires administrative mechanisms that can help countries to move their non-proliferation agenda forward.

The Organisation for the Prohibition of Chemical Weapons (OPCW) has identified a “structured, multi-year, multi-sectoral and result-oriented framework” administered by the CWC National Authority as being essential for the effective “planning, implementation, monitoring and evaluation of all CWC related activities at the States Party level based on human, financial and other resources.” This approach not only serves to add needed momentum to the implementation process, but simultaneously provides a rationale for and indeed aids the effective functioning of the national authority.

For its part, the United Nations Office for Disarmament Affairs’ (UNODA) BWC-Implementation Support Unit sees the designation of national contact points as being critical to developing and refining a State Party’s processes for preparing and submitting Confidence-Building Measures, coordinating overall national implementation efforts with relevant ministries and agencies, aiding bio-risk management, and also helping to build national capacity in disease surveillance, detection and emergency response.

While functioning national authorities and national points of contacts are of fundamental importance to preventing proliferation, the undeniable reality, certainly over the last 15 years, is that a central national chemical, biological, radiological and nuclear (CBRN) coordinating authority has become an increasingly beneficial component in advancing non-proliferation in the Global South. Whether a Hazardous Substances Regulatory Authority (HSRA) in Jamaica or a Chemical, Biological, Nuclear and Radiological (CBNR) Weapons Management Authority in Botswana, States across Latin America and the Caribbean, in Africa, Southeast Asia and the Pacific have identified these coordinating mechanisms as key to meeting their important treaty obligations.

These countries have stressed that the regulatory oversight and attendant licensing and permitting processes —essential for the safe and secure handling, storage, and transport of CBRN materials— are best achieved with such a coordinating machinery. They have also noted that such an infrastructure essentially forces the conduct of regular inspections and audits of facilities that handle hazardous materials to ensure compliance with safety and security standards.

States have also noted that monitoring and surveillance activity, including consistent inventory management and the maintenance of comprehensive databases of hazardous materials, as well as the use of advanced surveillance technologies to monitor facilities and transport routes for evidence of breaches, are clear benefits which indeed flow from these regulatory constructs. Notwithstanding existing resource deficits, these countries are also quite cognizant of vulnerabilities in the cybersecurity domain and the need to protect digital systems that manage hazardous materials from cyber threats occasioned by malign actors.

Lastly, these States view emergency preparedness and response, as well as CBRN incident management, as an important and attainable objective, even as they wrestle with weightier and more long-term activities, including implementing strategic trade and export control legislation. Over the past five years, this area has shown some promise with increased bilateral offers of assistance and programming from a range of diverse entities, including INTERPOL and the World Health Organization.

Given this burgeoning interest, it is an area that should be resourced and actively supported. Aiding the Global South in building core infrastructure in these oversight and response domains represents nascent, but important, steps in moving beyond performative non-proliferation to building needed institutional capacity to effectively combat these threats.

O'Neil Hamilton

ALL ABOUT OPERATIVE PARAGRAPH 3 (C) AND (D)

Operative paragraph (OP) 3 of United Nations Security Council resolution 1540 (2004) (UNSCR 1540) places binding obligations on all States to establish and enforce **domestic controls** to prevent the proliferation of nuclear, chemical and biological weapons, their means of delivery and related materials to non-State actors. This helps to secure the entire lifecycle of an item (or material), from production to end user, so that it cannot be diverted to a non-State actor at any point.

By mandating **border** and **export controls**, OP 3 (c) and (d) aims to regulate the trans-national movement of these items. While the resolution does not specify which materials, agents, equipment or technologies should be controlled, it does impose binding obligations on all Member States to implement some form of export and border control system, irrespective of whether they are members (or not) of other export control regimes or arrangements.

What does the resolution call for?

OP 3 (c)	OP 3 (d)
"effective **border controls** and **law enforcement efforts** to detect, deter, prevent and combat … **illicit trafficking** and **brokering**"	"effective national **export** and **trans-shipment controls** … including appropriate **laws** and **regulations** to control **export**, **transit**, **trans-shipment** and **re-export** and **controls** on providing **funds and services** … such as **financing**, and **transporting** … as well as establishing **end-user controls**; and …. appropriate **criminal** or **civil penalties** for violations"

What might this look like in terms of full and effective implementation?

	What is included in the 1540 Matrix?	Further reading
1	Border controls to detect, deter, prevent and combat illicit trafficking	Dr Mokgadi, Deputy Director of the Chemical, Biological, Nuclear and Radiological Weapon Management Authority of Botswana, reflects on the outcomes of Botswana's recent Workshop on Strengthening Export and Border Controls that was recently held in Botswana and organized by the Stimson Center and the United Nations Office for Disarmament Affairs (UNODA).
2	Law enforcement to detect, deter, prevent and combat illicit trafficking	
3	Border control detection measures	
4	Control of brokering	
5	Export control legislation in place	Sonia Drobysz and Eliza Walsh discuss different the different export control legislation in place in Africa.
6	Licensing provisions and Authority	
7	Control lists of materials, equipment and technology	Possible sources for developing control lists include: Wassenaar Arrangement (Dual-Use List); Missile Technology Control Regime (MTCR); Nuclear Suppliers Group (NSG), Part 1 and 2; Australia Group (AG); as well as lists developed by regional groups or other States. To learn more about how Kenya approached this component, see Kimani Kang'ethe's article.
8	[Provisions for] intangible technology transfers	For more information about the challenges posed by intangible technology transfers and the importance of end-user controls, see Hyuk Kim's article on artificial intelligence.
9	Inclusion of means of delivery	
10	End-user controls	
11	Catch all clause	
12	Transit control	
13	Trans-shipment control	
14	Re-export control	
15	Control over financing of exports or transhipments that would contribute to proliferation	Dr Jonathan Brewer, Giuseppe Di Luccia and Chandana Seshadri provide analysis on the intricacies of proliferation finance and resolution 1540.
16	Control over services related to exports or transhipments that would contribute to proliferation, including transportation	

MATCHMAKING OVERVIEW

In its operative paragraph 7, Resolution 1540 (2004) recognizes Member States may need assistance to fully implement the provisions of the resolution. Its successor resolutions encourage Member States to inform the 1540 Committee of their assistance needs, using the assistance template.

14
Africa

8
Asia Pacific

7
Latin America & Caribbean

Requests

for assistance from Member States

The **1540 Committee** acts like a 'clearing house', matchmaking requests and offers.

20
offers from international, regional and subregional organizations and other arrangements

Offers

of assistance from Member States, international, regional and subregional organizations and other arrangements

All the assistance offers and requests are published on the 1540 Committee's website.

Figures from June 2024

What kind of assistance can you request?

Before making an assistance request, the requesting country must think carefully about what kind of support is needed. It is necessary to decide whether to request direct support from the Committee or matchmaking assistance. Countries will also need to specify the area(s) of their assistance needs, as well as to which operative paragraph the request relates.

Matchmaking assistance

- Review of existing legislative framework and enforcement measures
- Drafting of legislation, regulations and guidelines
- Equipment, such as detection equipment, licensing software, etc.

Operative paragraph (OP) assistance request guide

OP 2 Prohibitions or enforcement

OP 3 (a) Measures to account or secure materials in production, use, storage or transport

OP 3 (b) Physical protection measures

OP 3 (c) Border controls or law enforcement measures

OP 3 (c) & (d) Brokering controls

OP 3 (d) Export and trans-shipment controls

OP 3 Controls of funds or services related to proliferation relevant exports or trans-shipments

OP 6 Drafting, updating or implementing

OP 8 Work with industry and public regarding their obligations

1. Go to the Committee website and download the assistance template.
2. Fill out the assistance template, clearly stating the area of assistance required and its main aim. You must also indicate how your request relates to resolution 1540. If you need help deciding which operative paragraph(s) your request relates to, refer the table above. Provide a detailed description of the assistance you wish to receive, as well as information of any directly related assistance activities that have already taken place.
3. Formally submit the request to the Committee. You can do this in one of three ways:
   - Submitting a Note Verbale to the 1540 Committee through the Permanent Missions to the UN in New York. All correspondence should be addressed to the Chair of the 1540 Committee and sent to the following address:

     Secretariat of the 1540 Committee,
     Attention: Chair, 1540 Committee
     2 United Nations Plaza, Room DC2-2022
     United Nations, New York, NY 10017
     Fax: +1-212-963-1300
     Email: sc-1540-Committee@un.org

   - Incorporated in a national report
   - Included in a national implementation action plan

If you need extra support filling out the template, you can email the Group of Experts at 1540experts@un.org.

- Training on:
  - implementation of regulations, administrative and technical measures
  - export controls
  - licensing procedures
  - border controls
  - internal controls for related nuclear, chemical and biological materials
  - the use of equipment
  - commodity identification
  - outreach to industry

Direct support by the Committee

- Drafting of national reports
- Drafting voluntary national implementation action plans
- Drafting assistance requests
- Technical support during national events

INTERVIEW WITH:

Dr Janes Mokgadi

Enhancing CBRN Security in Botswana through Strategic Collaboration and Capacity Building

Dr Janes Mokgadi, currently serving as the Deputy Director of the Chemical, Biological, Nuclear, and Radiological Weapon Management Authority of Botswana, brings a wealth of experience and expertise to the role. With a PhD in Chemistry and a background that spans forensic science, academia, and research within the energy sector, Dr Mokgadi was listed amongst 50 Women Making the World Safe from Biological and Toxin Weapons in 2022. Dr Mokgadi joined the Authority in 2021, contributing to its mission of preventing the proliferation of chemical, biological, radiological and nuclear (CBRN) weapons and materials and overseeing Botswana submitting its very first confidence-building measures to the Biological Weapons Convention in 2022.

In this comprehensive interview, Dr Mokgadi emphasizes the importance of international collaboration to enhance Botswana's capabilities in managing CBRN threats, detailing the implementation of strategies aligned with United Nations Security Council resolution 1540 (UNSCR 1540). One pertinent example of international collaboration is the Workshop on Strengthening Export and Border Controls that was recently held in Botswana and organized by the Stimson Center and the United Nations Office for Disarmament Affairs (UNODA). Dr Mokgadi outlines the workshop's objectives, which included enhancing the understanding of dual-use item regulations, introducing national export control systems, and developing a roadmap for implementing strengthened border and export controls. The collaborative efforts during the workshop, involving stakeholders from the 1540 Group of Experts, the Organisation for the Prohibition of Chemical Weapons (OPCW), Implementation Support Unit of the Biological Weapons Convention (BWC-ISU), the Verification Research, Training and Information Centre (VERTIC), the Secretariat of the South African Council for the Non-Proliferation of Weapons of Mass Destruction, the German Federal Office for Economic Affairs and Export Control (BAFA), and the EU Partner-2-Partner Export Control Programme, marked a crucial step in addressing Botswana's challenges, such as the absence of national control lists for dual-use materials.

Looking ahead, Dr Mokgadi identifies key priorities for Botswana, including the development of national control lists, conducting simulation exercises for response and emergency preparedness, and strengthening the legal framework and training programmes. Her insights provide valuable guidance for policymakers and practitioners dedicated to safeguarding against the threats posed by CBRN weapons.

DEPUTY DIRECTOR OF THE CBNR WEAPON MANAGEMENT AUTHORITY OF BOTSWANA

To begin with, could you provide our readers with a brief summary of your role as the Deputy Director of the Chemical, Biological, Nuclear and Radiological Weapon Management Authority of Botswana?

My duties and responsibilities are as follows: policy development, which means developing policies, strategies and guidelines related to the prevention of the proliferation of CBRN weapons and materials. This includes ensuring that there is compliance with national and international regulations, such as the United Nations Security Council resolution 1540.

I'm also responsible for developing and coordinating a comprehensive plan and programmes to ensure CBRN weapons management and control measures, and this may involve collaborating with the relevant government agencies, international organizations and other stakeholders to implement effective prevention and response strategies. The Authority monitors and evaluates the effectiveness of the control measures in place with regard to compliance with regulations and standards. We perform regular assessments, inspections and audits to identify areas of improvement. I also ensure that we conduct risk assessments and analyses to identify potential threats and vulnerabilities to CBRN weapons proliferation, so that we identify the gaps that may be present.

I oversee capacity building programmes to enhance the skills of personnel across the whole country who are handling CBRN materials. This includes providing training, technical assistance through international donors where we can, and resources to improve detection, response and recovery capabilities.

Finally, I'm responsible for engaging international cooperation and collaboration, and this may include participating in regional and international initiatives, sharing best practices and exchanging information with other countries and organizations, and most importantly, periodically providing regular reports and updates on CBRN weapons to senior officials, government officials and other relevant stakeholders.

You have a lot of responsibilities that span a broad range of areas, including, as you just mentioned, international cooperation. In this regard, Botswana recently took part in a Workshop on Strengthening Export and Border Controls organized by the Stimson Center and UNODA. Can you tell us more about what the workshop entailed and its outcomes?

In 2022, the Government of Botswana adopted a voluntary national action plan (NAP) on resolution 1540, covering the period from 2022 to 2024. This three-year plan aims to advance the implementation of the resolution, including strengthening export and border control through the development of national control lists and related information, measures and capabilities.

As part of the implementation of this NAP, we initiated a workshop for officials and personnel from regulatory and law enforcement authorities, with the following objectives: first of all, to enhance understanding of the resolution and the provisions relating to border and export control of dual-use items. This includes enhancing understanding of trade in dual-use items globally and regionally and of data sources to identify and quantify trade flows.

The other main objective was to introduce the principles and components of a national export control system and review practices and experiences of other States and regions. We wanted to discuss and determine the actions required to strengthen national border and export control measures, which include laws and regulations, national control lists, institutional mechanisms and enforcement capacity.

And last, but not least, we aimed to adopt a road map to implement identified actions and measures, covering the timelines, roles and responsibilities of the national institutions and our international partners.

The workshop was a well attended and highly successful. We invited the EU and other States, such as Germany and South Africa, who shared their best practices with us. The stakeholders were very satisfied, noting that although we have had other awareness-building workshops, this one was exceptionally high-level with professional and engaging contributions.

> **Botswana has a very comprehensive national action plan, thanks to the assistance that we received from the 1540 Committee.**

A significant issue to tackle during the workshop was Botswana's lack of national control lists for dual-use materials and items. So, we examined how other countries approached this and discussed how we could develop our own list. We wanted all relevant stakeholders to be present at this initial stage so that nobody is left behind. It was well received and we have now mapped a way forward with the next steps.

The workshop was organized through the 1540 Committee's matchmaking mechanism. Can you tell our readers about the experience of requesting assistance through this mechanism: how does it work?

Yes, we used the matchmaking mechanism, but we first made our assistance request from the 1540 Committee in 2020. At that time, we had to specify the assistance that we required. This recent workshop is one of the items we requested, but the matchmaking process started earlier. We have our wish list, if I may call it that, of support that we have requested, and we are checking them off one by one.

So, we requested assistance from the 1540 Committee specifying our needs and challenges . We were not only focusing on resolution 1540, but also looking at other complementary instruments, such as the Biological Weapons Convention, and the Chemical Weapons Convention.

The 1540 Committee engaged with us and came up with a lot of responses to our wish list, which included the drafting of the national control lists and of the national action plan. Botswana is one of the countries that has a very comprehensive national action plan, thanks to the assistance that we received from the 1540 Committee and other relevant international, national and regional stakeholders. We received overwhelming support from UNODA, from the BWC Implementation Support Unit, and also from Kenya and South Africa, who have been very instrumental in our 1540 implementation because they shared their best practices with us.

We have now started engaging in awareness and capacity building activities for resolution 1540 and other complementary instruments as well. We are very pleased to have received a tremendous level of support from the 1540 Committee.

> **It sounds like Botswana's use of the matchmaking mechanism was very successful. Do you have any advice for other States using the mechanism on how to facilitate the process?**

I can advise that they should be specific. I think it is very important to clearly identify and articulate the specific areas where you need assistance, your challenges, and what you expect from the support. Secondly, engage early. You have to begin the process of requesting as soon as possible to allow sufficient time for the matchmaking process.

Thirdly, the most important thing is collaboration. We attend international meetings and we talk to other stakeholders. These are the opportunities for us to network. So, if you collaborate with other potential partners, you can share your experiences.

> **"It is crucial to demonstrate strong commitment and political will at the highest levels of the government for the implementation of resolution 1540."**

And, finally, it is important to follow up. You should maintain regular communication with the assisting country or organization to monitor the process, and this will ensure successful implementation of the assistance provided.

> **This issue of the 1540 Compass focuses on OP 3 (c) and (d) of UNSCR 1540, which relate to border and export control. What are the challenges associated with border and export control in Botswana?**

In Botswana, like in many other countries, we face challenges with regard to export and border control. One of the main challenges is resource constraints, including insufficient funding, human resources and technological resources to enhance border control and physical

security measures, such as surveillance systems, detection technologies, and secure storage facilities.

We also encounter challenges linked to capacity building, such as training programmes, as well as institutional capacities within relevant government agencies. Sometimes, institutions that are supposed to be at the forefront of the implementation of resolution 1540 face challenges in terms of human resources and expertise.

Another challenge is the legal framework. Although we have the laws in place, we still have gaps. One of the biggest gaps is the current absence of national control lists.

Finally, cooperation and coordination are also a challenge among relevant government agencies, such as law enforcement, border security agencies, customs and other regulatory authorities. We need to find a way to enhance information sharing and join efforts to prevent the illicit trafficking of CBRN materials.

What about Botswana's significant milestones or successes in implementing resolution 1540: do you have any best practices or major achievements that you could share with our readers?

The establishment of the Chemical, Biological, Nuclear and Radiological Weapon Management Authority is a significant milestone for Botswana. This national authority was established in 2018, just before COVID-19. It marked a crucial step forward. Prior to this, despite implementing international instruments, such as resolution 1540, the Biological Weapons Convention, the Chemical Weapons Convention and the Treaty on Nuclear Non-Proliferation, Botswana did not have a designated national authority responsible for overseeing these commitments. The creation of this authority, along with the establishment of focal points for all these international instruments, represents a major achievement for us.

Another notable milestone is the development and adoption of our National Action Plan (NAP). We took an inclusive approach, broadening its scope beyond resolution 1540 to encompass other complementary instruments. The NAP clearly outlined our priorities, needs, and the challenges we needed to address.

One of the priorities that emerged from the NAP was the submission of confidence building measures for the BWC, as, for more than 30 years, we didn't submit confidence building measures. Thanks to assistance from the BWC-ISU and the NAP, in 2022, we submitted our first confidence building measures and we have never looked back.

To start with, countries like South Africa and Kenya would present their best practices in the implementation of the BWC and the submission of confidence building measures to us. Their examples inspired us to successfully implement similar measures. Nowadays, we are proud to share our own lessons learned with other countries. We have been training countries, like Namibia, Rwanda and Zambia based on our experience. So, we are very proud to say this was very successful on our part.

© Participation of the 1540 Committee in the National Consultative Workshop on Strengthening Export and Border Controls in Botswana organized by the CBRN Weapon Management Authority of the Republic of Botswana with support of the United Nations Office for Disarmament Affairs and the Stimson Center held on 21-23 May 2024, Gaborone, Botswana.

What are some of Botswana's priorities in the coming years with regard to UNSCR 1540 and non-proliferation more broadly?

Currently, our main priority is the development of the national control lists for dual-use materials and equipment. We have started discussions with other relevant stakeholders to determine the best approach for this task. Another significant priority is conducting a simulation exercise for response and emergency preparedness capabilities. We are currently discussing this as we believe it would be a great opportunity to test the effectiveness of our training programmes. Additionally, we are focused on strengthening our legal framework, expanding training programmes, and acquiring detection equipment to enhance our capabilities. These priorities are essential for ensuring robust measures against the proliferation of CBRN materials and improving our overall security and compliance with international standards.

Finally, based on Botswana's experience, what advice would you give to other States who are in the process of implementing UNSCR 1540?

This is a difficult question as there is no one-size-fits-all approach. However, some key strategies have proven effective for us. Firstly, it is crucial to demonstrate strong commitment and political will at the highest levels of the government for the implementation of resolution 1540. It is essential to ensure that the relevant government agencies are engaged and coordinated. When we started this process, we approached the senior managers and the permanent secretaries to secure high-level buy-in. Once you have support at the highest level, it is easy to cascade it down.

Secondly, I would highly recommend —because this is working for us— developing a national action plan. We have a comprehensive one, which is tailored to our needs and outlines specific measures, with timelines, responsible entities and the resources needed.

And last, but not least, you need to conduct regular risk assessments. Mapping exercises allow you to know what risks exist and what are the most important next steps. Understanding the landscape of potential threats allows for more targeted and effective measures. Implementing these strategies has significantly enhanced our ability to comply with resolution 1540 and address CBRN threats effectively.

INTERVIEW WITH:

Ambassador Taous Feroukhi

Pathways to Peace with Ambassador Taous Feroukhi

Ambassador Taous Feroukhi of Algeria is a seasoned diplomat with a profound understanding of international non-proliferation and disarmament issues. Following her studies at the Université d'Alger, she joined the Algerian Ministry of Foreign Affairs in 1977, where she gained extensive experience in both bilateral and multilateral diplomacy, covering areas such as protocol, consular and legal affairs. Her expertise led to significant roles, including serving as Deputy Permanent Representative of Algeria in Geneva, Switzerland, and as the first female Permanent Representative of Algeria to the UN Office in Vienna, Austria, and the first female Ambassador of Algeria to Slovakia, and Spain.

But perhaps most notable of all is her leadership in international nuclear issues. Ambassador Feroukhi presided over the 2015 Review Conference of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), and has also held key positions including the presidency of the Preparatory Commission of the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) and the Board of Governors of the International Atomic Energy Agency (IAEA). These roles have equipped her with a comprehensive perspective on global non-proliferation efforts and the critical importance of international legal instruments in promoting disarmament.

During this interview, Ambassador Feroukhi discusses the complementary roles of United Nations Security Council resolution 1540 (UNSCR 1540) and the NPT in enhancing global security. She highlights Algeria's achievements and priorities in non-proliferation, emphasizing the nation's commitment to disarmament and the establishment of Nuclear-Weapon-Free Zones. Through her extensive diplomatic experience, Ambassador Feroukhi underscores the vital role of international cooperation in addressing the challenges of nuclear proliferation and advancing global disarmament initiatives.

How did you approach the presidency of the 2015 NPT Review Conference? What were the main outcomes from the event?

My approach to the Conference was based on trust and confidence of State parties' commitment to reaching a successful outcome of the 2015 NPT Review Conference, as a contribution to the preservation of international peace and security.

Concretely, an intensive programme of work was prepared by the Secretariat of the UN Office for Disarmament Affairs (UNODA) for the period 2014–2015, with the able assistance of Mr Thomas Markram, Secretary General of the 2015 NPT Review Conference. The programme of work consisted of meetings with regional groups, bilateral talks, several seminars and events[1] that allowed interactive exchanges on the three interdependent pillars of the NPT, namely: non-proliferation, nuclear disarmament and promotion of peaceful uses of the atom.

This said, it's important to mention the context in which the 2015 NPT Review Conference took place. Unfortunately, renewed tensions, particularly among key actors, were palpable from the commencement of the Conference. Public accusations[2] were exchanged, for the first-time, by the heads of delegation from the United States and the Russian Federation. In addition, expectations were very high regarding the implementation of Article VI of the Treaty (nuclear disarmament) amid the emergence of the "Humanitarian Impact" process, which gave a new sense of urgency to nuclear disarmament; and the 1995 Resolution[3] calling for the Establishment of a Middle East Zone Free of Nuclear Weapons and Other Weapons of Mass Destruction.

Despite entrenched positions and the lack of coordination among key actors that prevented the emergence of the spirit of compromise, the Conference was able to produce a draft final document covering all the three pillars of the Treaty. This document looked at both parts of the Review: the backward-looking part (implementation of past commitments) and the forward-looking part (future measures for the next quinquennial review cycle) with the following results:

- Universality of the NPT: Accession of the State of Palestine to the Treaty, raising the NPT's total membership to 191 nations;
- Nuclear disarmament: Seven new agreed measures for implementation under Article VI of the NPT;
- Non-proliferation and promotion of peaceful uses of nuclear energy: Renewed commitments for the fulfilment of State parties' undertakings in these two pillars of the Treaty;
- The 1995 Resolution on the Middle East: New approach for its implementation entrusting the UN Secretary General to convene a Conference on the Middle East in 2016.

1 Regional groups: The Non-Aligned Movement; the African, Asian and Latin American Groups; the Arab Group, as well as the Western and Eastern Groups. Bilateral talks: with heads of non-proliferation and arms control from China, France, Japan, the Russian Federation and the United States, including visits to Hiroshima and Nagasaki. Seminars: in Algiers in cooperation with the European Consortium, in Nancy (France) and Glyon (Switzerland), under the leadership of the Monterey Institute. Events: with vibrant civil society, including with the Hibakushas, the victims of nuclear bombing of Hiroshima and Nagasaki.

2 The US delegation accused Russia of violating the Intermediate-Range Nuclear Forces Treaty (INF) and the Budapest Memorandum. The Russian delegation denounced the US and NATO countries for pursuing the "nuclear sharing policy," which undermines the NPT.

3 NPT/CONF.1995/32 (Part I), Annex.

Regrettably, the three co-sponsors of the 1995 Resolution[4] did not show the political will necessary to coordinate efforts to reach an agreed text on the Middle East, a region that had already seen a disproportionate number of NPT verification and compliance issues.

The opposition of the United States to the text of the President, which was based on previous discussions and views expressed by the majority of State parties, caused the collapse of the Conference.

What are the key obligations of State parties under the NPT, and how do these differ from the obligations imposed by UNSCR 1540?

As a starting point, it's important to recall that the NPT is a treaty which has been negotiated by all States parties, then signed and ratified voluntarily, whereas UNSCR 1540 is an obligation imposed on Member States by the UN Security Council.

NPT key provisions: State parties to the NPT have committed not to assist, encourage or induce, in any way, a non-nuclear weapon State to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices.

Article III of the NPT requires each non-nuclear weapon State party to enter into a comprehensive safeguards agreement with the IAEA. In doing so, non-nuclear weapon States accept to give up part of their sovereignty to the IAEA, as the international safeguards inspection body, entrusting it with the responsibility of control and verification of compliance with the Treaty's obligations.

In addition to this obligation, the voluntary adoption of the Model Additional Protocol provide the Agency to have broader access to sites and information, in order to detect undeclared nuclear materials and activities and give additional assurances that States are complying with the safeguards.

The IAEA can engage the responsibility of a State in the event of breach or violation of the safeguards and refer the case to the UN Security Council.

UNSCR 1540 obligations: Adopted under chapter VII of the UN Charter, the resolution was conceived in the context of September 11 terrorist attacks in order to address the issue of non-State actors,[5] as they are not recognized as subjects of international law.

In accordance with the resolution, States have a legal obligation to take measures in domestic law to criminalize the possession, manufacture or use of nuclear, chemical or biological weapons by non-State actors.

In terms of key differences between the NPT and resolution 1540, under the resolution, the scope of the fight against nuclear proliferation is enlarged to include biological and chemical weapons. States are also requested to legislate

4 The three co-sponsors of the 1995 Resolution: the Russian Federation, the United Kingdom and the United States.

5 Non-State actors are defined as any natural person or legal entity that, not acting under the legal authority of a State, carries out illicit activities enshrined in resolution 1540. It is not focused solely on armed terrorist groups, but on all types of non-State actors.

with regard to vectors[6] of such weapons under the resolution. Additionally, the resolution addresses the lack of a universal international export control regime.

The UN Security Council established the 1540 Committee, composed of its 15 members, with the aim to assist States in the implementation of the provisions of the resolution. The Committee is not a sanctions committee nor a verification or investigation body. The 1540 Committee cannot engage the responsibility of a State in the event of a violation of the obligations recognized by resolution 1540.

Since 2016, States are invited to present to the Committee, on a voluntary basis, a "national implementation action plan," listing the priorities and the projects they have established to implement the main provisions of the resolution.

In your opinion, which aspects of UNSCR 1540 are most important for the Algerian context?

Algeria welcomes all efforts aimed at enhancing the global non-proliferation regime and nuclear disarmament norms, as a contribution to preserving international peace and security. UNSCR 1540 is considered to be a complement to the State's efforts vis-à-vis their obligations under international treaties.

The Algerian approach to non-proliferation, which encompasses UNSCR 1540 provisions, is rooted in the mutually reinforcing three pillars of nuclear disarmament, non-proliferation and promotion of peaceful uses of nuclear energy. This position is in coherence with the fulfilment of my country's obligations under the NPT, the comprehensive safeguards agreement and Additional Protocol in force with the IAEA, the Comprehensive Test Ban Treaty (CTBT), the Biological and Chemical Weapons Conventions, and UNSCR 1540 provisions.

As regards the implementation of UNSCR 1540, the assessment of the 1540 Committee of the State's national reports showed that the risk of a non-State actor obtaining a nuclear weapon remains low, with likelihood concerning biological and chemical weapons. The 1540 Committee also warned that only few countries have established provisions in the area of nuclear, biological and chemical weapon vectors.

This said, I wish to share my experience as President of the 2015 NPT RevCon, during which I heard the profound dissatisfaction expressed by the overwhelming majority of States parties regarding the expansion of obligations under the non-proliferation regime, in contrast with the unimplemented past commitments[7] regarding Article VI of the Treaty (nuclear disarmament).

At the same time, I also witnessed strong and enthusiastic support for the "Humanitarian Impact" process, which gave a new sense of urgency to nuclear disarmament. This culminated

6 The term "nuclear, chemical or biological weapons" is not defined in the resolution; the resolution does not include radiological weapons, neither the term weapons of mass destruction. However, it defines the term "vectors", which include missiles, rockets, and other unmanned systems capable of delivering nuclear, chemical or biological weapons to their targets and specially designed for this use. This excludes ballistic missiles carrying a conventional warhead.

7 The 13 steps adopted at the 2000 NPT Review Conference presided by my compatriot, Ambassador Abdallah Baali, and the action plan endorsed by the Parties at the 2010 NPT RevCon chaired by Ambassador Cabactuclan (Philippines).

with negotiations, outside the NPT framework, of a legally binding instrument: the Treaty for the Prohibition of Nuclear Weapons (TPNW), which entered into force on 22 January 2021.

Reflecting on the achievements of UNSCR 1540 and the NPT over the years, what do you consider to be the most significant milestones or successes in preventing the proliferation of weapons of mass destruction and their means of delivery in Algeria?

Undoubtedly, the implementation of obligations under the NPT and UNSCR 1540 —which should be considered as work in progress— helped to raise awareness in the field of nuclear disarmament and non-proliferation, including on risks and threats posed, to both humankind and the planet, by the use of nuclear weapons and other weapons of mass destruction.

In a context of global geopolitical shift, international treaties remain solid bases for sharing common understanding on ways and means to prevent catastrophic consequences of States' inaction with regard to the preservation of peace and security worldwide.

The other merit of international treaties lies in the incentive to join efforts at national, regional and international levels. As a result, international cooperation is enhanced through efficient partnerships in areas such as exchange of information, capacity building, and awareness raising, including on emerging threats.

The proliferation of nuclear weapons is virtually non-existent in Algeria and in the African region, thanks to the adherence of the overwhelming majority of African nations to the NPT and international legal instruments, in addition to the entry into force of the Pelindaba Treaty establishing Africa as a Nuclear-Weapon-Free Zone.

African countries suffering from armed conflicts, particularly in the Sahelian region, are in urgent need of bold assistance and sustained cooperation for the restauration of peace and security. Rather than non-proliferation, the key priorities of this region remain conflicts resolution, socioeconomic development, fight against violent terrorist groups and their criminal activities such as drug trafficking, illegal migration, trafficking in human beings and trafficking of small arms.

Do you believe these international legal instruments can help mitigate current WMD risks?

There is no viable alternative to these international legal instruments, including the recent Treaty for the Prohibition of Nuclear Weapons, except the most logical and viable means of mitigating the dangers of weapons of mass destruction, namely, the realization of a world free of nuclear weapons.

In the meantime, the merit of treaties is that they open avenues for building up human and technical capabilities, exchange of knowledge, experience and best practices among experts and nations, as a contribution to mitigating risks and threats of proliferation of nuclear, biological and chemical weapons. Moreover, international legal instruments can also help tackle new challenges of technological advances and emerging threats, including the risk of new pathogens becoming a source of global pandemics (i.e.,

COVID-19).

However, concern exists regarding multilateral export control arrangements adopted by some countries[8] imposing restrictions beyond the NPT, Chemical and Biological Weapons Conventions. It is feared that they could favour, on one hand, the fragmentation of the global non-proliferation and disarmament regime;[9] and, on the other hand, the erosion of the authority and credibility of the NPT due —among other factors— to:

- the persistent impasse facing Article VI of the Treaty (nuclear disarmament) that lacks any deadline for elimination of nuclear weapons, in addition to the absence of any verification mechanism of the fulfilment of the obligation by nuclear weapon States.

- the unimplemented 1995 Resolution calling for the establishment of a Nuclear-Weapon-Free Zone in the Middle East.

In your opinion, how can regional perspectives and expertise be better implemented in the efforts to prevent WMD proliferation?

Article VII of the NPT clearly refers to regional dimension, as groups of States are entrusted with the right to conclude regional treaties establishing Nuclear-Weapon-Free Zones. Regional efforts preventing the proliferation of WMDs are mutually reinforcing international efforts within global nuclear non-proliferation and disarmament norms, in preparing for a world free of nuclear weapons.

In this context, five treaties on regional Nuclear-Weapons-Free Zones have been created, covering Latin America and the Caribbean, the South Pacific, Southeast Asia, Central Asia, and Africa[10] (Algeria played prominent role in the negotiation of the Pelindaba Treaty establishing a Nuclear-Weapon-Free Zone on the African continent).

Mongolia's self-declared nuclear-weapon-free status has been recognized internationally following the adoption of UN General Assembly resolution 55/33S on "Mongolia's international security and nuclear weapon free status." It is also important to recall the other treaties which deal with the denuclearization of certain areas.[11]

In accordance with the provisions of the NPT, States parties to a Nuclear-Weapons-Free

8 The Missile Technology Control Regime (MTCR, 1987) with a number of agreements on export of equipment, components, and technology for delivery systems of chemical, biological and nuclear weapons. The Wassenaar Arrangement (WA, 1995) with a number of agreements on conventional weapons between the NATO States, Russia and a number of Eastern European countries on arms transports and prevention of accumulation of weapons. The Nuclear Supply Group (NSG, 1976): a number of industrialized countries established a consultative group on additional control measures preventing proliferation of nuclear goods and technologies for nuclear and radiological weapons.

9 Such was the case with the collapse of a decade of negotiation on the Protocol for Biological Weapons Convention in Geneva between 2001–2002. Under the said Protocol, it was envisaged to establish a verification mechanism for enhancing non-proliferation and disarmament of biological weapons.

10 The Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (Treaty of Tlatelolco, 1967); South Pacific Nuclear Free Zone Treaty (Treaty of Rarotonga, 1985); Treaty on the Southeast Asia Nuclear Weapon-Free Zone (Treaty of Bangkok, 1995); African Nuclear-Weapon-Free Zone Treaty (Treaty of Pelindaba, 1996); Treaty on a Nuclear-Weapon-Free Zone in Central Asia (Treaty of Semipalatinsk, 2006).

11 Antarctic Treaty; Outer Space Treaty: Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies; Moon Agreement: Agreement Governing the Activities of States on the Moon and Other Celestial Bodies; Seabed Treaty: Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor and in the Subsoil Thereof.

Zone treaty or convention are committed to ensure "the statute of total absence of nuclear weapons to which the zone shall be subject, including the procedure for the delimitation of the zone and international system of verification and control to guarantee compliance with the obligations deriving from that statute." Consultations are needed with nuclear-weapon States during the negotiations of each treaty and its relevant protocol(s) establishing a Nuclear-Weapons-Free Zone, in order to facilitate their signature and ratification. Through this process, nuclear-weapon States undertake legally binding commitments to the status of the zone and to not use or threaten to use nuclear weapons against States parties to the treaty (negative assurances).

In my capacity as President of the 2015 NPT RevCon, I witnessed strong frustrations in relation to the absence of implementation in good faith of the 1995 Resolution for the establishment of a Nuclear-Weapons-Free Zone in the Middle East[12] as Arab countries agreed to the indefinite extension of the NPT, and hence for their adherence to the Treaty.

At the regional level, the EU launched a global initiative in 2010 to promote: chemical, biological, radiological and nuclear (CBRN) risk mitigation and security governance as a contribution to the promotion of peace, stability and conflict prevention.

The initiative consists of the establishment of Centres of Excellence (CoE) in partner countries, involving 64 countries in the following eight regions: African Atlantic Façade; North Africa and the Sahel (Algeria host the Centre of Excellence of this region); Central and Eastern Africa; Middle East; Gulf Cooperation Council; Central Asia; South East Asia; South East and Eastern Europe.

> **International treaties remain solid bases for sharing common understanding on ways and means to prevent catastrophic consequences of States' inaction with regard to the preservation of peace and security worldwide.**

Funded and implemented through the Neighbourhood, Development and International Cooperation Instrument (NDICI) – Global Europe, this global initiative is led by the European

12 The 1995 Resolution, co-sponsored by the Russian Federation, the United Kingdom and the United States, calling for the establishment of a Zone free from nuclear weapons and other arms of mass destruction in the region of the Middle East, was adopted as an integral part of the package agreed for the indefinite extension of the NPT at the 1995 Review and Extension Conference.

Commission's Service for Foreign Policy Instruments (FPI), in close coordination with the European External Action Service (EEAS). The European Commission's Joint Research Centre provides technical support to partner countries, while the United Nations Interregional Crime and Justice Research Institute (UNICRI) ensures effective national, regional and international cooperation through a wide range of CBRN risk mitigation projects, including needs and risk assessments, national and regional action plans, capacity building activities and legal framework reviews.

What are some of Algeria's priorities in the coming years with regard to non-proliferation?

Algeria is attached to the realization of a world free from nuclear weapons and other weapons of mass destruction in compliance with its obligations under international treaties.

In this regard, the accountability of States regarding their undertakings vis-à-vis international legally binding instruments is key for the preservation of their authority and credibility, as they remain the cornerstone for the preservation of international peace and security.

The devastating ongoing war in Gaza gives a new sense of urgency to the establishment of the Nuclear-Weapons-Free Zone in the Middle East. In this regard, the UN involvement in the 1995 Resolution could be perceived as means to find a solution to the entrenched positions: "disarmament first" or "peace first".

In this context, there is a need for the establishment of an organic link between the UN process and the NPT review process in order to ensure the required complementarity on the awaited implementation of the 1995 resolution, which remains the primary focus for the NPT.

Lastly, do you have any advice to share with our readers from your impressive international career?

Major actors have a key role in boosting the health and vitality of international treaties, as they have the political, financial and technological means to reach constructive and balanced outcomes in the implementation of the interdependent areas of non-proliferation, nuclear disarmament and peaceful uses of the atom.

In the meantime, international treaties encourage States to enter into a binding legal obligation for systematic and progressive efforts in these three pillars in preparation for a world free from these lethal arms.

Positive prospects are expected for international cooperation in the area of peaceful uses of the atom, as nuclear energy becomes a credible option in the context of the energy and climate crisis. This development could pave the way for increased financial resources in crucial areas such as medicine and agriculture to help non-nuclear weapon States achieve their Sustainable Development Goals.

INTERVIEW WITH:

Ambassador José Javier De La Gasca

PART 2

Charting the Path to Non-Proliferation: Ambassador De La Gasca's Insights on UNSCR 1540

In the first issue of the 1540 Compass, published in April this year, the first part of a two-part interview series with the current Chair of the 1540 Committee, Ambassador José Javier De La Gasca, was featured. Speaking in his national capacity as Permanent Representative of Ecuador to the United Nations, Ambassador De La Gasca offered invaluable insights into the achievements of United Nations Security Council resolution 1540 (UNSCR 1540). He also reflected on the immediate priorities of the 1540 Committee during his tenure, which commenced in December 2023 and is set to conclude in December this year.

In this second instalment, Ambassador De La Gasca outlines the challenges faced by Member States in implementing the resolution, particularly due to financial and technical constraints and the tension between security measures and economic interests. Looking to the future, he underscores the need for continued support, tailored dialogue, and engagement among Member States to ensure the effective implementation of non-proliferation measures.

The reflections shared by Ambassador De La Gasca over this two-part series serve as a reminder of the critical role international collaboration plays in achieving a safer world free from the threat of proliferation of weapons of mass destruction (WMDs).

CHAIR OF THE 1540 COMMITTEE, SPEAKING IN HIS NATIONAL CAPACITY

> In Asia in the 80's, many States transitioned from developing to developed countries by manufacturing electronic dual-use components within strong export control standards.

As the current Chair of the 1540 Committee, can you share some insights into the challenges and obstacles faced in mobilizing international cooperation towards non-proliferation goals?

I think that, among the core issues, there is first a challenging balance between national security priorities and the economically and financially stressed contexts often faced by Member States. As mentioned in the conclusion of the 2022 Comprehensive Review, the Committee noted that some Member States have indicated that they have experienced difficulties in the full implementation of the resolution due to, *inter alia*, the lack of adequate financial resources, technical expertise, legal frameworks and enforcement capabilities. The 2022 Comprehensive Review recognizes the particular assistance needs of developing countries and, in particular, least developed countries.

In addition, as you know, resolution 1540 (2004), in its preamble, affirms that the prevention of the proliferation of nuclear, chemical and biological weapons should not hamper international cooperation in materials, equipment and technology for peaceful purposes. Equally, the goals of peaceful utilization should not be used as a cover for proliferation. Nevertheless, I suspect that the implementation of resolution 1540 (2004) is considered by many States as

an additional constraint in commercial trade, for example, by imposing extra delays with regard to controls management.

In that context, I am pleased to note that, at national and regional events related to resolution 1540 (2004), there is a growing number of interventions by many international stakeholders —including NGOs and academia— highlighting opportunities to implement the resolution's security requirements that, in turn, attract business investments in such countries. For example, in Asia in the 80's, many States transitioned from developing to developed countries by manufacturing electronic dual-use components within strong export control standards. I would add that, in the post-COVID-19 global concerns, Member States can benefit from putting in place the domestic security controls required under resolution 1540 (2004) that can also have a positive impact on sanitary issues.

Because resolution 1540 (2004) imposes what to do, but not how to implement, it is, in my view, of high importance that, as recommended in the 2022 Comprehensive Review, the Committee should continue to support Member States in promoting the adoption, full implementation and, where necessary, strengthening of multilateral treaties whose aim is to prevent the proliferation of nuclear, biological or chemical weapons. States should be encouraged to fulfil their commitment to multilateral cooperation, in particular within the framework of the Treaty on the Non-Proliferation of Nuclear Weapons, the Chemical Weapons Convention and the Biological Weapons Convention, as important means of pursuing and achieving common objectives in the area of non-proliferation and of promoting international cooperation for peaceful purposes.

From your perspective, what are the most pressing gaps or deficiencies in the current global framework for preventing the proliferation of WMDs, and what steps do you believe are necessary to fill those gaps?

The overall framework is robust, especially when considering the many treaties and conventions surrounding WMD-related material controls, and, especially, of the voluntary arrangements mentioned previously, as well as UNSCR 1540. To be sure, different States have different opinions as to which aspects of the framework should be obligatory that are not, or that should be voluntary, but are not. States will also differ over which areas of the framework might require further elaboration or delineation. But, the overall structure is there. Instead, and here I think my colleagues on the Committee would agree, the "gaps or deficiencies", as you put it, really have more to do with the pace at which States are able and willing to implement obligatory provisions, such as those found in UNSCR 1540, and voluntary ones, many of which can likewise be found in the resolution.

For a preliminary understanding of which steps might be taken, I would commend to your readers the Committee's Comprehensive Review, which was concluded in 2022.

Of course, no list of gaps or steps to address them can be fully comprehensive, since no one can ever have a comprehensive understanding of the threats that await us as regards the proliferation of WMDs and their means of delivery. But, this approach can help educate all of us as to the main areas of work requiring our further attention.

> **The overall framework is robust, especially if one takes account of the many treaties and conventions surrounding WMD-related material controls.**

Considering the diverse geopolitical landscape and varying levels of capacity among Member States, how do you balance the need for a tailored approach to non-proliferation efforts with the imperative of maintaining a cohesive and unified front against WMD proliferation?

While the Security Council, in resolution 1540 (2004) operative paragraph 8, calls upon all States to promote universal adoption and full implementation, the 2022 Comprehensive Review recognizes the continuing need for a tailored dialogue with and among States on the implementation of resolution 1540 (2004). The Committee encourages the exchange of information on effective practices, including through peer reviews and meetings of States. The Committee will continue its direct engagement with States, upon invitation, to discuss implementation measures, and optimize the use of the resources at its disposal to facilitate prompt and effective responses to assistance requests.

Resolution 2663 (2022), in its preamble, acknowledges the importance of improving the 1540 Committee's outreach, dialogue and collaboration with regional and subregional organizations, recognizing the role they can play in facilitating the implementation of resolution 1540 (2004) and formulating tailored assistance requests. In its operative paragraph 10, the resolution stresses the importance of tailored dialogue and engagement with Member States, that recognizes the "specificity"[1] of States with regard to implementation and reporting. It also stresses the need to improve the development of customized assistance for effective implementation of resolution 1540 (2004).

1 The term "specificity" in this case is used to denote national circumstances that might prompt States to prioritize implementation tactics based upon the proliferation risks they perceive in relation to UNSCR 1540 operative paragraph 3. For example, a small country that has foresworn nuclear weapon development and possesses no explosive or "fissile" nuclear materials might focus its efforts on the protection of other WMD-related material assets. This is not to say that any State would necessarily wish to ignore the threat posed by a non-State actor that may wish to use nuclear weapons on their territory or to trans-ship these weapons or related materials across their territory. But, it does suggest that it would prioritize other potential threats ahead of threats related to the protection of fissile materials.

With advancements in technology and the increasing interconnectedness of global systems, how has the nature of WMD proliferation evolved since the adoption of UNSCR 1540?

As mentioned in the 2022 Comprehensive Review, at the request of the Security Council in resolution 2325 (2016), the Committee continued to take note in its work, where relevant, of the continually evolving nature of the risks of proliferation of nuclear, chemical and biological weapons, their delivery systems, and related materials, equipment and technology, including the use by non-State actors of rapid advances in science, technology and international commerce for proliferation purposes, in the context of the implementation of resolution 1540 (2004). Member States were also called upon to take into account developments on the evolving nature of risk of proliferation and rapid advances in science and technology in their implementation of resolution 1540 (2004), and the Committee participated, within the scope of its mandate, in events organized by Member States that involved discussions by organizers and other participants on these topics. Furthermore, the Security Council also reaffirmed that the prevention of proliferation should not hamper international cooperation in materials, equipment and technology for peaceful purposes, while goals of peaceful utilization should not be misused for proliferation purposes.

In the follow up, in the preamble of resolution 2663 (2022), the Security Council stated it remains gravely concerned by the threat of terrorism and the risk that non-State actors may acquire, develop, traffic in or use nuclear, chemical, and biological weapons and their means of delivery, and related materials, including by using the rapid advances in science, technology and international commerce to that end. Then, operative paragraph 14 "again calls upon States to take into account developments on the evolving nature of risk of proliferation and rapid advances in science and technology in their implementation of resolution 1540 (2004)" and operative paragraph 15 "reiterates it[s] request to the 1540 Committee to take note in its work, where relevant, of the continually evolving nature of the risks of proliferation, including the use by non-State actors of rapid advances in science, technology and international commerce for proliferation purposes, in the context of the implementation of resolution 1540 (2004)."

The current Programme of Work reflects that the Committee will take note, as appropriate, of the continually evolving nature of the risks of proliferation, including as a result of rapid advances in science and technology, in the context of the implementation of resolution 1540 (2004).

As you can see, the Committee answers questions about how the threat of WMD proliferation has evolved using the voice of States when they voluntarily report on the measures they take to address the threat. It is thus important for your readers to understand that while we make sure we are listening to the UN and other international organizations mandated to assess threats both through their official communications and by attending regional and sub-regional events, the 1540 Committee issues no assessment as to the comparative proliferation risks posed by existing, evolving or so-called "emerging" technologies.

Looking ahead, what do you see as the most critical priorities for the 1540 Committee in the coming years, and how do you plan to mobilize support and resources to address these priorities effectively?

The 2022 Comprehensive Review stated a need for a comprehensive approach to the implementation of the resolution across all weapon types, while also acknowledging that the highest number of measures were recorded in relation to nuclear weapons and related materials, followed by chemical weapons and related materials, and then by biological weapons and related materials. It also recommended that the regional approach should continue to be pursued, where appropriate, notably through the programmes of assistance by regional and subregional organizations, as well as through the sharing of best practices, including by Member States within a given region, which could help customize assistance to Member States and utilize the expertise available in the regions.

Resolution 2663 (2022), in its operative paragraph 12, "reiterates its decision that the 1540 Committee shall continue to intensify its efforts to promote the full implementation by all States of resolution 1540 (2004), through its annual Programme of Work, which includes the compilation and general examination of information on the status of States' implementation of resolution 1540 (2004) and addresses all aspects of paragraphs 1, 2 and 3 of that resolution, particularly noting the need for more attention on: enforcement measures; measures relating to biological, chemical and nuclear weapons; proliferation finance measures; accounting for and securing related materials; and national export and trans-shipment controls".

In the framework of its Programme of Work, the Committee is then considering a set of activities addressing important matters to support the implementation of resolution 1540 (2004) by Member States. As regards your question's emphasis on identifying priorities for work to take place beyond the current year, the Committee is discussing the development of a multi-year programme of outreach to Member States. The Committee will also continue to consider the format, scope and topics of voluntary technical guides, including implementation guidelines or other appropriate documents, which Member States could take into consideration in their implementation of resolution 1540 (2004). Finally, the Committee will make its expertise available, at States' request, to support Member States in preparing, on a voluntary basis, national implementation action plans to map out their priorities and plans for implementing the key provisions of the resolution over multi-year periods.

> **"The regional approach should continue to be pursued, where appropriate."**

INTERVIEW WITH:

Thomas Wuchte

UNSCR 1540: Keeping the Momentum Going

For this second issue of the *1540 Compass,* the editorial team had the opportunity to correspond with Thomas Wuchte —an influential figure in the implementation of United Nations Security Council resolution 1540 (2004) (UNSCR 1540)— for this interview. Mr Wuchte served as the US 1540 Coordinator from 2006–2012, during which time he acted as part of the US delegation. He received the US Department of State's highest award for Excellence in International Security Affairs for these collaborative efforts.

After leaving the Department of State, he went on to work for the Organization for Security and Co-operation in Europe (OSCE) in Vienna, Austria, where he also led counterterrorism efforts for the 57 participating States, followed by serving as the Head of the International Institute for Justice and the Rule of Law (IIJ) in Valletta, Malta. At present, he is the Founder of the Center for Multilateral Leadership, based in Washington DC and Bangkok.

US 1540 COORDINATOR FROM 2006–2012

You have significant experience with the implementation and development of UNSCR 1540. What was your role?

I served as the US Special Coordinator for UNSCR 1540 from soon after its adoption until 2012. In 2011, as part of the US delegation, I pressed for a longer extension of the mandate of the 1540 Committee and its Group of Experts so the Committee could prioritize moving forward. With the support of other delegations, I took the lead to draft UN Security Council resolution 1977 (2011) (UNSCR 1977). This was a somewhat unusual step ahead of the UN Missions, but it produced a strong first draft that we then turned to the UN Security Council delegations to put in "blue."[1] Resolution 2663 (2022)[2] carries much the same language for another 10 years.

Can you tell us more about the impact and outcomes of UNSCR 1977?

Delegations were very satisfied with the outcome of UNSCR 1977. The new extended mandate allowed the Committee, working within the Security Council, to focus on more practical steps and longer-range planning. Instead of being driven to justify its existence every couple of years, the Committee could look at ways to improve its effectiveness over an extended timeframe, subject to a full review every five years. The authors of the resolution were not looking for dramatic change, but rather steady improvement, building upon the strengths of the Committee and the 1540 Group of Experts to:

- build awareness of 1540 obligations through outreach to States and making information widely and directly available, through international and regional forums, workshops, meetings, briefings, and through its website;
- engage with a broadening range of international and regional organizations, whose mandates relate to the goals of 1540 implementation. This has succeeded well in establishing regular points of contact and useful cooperation with these organizations, which are normally closer to their members' regional or functional needs than the Committee. They are extremely valuable forums for sharing of information and best practices, and for encouraging cooperation among members;
- facilitate assistance to Member States that ask for it. This can include expert advice on the obligations of the resolution, information sharing regarding effective practices used by other countries, and acting as a clearing house to match up requests for technical assistance with offers of assistance from Member States or organizations.

In each of these areas, the Committee performed well. We can see that the extended mandate led the Committee to examine ways to become more efficient and leverage cooperation with other organizations (UN committees, international, regional, and subregional organizations (IROs), and civil society groups) to achieve better results.

1 When a draft resolution is "put in blue" at the Security Council, it means that it is in the final stages of negotiation before it will be put to a vote.

2 UNSCR 2663 (2022) was the most recently adopted resolution in the context of UNSCR 1540, which extended the mandate of the 1540 Committee for another 10 years, until 2032.

> **Resolution 1540 is about raising the bar of standards and not pointing fingers.**

What was it like negotiating UNSCR 1977 from the side of the US delegation?

Maybe the most positive aspect of the negotiations on UNSCR 1977 was the absence of challenges to the legitimacy of resolution 1540. There was no question of whether to renew the Committee's mandate, only on the duration and how specific to make the directions to the Committee. Some States — particularly those which had not been closely involved with the Committee's progress over the early years— remained cautious about giving the Committee too much leeway and wanted to be sure that it did not become a tool for enforcing compliance or naming and shaming States that perhaps lacked the capacity to fully implement resolution 1540 domestically. But, that, in my view, has never been the purpose of the 1540 Committee.

Why? What would you say is its purpose?

I like the phrase that resolution 1540 is about raising the bar of standards and not pointing fingers. I think this reflects the track record of the Committee since 2011. It has proven its value to the international community, as a facilitator rather than an enforcer. That has proven a successful approach and has obviously won the support of all the Council Members, as well as many countries, and international and regional organizations which have made clear their support. I think it is fair to say that the approach has achieved unparalleled recognition as an important component of the global counterterrorism and non-proliferation architecture. You can say "resolution 1540" to many people and their eyes brighten with recognition. You can only say this about a handful of UNSCRs.

In your opinion, what is the most important function of UNSCR 1540?

The most important emphasis, of course, is on assisting Member States to build capacity to meet their obligations in terms of strategic trade controls.[3] All the areas I mentioned earlier contribute to this, but especially the third (assistance). The 1540 Committee, in cooperation with

3 Mr Wuchte provides a more detailed analysis in Arms Control Today on the topic of strategic trade controls. See *Arms Control Today*, Volume 54 (Number 6), July/August 2024.

> **Maybe the most positive aspect of the negotiations on UNSCR 1977 was the absence of challenges to the legitimacy of resolution 1540. There was no question of whether to renew the Committee's mandate, only on the duration and how specific to make the directions to the Committee.**

the UN Office for Disarmament Affairs (UNODA), remains an unusual UN Security Council organization, above all because of this implementation emphasis. Therein lies its greatest strength and one of the reasons it has received such wide support.

What about its greatest challenges?

Implementation resources remain the greatest challenge, as they are the driver of sustainable capacity-building. Current global instability pressures such resources because they are often from similar funding sources. In 2024, the 1540 Committee has reached its 20th anniversary and remains supported by a small Group of Experts provided by the UN Secretariat, who have now been officially mandated by the Security Council once again with the latest resolution, UNSCR 2663. I think there will be ways to organize and coordinate their work to even greater effect outside New York. That said, the Committee's role is above all as a facilitator and a connector that may consider its own sunset. This does not require the Committee's own resources to be very large or even to remain, because most work is expected to be done via assistance efforts that the Committee can now let UNODA help to line

up, without overseeing the work itself. For that, donations of assistance —funding and in-kind contributions of expertise from Member States, organizations, even private entities— remain the key.

UNSCR 2663, adopted in November 2022, provides another 10 years like UNSCR 1977. At the time, in 2011 as the lead drafter for UNSCR 1977, I started with no time limit and welcomed a sunset clause to eventually integrate the 1540 Committee and its Group of Experts into a steadier role with UNODA. It will be almost 30 years in 2032 and forever committees are not necessary with successful knowledge transfer and sufficient human resources in countries most at risk. I envision the 1540 Committee ending. My views on the entire UN counterterrorism architecture have evolved significantly, and I see that a peace and security dividend will only be reached by reviewing these Security Council counterterrorism committees and establishing Secretariat-run efforts such as the UN Office of Counter-Terrorism (UNOCT) and UNODA.

Returning to an earlier point, it is visionary to turn words into action, and to turn action into partnership. Weapons of mass destruction (WMD) terrorism and our collective efforts do fit into a broader UN counterterrorism framework and after nearly 20 years we can reflect how this partnership has grown. I remain disappointed that there is resistance to a UNODA implementation guide and discussing more technology like artificial intelligence, blockchain and biological advances; Member States want to know how to achieve success. If implementation guidance remains elusive for another 10 years or, in 2032, rolls over once again in the Security Council, this is another point for consideration on what the role of the Security Council should be going forward.

Based on your extensive experience, do you have any advice to improve the work of those charged with maintaining UNSCR 1540's relevance in today's mix of global priorities??

In reflection, I challenge readers of this new e-journal to consider whether what we need today is more and more capacity-building by largely Western-led experts, or should we rethink our approach to the emerging challenges ahead by integrating capacity-building with efforts to fund local human resource capacity for developing countries to address the conditions conducive to terrorism. Consider focusing the Security Council more on non-traditional threats such as climate change and disease outbreaks, even while retooling our collective counterterrorism and non-proliferation efforts to be leaner, more geographically disbursed, and leaving the empowerment and funding of UNSCR 1540 to the local level, this is in large part the approach that will lead us into the future. This "little engine"[4] will keep chugging along if we empower decentralized efforts.

Anything you would like to add?

Congratulations to UNICRI for this second issue of the *1540 Compass* and to those who paved its way!

4 *The Little Engine That Could* is an American folktale known in the United States as a story used to teach the value of optimism and hard work.

TOWARDS THE NEXT DECADE: WORKING TOGETHER FOR BETTER IMPLEMENTATION OF UNSCR 1540 IN AFRICA

© Guillaume Bolduc - Border and export controls are one of the most obvious mechanisms through which proliferation risks can be limited

ABSTRACT

April 2024 marked 20 years since the adoption of UN Security Council resolution (UNSCR) 1540. And, while it is a time for marking milestones on what the resolution has been able to achieve, it is also a time calling for reflection on lessons learned over the past two decades. Reviews of several reports on the resolution's implementation reveal that States have a long way to go to meet all UNSCR 1540's requirements. States in the African Group in particular should do more to widen implementation. African States have in recent years recorded an improvement in implementation of the requirements of UNSCR 1540, but levels of implementation in the region are not yet adequate. As the 1540 Committee prepares for the next decade following the renewal of its mandate for 10 years, it is appropriate for States to also begin strategizing for the next decade.

THE AUTHOR:
Isabel Bosman

Isabel Bosman is a researcher in the African Governance and Diplomacy Programme at the South African Institute of International Affairs (SAIIA). She holds a Master of Arts degree in Political Studies from the University of the Witwatersrand. She has done work on nuclear energy governance and the peaceful uses of nuclear energy in Africa and co-authored a Policy Brief on the intersect between UNSCR 1540 and the African Continental Free Trade Area Agreement in collaboration with the UNODA[1].

Since its adoption 20 years ago in April 2004, UNSCR 1540 has grown into an important supporting pillar of the global counterterrorism and non-proliferation regimes. Specifically targeted at the prevention of the proliferation of weapons of mass destruction[2] by non-State actors,[3] through the obligations it places on UN Member States, UNSCR 1540 brings a component (non-State actors) that is normally outside the purview of international law, into the equation.

This year marks an important milestone for this humble legal instrument, binding on all UN Member States.

1 Jo-Ansie van Wyk and Isabel Bosman (2023) "Resolution 1540 and the African Continental Free Trade Area: Policy options to strengthen non-proliferation controls and secure trade", UNODA and SAIIA, https://saiia.org.za/research/resolution-1540-and-the-african-continental-free-trade-area-policy-options-to-strengthen-non-proliferation-controls-and-secure-trade/.

2 Specifically chemical, biological and nuclear weapons.

3 Non-State actors are defined in UNSCR 1540 as "individual[s] or entit[ies], not acting under the lawful authority of any State in conducting activities which come within the scope of this resolution"; see UN Security Council, Resolution 1540, Non-proliferation of weapons of mass destruction, S/RES/1540 (2004), https://undocs.org/S/RES/1540(2004),1.

Since its adoption in 2004, significant steps have been taken, not only by States, but also by the UN organs and other international bodies, to ensure its widespread implementation and longevity. On the latter aspect, the work of the 1540 Committee has been particularly instructive. Its collaborative and facilitative approach to engaging with the States in its regional groupings has contributed positively to the many gains UNSCR 1540 has been able to achieve over the last 20 years.

The work of the 1540 Committee is indicative of high levels of follow-through on the resolutions adopted by the Security Council from which it sources its mandate. The continued submission of annual reviews on the implementation of UNSCR 1540, visits to Member States upon their invitation, and the facilitation of regional workshops on strengthening the implementation of the resolution, among others, all speak to this fact.

With the adoption of Security Council resolution 2663 in 2022, the mandate of the 1540 Committee was renewed for a further 10 years, to 2032.[4] As the Committee is no doubt doing, it is also

4 UN Security Council, Resolution 2663, S/RES/2663 (2022), https://documents.un.org/doc/undoc/gen/n22/716/75/pdf/n2271675.pdf.

time for Member States to look toward this next decade and to consider what contributions they can make to ensure full implementation of UNSCR 1540 and to adhere to all of its requirements. Based on the annual reviews of the implementation of UNSCR 1540 submitted to the Security Council by the 1540 Committee, as well as the two most recent Comprehensive Reviews (2016, 2022) also submitted by the Committee, it is clear that Member States still have a long way to go to ensure full and even implementation of the operative paragraphs of UNSCR 1540. The African Group in particular has a lot of ground to cover in this regard.

African States already adhere to several regional and international non-proliferation and counterterrorism legal frameworks (the Treaty of Pelindaba, Common African Defense and Security Policy, the Convention on the Prevention and Combating of Terrorism, the Treaty on the Non-Proliferation of Nuclear Weapons—to name a few), and UNSCR 1540 forms part of this. However, a review of the implementation by African Member States of the measures required by UNSCR 1540 indicates that the region falls short compared with States in other parts of the world.

According to the 2022 Comprehensive Review conducted by the 1540 Committee, the African Group registered an imple-

mentation rate of 38 per cent in 2021, while the highest implementation rate (86 per cent) was recorded by the Group of Western European and Other States. It should be noted, however, that while the Group of Western European and Other States did not record a shift in implementation rate between the 2016 and 2022 Comprehensive Reviews, the African Group recorded an increase from 30 per cent in 2016 to 38 per cent by 2022.[5]

Additionally, the number of National Reports submitted to the 1540 Committee by African States is high and, between the two most recent Comprehensive Reviews, six African States[6] were among a group of nine States that submitted their first National Reports to the 1540 Committee, a meaningful step in promoting the implementation of the resolution.[7] But, submissions of National Reports lack consistency and several African Member States have yet to comply with this requirement.[8]

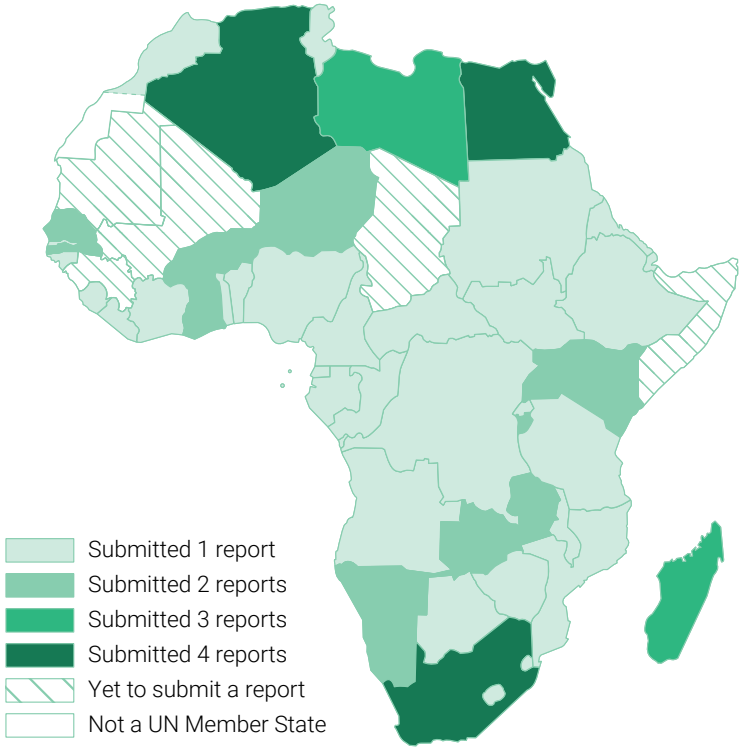


Figure 1: Status of African Union Member States' submission of reports to the 1540 Committee. Source: Created by the author using data available at https://www.un.org/en/sc/1540/national-implementation/national-reports.shtml

Furthermore, as argued elsewhere and pertaining to the specific focus of this issue of the 1540 Compass, "implementation of domestic, export, and border controls (under operative paragraph 3) among African States is uneven or lagging behind."[9] The African Group was among the regions recording one of the lowest levels of increase in implementation of measures pertaining to operative paragraph 3 (c) and (d) —4 per cent— between the two Comprehensive Reviews of 2016 and 2022.[10]

But African States are proactively working to raise awareness about UNSCR 1540 and find ways to improve its implemen-

5 UN Security Council, *Letter dated 29 November 2022 from the Chief of the Security Council Committee established pursuant to resolution 1540 (2004) addressed to the President of the Security Council*, S/2022/899, (Dec. 1, 2022), https://documents-dds-ny.un.org/doc/UNDOC/GEN/N22/725/80/PDF/N2272580.pdf?OpenElement.

6 These are the Central African Republic, Comoros, Equatorial Guinea, Guinea-Bissau, Mozambique and Zimbabwe.

7 UN Security Council, *Letter dated 29 November 2022*.

8 See van Wyk, J. and I. Bosman (2023) "Resolution 1540 and the African Continental Free Trade Area".

9 van Wyk, J. and I. Bosman (2023) "Resolution 1540 and the African Continental Free Trade Area", 17.

10 See *Letter dated 29 November 2022* ; see also van Wyk, J. and I. Bosman (2023) "Resolution 1540 and the African Continental Free Trade Area".

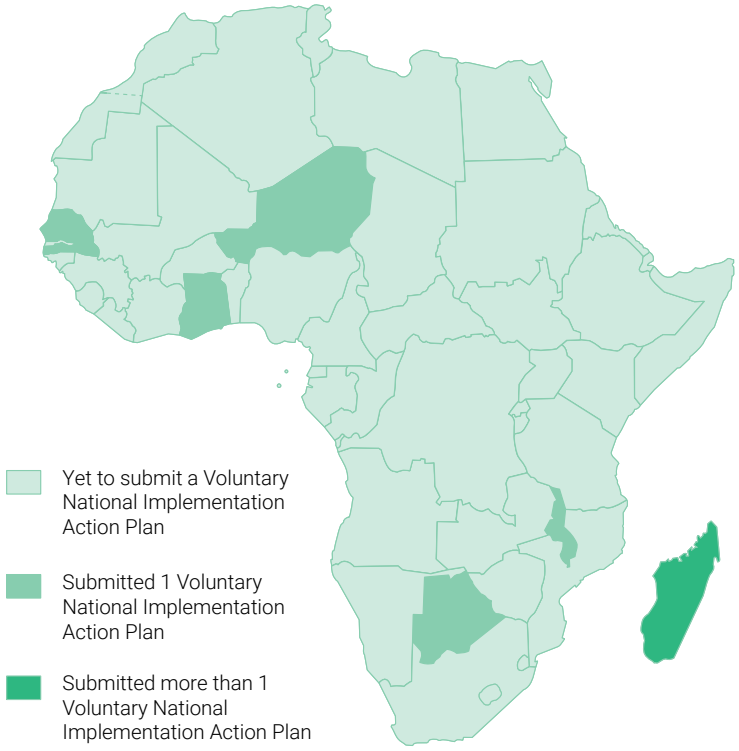


Figure 2: Status of submission of Voluntary National Implementation Action Plans by African States to the 1540 Committee. Source: Created by the author using data available at https://www.un.org/en/sc/1540/national-implementation/national-implementation-plans.shtml

tation. Much of this engagement has been voluntary, with States reaching out to the 1540 Committee and other experts for assistance.[11] Several African States have also submitted Voluntary National Implementation Action Plans to the 1540 Committee.[12]

Voluntary National Implementation Action Plans are helpful in assessing the readiness and capacity of States to implement their requirements under UNSCR 1540. They also demonstrates the willingness of States to work with the 1540 Committee to ensure compliance with the requirements of UNSCR 1540.

Although there remains room for improvement in implementing the measures required by UNSCR 1540, tremendous progress has been made over the last two decades and this must not be overlooked. UNSCR 1540 is as relevant to the global security architecture today as it was when it was first adopted in 2004. The threats it set out to mitigate have by no means disappeared, but the ability and capacity of States to address these risks have improved, and UNSCR 1540 has had a direct hand in that. Greater collaboration between regions, as well as greater involvement of the 1540 Committee and its Group of Experts by States, can contribute to the better implementation of the measures required under the operative paragraphs of UNSCR 1540.

Border and export controls are one of the most obvious mechanisms through which proliferation risks can be limited, but more needs to be done to ensure that such frameworks (and the necessary equipment and capacity building attached to these responsibilities) are in place. As we mark 20 years of UNSCR 1540, it is important to keep an eye on the past to learn from what has already been done, but to also look ahead and prepare for the next decade.

11 See UN Security Council, *Letter dated 29 December 2023 from the Chair of the Security Council Committee established pursuant to resolution 1540 (2004) addressed to the President of the Security Council*, S/2023/1067, https://documents.un.org/doc/undoc/gen/n24/999/92/pdf/n2499992.pdf.

12 See 1540 Committee, Voluntary National Implementation Action Plans, https://www.un.org/en/sc/1540/national-implementation/national-implementation-plans.shtml.

KENYAN APPROACH TO IMPLEMENTING UNSCR 1540

© Oleksii Fadieiev – The Port of Mombasa is Kenya's largest seaport.

ABSTRACT

Kenya, as a Member State of the United Nations, has undertaken significant steps to align with the requirements of United Nations Security Council resolution 1540 (UNSCR 1540). Previously lacking explicit controls for the trading of strategic goods, Kenya developed a regulatory framework to institutionalize the implementation of UNSCR 1540. Despite significant progress, Kenya continues to face several challenges in implementing UNSCR 1540. However, these challenges also present opportunities for Kenya to enhance its security infrastructure and international standing. Kenya's commitment to implementing UNSCR 1540 underscores its dedication to global peace and security.

THE AUTHOR:
Kimani Kang'ethe

Kimani Kang'ethe is a manager in the Customs and Border Control Department at Kenya Revenue Authority and a strategic trade control trainer. He holds a master's degree in customs administration and border management and has over 10 years' professional experience in the field.

BACKGROUND

United Nations Security Council resolution 1540 (UNSCR 1540), adopted unanimously on 28 April 2004, is a landmark international effort aimed at preventing the proliferation of nuclear, chemical, and biological weapons, as well as their means of delivery, by non-State actors. The resolution obliges all UN Member States to implement measures that prevent the proliferation of weapons of mass destruction (WMD) and establishes national controls to prevent their illicit trafficking. Kenya, as a Member State of the United Nations, has undertaken significant steps to align with the requirements of UNSCR 1540.

Kenya is East Africa's transportation and financial hub, with the port of Mombasa being the country's largest seaport, processing around 1.6 million 20-foot equivalent container units

in 2023.[1] Kenya's geostrategic location and expanding economy makes it a potentially attractive target for smuggling and proliferation networks. The country's first report to the 1540 Committee noted incidents of nuclear smuggling, underscoring that Kenya's borders might be used for the illicit transfer or transit of WMD-related materials.

International terrorist organizations such as Al-Shabab are active in Kenya and continue to exploit porous borders to expand their networks. Kenya's ability to control its borders and regulate its trade flows is critical to regional stability and non-proliferation efforts.

INADEQUATE STRATEGIC TRADE CONTROL LEGAL AND REGULATORY FRAMEWORK

Previously, Kenya lacked explicit controls for the imports, exports or transit of technologies, equipment, or dual-use products that may be used in the development of WMDs. The country was concerned that these legal and regulatory gaps could increase the risk that such materials or technology could fall into the hands of non-State actors and harm the country, as well as potentially being illegally transferred to countries of proliferation concern, such as Iran or North Korea. As a result, Kenya decided to draft a strategic trade control (STC) bill to address these potential vulnerabilities.

DEVELOPMENT OF THE STC BILL: INTER-AGENCY APPROACH

Governmental ministries and agencies decided to form the multi-agency Strategic Trade Control Committee to draft the new STC bill. The Committee included the Ministry of Defense, the Attorney General's Office, the Ministry of Interior and National Administration, Kenya Revenue Authority, Kenya Nuclear Regulatory Authority, Kenya Medical Research Institute, the Ministry of Foreign and Diaspora Affairs and the Government Chemist Department. It was chaired by the then Radiation Protection Board.

The following are the key highlights in Kenya's journey towards the development of the STC bill:

- In 2015, an inter-agency National Chemical, Biological, Radiological and Nuclear (CBRN) Committee was established to draft the STC legislation.
- 2015–2018: Stakeholder sensitization, drafting the STC bill and public participation. These efforts were spearheaded by a multi-agency STC Committee.
- 2018: Strategic Goods (Security) Control Bill drafted.
- 2019–2021: Strategic Goods Control Bill (harmonization of the two bills is completed).
- 2022 to present: Continued stakeholder engagement, especially with members of the National Assembly. Most recently, a planned sensitization for National Assembly members took place on 11 and 12 July 2024.

These efforts have resulted in the current STC bill, which provides for the following:

1 Kevin Mutai, "Mombasa port grows 12pc despite regional rivalry," Business Daily, 26 March 2024.

- Establishment of Strategic Goods Control Committee
- Registration and licensing requirements
- Licensing provisions and certificates
- Cooperation with industry
- Enforcement, violations, penalties and sanctions

The bill is awaiting parliamentary process after having been approved by the National Security Advisory Committee in 2022.

SCOPE OF THE CURRENT STC BILL

The bill is consistent with non-proliferation treaties such as the Treaty on the Non-Proliferation of Nuclear Weapons, the Chemical Weapons Convention, and the Biological and Toxin Weapons Convention. The bill is also consistent with guidelines and control lists of the four major multilateral export control regimes, namely the Missile Technology Control Regime, the Nuclear Suppliers Group, the Australia Group, and the Wassenaar Arrangement. It also aligns with the standards, guidelines, and best practices of relevant international organizations, such as the International Atomic Energy Agency, the World Customs Organization, and UN Security Council resolutions, including UNSCR 1540.

KENYA'S NATIONAL CONTROL LIST

During the drafting of the national control list, an inter-agency approach was adopted to ensure consensus and ownership. The control list is largely based on the EU control list. The draft was presented together with the STC bill for parliamentary review.

STC REGULATIONS

The process of developing the STC regulations commenced in November 2020 under the leadership of the Office of the Attorney General. This process is currently ongoing. The regulations are meant to operationalize the regulatory framework once it is enacted.

CAPACITY BUILDING

At policy level, the country has identified inadequately trained personnel as a key challenge in operationalizing UNSCR 1540. To bridge this gap, the country seeks to institutionalize STC training and capacity building in support of Kenya's efforts to implement the STC regulatory framework. Capacity building aims at raising awareness on STC among government officials and businesses involved in international commerce and seeks to support UNSCR 1540 compliance activities in Kenya and Africa.

DEVELOPMENT OF TRAINING MODULES

Funded by the United States Export Control and Related Border Security Program, and with technical support provided by Argonne and Oakridge National Laboratories from the United States, the Kenya School of Revenue Administration, a specialized training institution under the Kenya Revenue Authority, has been developing training modules for delivery in Kenya. So far, at least 100 customs officers have been trained in collaboration with the World Customs Organization.

INSTITUTIONAL MECHANISMS

The implementation of UNSCR 1540 in Kenya involves multiple government agencies and in-

stitutions. The National Focal Point on UNSCR 1540, established within the Ministry of Foreign and Diaspora Affairs, coordinates the implementation of the resolution across different sectors. This focal point works closely with the National Security Council, the Ministry of Interior and National Administration, and the Ministry of Defense to ensure a comprehensive approach to non-proliferation.

Furthermore, Kenya's law enforcement agencies, including the police and Customs, receive specialized training to identify and respond to threats related to WMD proliferation. The Kenya Revenue Authority plays a crucial role in monitoring and controlling the movement of goods across the country's borders, ensuring that dual-use goods and materials are adequately regulated.

STRATEGIC COLLABORATION IN DRIVING COMPLIANCE WITH UNSCR 1540

Kenya actively participates in international cooperation and assistance programmes to bolster its capacity to implement UNSCR 1540. The collaborations include the following:

- **1540 Committee**: Kenya regularly submits reports to the 1540 Committee detailing its implementation progress and challenges, and engages with the Committee for technical assistance and guidance.

- **International partnerships**: Kenya collaborates with various international partners, including the United States and international organizations, such as the Inter-Governmental Authority on Development, the International Atomic Energy Agency, the World Customs Organization, the United Nations Office on Drugs and Crime and the Organization for the Prohibition of Chemical Weapons, to enhance its capabilities in WMD non-proliferation.

- **Capacity building**: Through workshops, training programmes, and technical exchanges, Kenya has benefited from capacity-building initiatives that enhance the skills and knowledge of its personnel involved in non-proliferation efforts.

Through partnerships with international organizations, Kenya has received technical assistance and training for its personnel. These programmes focus on improving the detection and interception of illicit materials, enhancing regulatory frameworks, and fostering interagency cooperation.

CHALLENGES AND FUTURE DIRECTIONS

Despite significant progress, Kenya faces several challenges in fully implementing UNSCR 1540. Some of the key challenges include:

- **Resource constraints**: Limited financial and technical resources can hamper the effective implementation of non-proliferation measures.

- **Inadequate coordination and enforcement**: Ensuring effective coordination among various government agencies and enforcing compliance with non-proliferation regulations remain an ongoing challenge.

- **Emerging threats**: The evolving nature of WMD threats, including

> During the drafting of the national control list, an inter-agency approach was adopted to ensure consensus and ownership.

advancements in technology and new methods of illicit trafficking, requires continuous adaptation and enhancement of national measures.

However, these challenges also present opportunities for Kenya to enhance its security infrastructure and international standing. By addressing the gaps in its implementation of UNSCR 1540, Kenya can strengthen its national security and contribute to global non-proliferation efforts. To address these challenges, Kenya is focusing on several future directions such as:

- **Strengthening national capacities**: Investing in the development of national capacities, including human resources, infrastructure, and technology, to effectively implement and enforce non-proliferation measures.
- **Enhancing regional cooperation**: Engaging in regional initiatives and partnerships to address cross-border threats and share best practices in WMD non-proliferation.
- **Continuous monitoring and evaluation**: Implementing robust monitoring and evaluation mechanisms to assess the effectiveness of national measures and identify areas for improvement.

Through effective institutional coordination, and active participation in international initiatives, Kenya has made significant progress in aligning with the resolution's requirements. However, continuous efforts are needed to address the existing challenges and to adapt to the evolving threat landscape.

CONCLUSION

Kenya's commitment to implementing UNSCR 1540 underscores its dedication to global peace and security. Through comprehensive legislation, strong institutional mechanisms, enhanced border and export controls, and active international cooperation, Kenya is making significant strides in preventing the proliferation of WMDs. While challenges remain, the country's ongoing efforts and future directions demonstrate its resolve to meet the obligations of UNSCR 1540 and contribute to a safer, more secure world.

© Wen Xiao - Japan's present day export control system was established following the Toshiba Machinery incident

CISTEC'S ROLES AND ACTIVITIES: JAPAN'S BEST PRACTICES FOR EXPORT CONTROLS

ABSTRACT

The non-proliferation of weapons of mass destruction is a global challenge that requires coordinated international efforts. This paper presents best practices in export control policy, which contribute to the effective implementation of the requirements of United Nations Security Council resolution 1540 (2004) (UNSCR 1540). In Japan, a private organization, called the Center for Information on Security Trade Control (CISTEC), is part of the export control system, acting as a bridge between the government, industry, and international organizations to pursue best practice for non-proliferation. They are also in constant dialogue with governments and companies in various regions, such as the US, the EU, Asia, and the Middle East, sometimes assisting with difficult implementation aspects of export control. These best practices can serve as a useful case study for various countries, providing a unique model that they could adapt to fulfil their obligations under operative paragraph 3 (d) of UNSCR 1540.

THE AUTHOR:
Sumiko Ono

Sumiko Ono is a former Senior Researcher at the Center for Information on Security Trade Control (CISTEC). Her areas of expertise are export control, economic security and US politics. She has published widely and given more than 500 lectures and talks on export control and security.

HISTORICAL BACKGROUND

Japan's export control system was founded back in 1949 when the country was still under the Allied Occupation. That year, in order to take a step forward into the post-World War II recovery, the Japanese government introduced the Foreign Exchange and Foreign Trade Control Act, which was designed to control foreign exchange and foreign trade transactions, and which is still the basic law that governs export controls in Japan.

Three years after the enactment of the law, in 1952, Japan joined the Coordination Committee for Multilateral Export Controls (COCOM) and started implementing export controls accordingly. COCOM was a multilateral export control regime that began in 1949 and ended in 1994, after the end of the Cold War. Only 17 countries with strategic commodities participated in COCOM during this period. Export controls during the Cold War were implemented in a way that directly reflected the adversarial structure of the East-West conflict.

Much later in 1987, the basis of Japan's present day export control system was established. This development was, in fact, a consequence of the so-called "Toshiba Machinery Incident," which involved exports of state-of-the-art

machine tools from Japan to the Soviet Union without obtaining the necessary licenses. In point of fact, "Toshiba" and "Toshiba Machinery" are different companies, but they are still part of the Toshiba Group. "Toshiba" sold billions of dollars' worth of state-of-the-art semiconductors and a large number of mass-market consumer electronics products, such as televisions and stereos. The "Toshiba Machinery Incident" was a violation of both national and COCOM regulations, which seriously undermined the security of the Western Bloc.

In response to this incident, the government drastically enhanced controls by amending the basic law. In order to make the system more effective, the Japanese government not only increased the penalties for contraventions, but also ordered individual companies to establish an appropriate system of corporate export controls based on an internal compliance programme (ICP). Shortly thereafter, in 1989, the civil organization "CISTEC" was founded as a driving force for the sound development of export controls in Japan. Since then, Japan's export control system has been evolving in response to year-to-year changes in the political and security situation of Japan and the world.

Today, Japan, as a signatory to major non-proliferation treaties and a member to all the existing international export control regimes, is implementing robust export controls consistent with the international standards and norms. This includes meeting the obligations outlined in UNSCR 1540, particularly operative paragraph (OP) 3 (d), which requires States to "establish, develop, review and maintain appropriate effective national export and trans-shipment controls" over nuclear, chemical or biological weapons and their means of delivery, including related material. In addition, the Japanese government and CISTEC not only commit to international non-proliferation goals, but also promote their outreach activities in Asia, expanding cooperative networks in the region.

THE LEGAL FRAMEWORK AND STAKEHOLDERS OF JAPAN'S EXPORT CONTROL SYSTEM

In Japan, the Ministry of Economy, Trade and Industry (METI), originally formed in 1949, is the competent authority that administers export controls. The legal structure of Japan's export control system is extremely complicated. It is not a simple set of laws and regulations, but a complex mix of primary and secondary legislation. In fact, the basic law is followed by a wide scope of subordinate regulations issued from time to time in the form of cabinet orders, ministerial ordinances, notifications, notices, and guidance, all of which are intertwined with each other.

METI provides multiple channels to promote export control awareness among exporters, given that maintaining close communication with export control communities is essential. What is outstanding in this regard is the existence of CISTEC, an organization that functions as a linkage between the authority, industries and academia and contributes to the effective implementation of export control measures. This is a unique model that could be adapted by other States to meet the export controls required by OP3 (d) of UNSCR 1540.

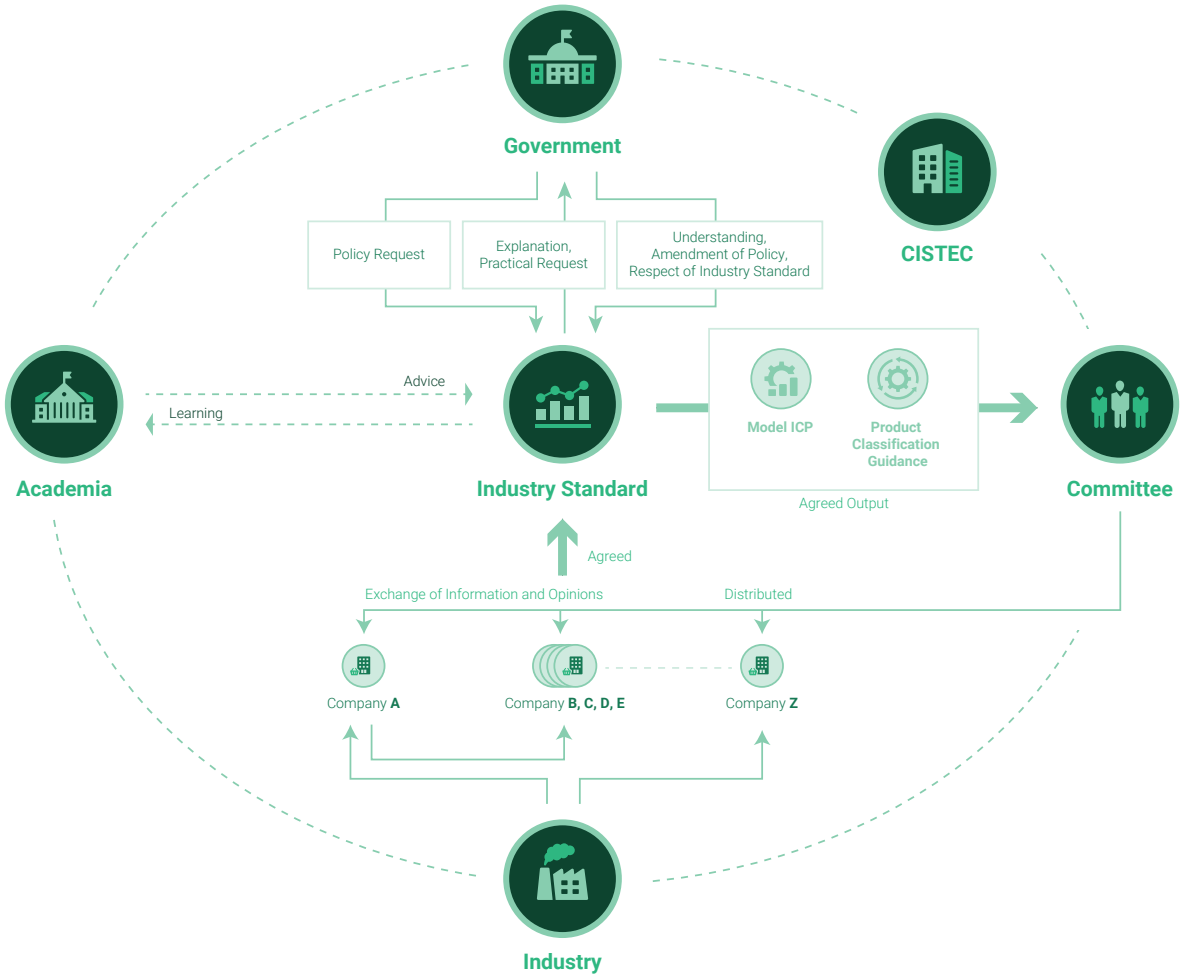


Figure 1: A flow chart showing how the export control system interacts in Japan. Source: Author/CISTEC.

THE ROLE OF CISTEC

CISTEC was founded in April 1989, two years after the aforementioned COCOM violation incident. It is the only non-profit, non-governmental organization specializing in security export controls in Japan. At the time of its establishment, CISTEC received financial support from the government, METI, but since 2011, they have been an independent and completely private organization.

CISTEC, functioning as a linkage channel connecting government, industry and academia, helps to create an effective and rational system of security export controls in Japan, and thus contributes to the non-proliferation of weapons of mass destruction.

OPERATIONAL SIZE

CISTEC is a relatively small organization that runs on a limited budget. There are 60 members of staff, consisting of former government officers, former industry personnel, personnel seconded from industry, and general staff members. They have an annual activity budget of approximately 8 million USD. Forty per cent of this comes from membership fees from associated members. The remaining 60 per cent comes from revenues from its database service, publications, seminars, and other.

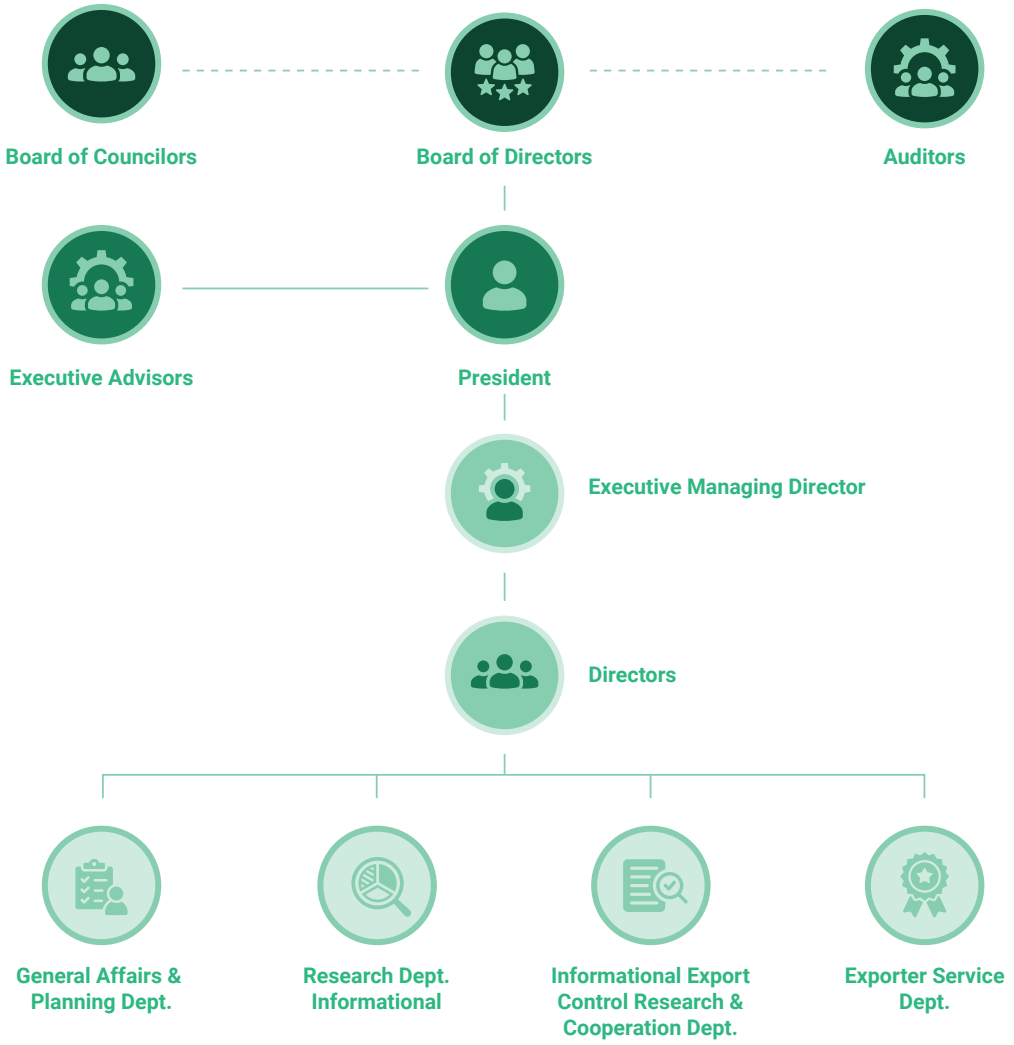


Figure 2: CISTEC's organizational structure. Source: Author/CISTEC

ORGANIZATION

As shown in figure 2, CISTEC has four departments under the President, the Executive Managing Director, and Directors. They are the General Affairs and Planning Department, Research Department, International Export Control Research and Cooperation Department, and Exporter Service Department.

Figure 3 shows the proportion of industrial sectors to which member companies belong. CISTEC has 700 associated members and 64 associated university members at present. The largest ratio of member companies belongs to the electrical appliances sector, which was the most instrumental sector in founding CISTEC in 1989. The second largest ratio represents the machinery sector; the third is the wholesale trade sector; the fourth is the information and communications sector; and the fifth is the precision instruments sector.

SECURITY EXPORT CONTROL COMMITTEE

The most notable thing about CISTEC is that they operate a committee system. The Security Export Control Committee is an upper-level committee whose mission is to comprehensively research and analyse export control related issues, through its nine thematic committees under the Policy, Rules and Procedures Board and the Goods and Materials Board. Each committee

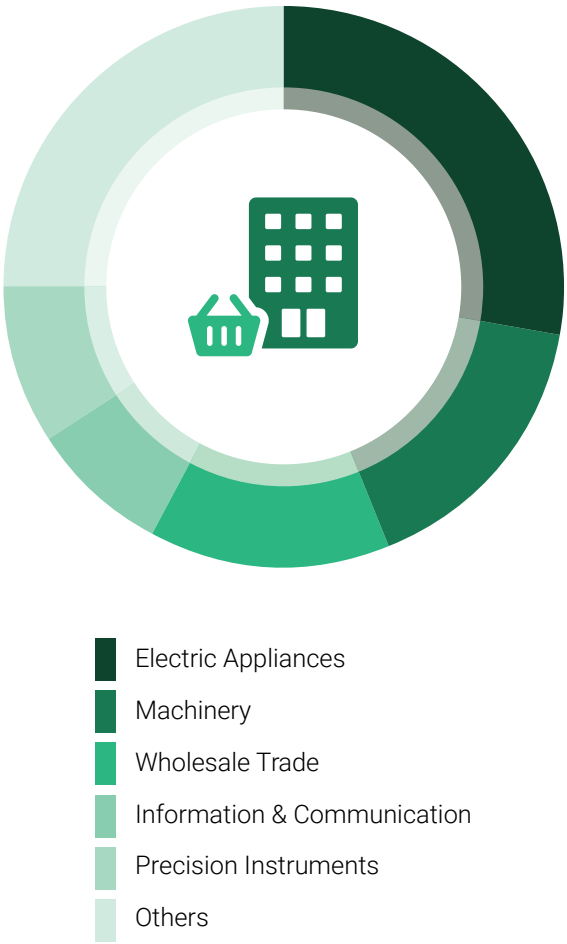


Figure 3: Proportion of industrial sectors to which CISTEC member companies belong. Source: CISTEC.

has several subcommittees and working groups as needed. All committees, subcommittees and working groups are composed of volunteers from member companies, with a total of approximately 1,600 participants.

It is not easy for private companies to directly contact METI regarding export control issues. Therefore, CISTEC provides opportunities for industry as a whole to have direct contact with METI through committee activities and other initiatives. This direct contact with governments and other companies allows industry to share good practices with each other and gain valuable know-how from other companies, including business competitors.

Industry is able to obtain valuable information through committee activities and other information services. Industry may also outsource key elements of self-control, such as training and education, and may consult CISTEC on issues related to export control policy. CISTEC provides assistance for key functions that exporters must perform, such as commodity classification, auditing, and education and training. Through CISTEC, industry may check if their internal systems are properly established and working well.

CISTEC'S ROLES AND UTILITIES FOR GOVERNMENT

METI aims to enhance the level of export control in industry. Toward this end, CISTEC member exporters actively participate in committee activities to exchange experiences and discuss relevant issues. Japanese laws and regulations related to export controls are complex and difficult to understand. However, every exporter needs to correctly understand them, as the lack of knowledge may lead to serious consequences.

It is difficult for the government to judge whether a request benefits specific industrial sectors only or industry as a whole. CISTEC, however, is able to, as its members constitute a broad representation of diverse sectors. CISTEC therefore coordinates various requests into industry-wide re-

© Bill Fairs - Electrical appliances make up a large proportion of Japan's exports

quests through dialogues and discussions, sending the finalized official requests to METI as issues that need to be addressed by the government.

PUBLICATIONS

One of CISTEC's most conventional services is publications. Guidance materials, manuals and handbooks are offered to help exporters find solutions. Parameter Sheets for commodity classification are a convenient tool for exporters to judge whether goods to be exported are subject to an export license. Commodity Guidance provides updated and detailed information of goods by sector.

CISTEC provides Parameter Sheets for seven sectors and Commodity Guidance for 11 sectors. Parameter Sheets are renewed every year. Commodity Guidance is renewed whenever there is a change in regulations. Both Parameter Sheets and Commodity Guidance may be downloaded for a fee.

CISTEC publications cover both domestic and international export controls. These books and guidance are designed to help exporters establish proper export control programmes, promote ICP implementation, provide training, facilitate correct license application, promote proper export control programmes among overseas subsidiaries, and so on.

SEMINARS, TRAINING, AND STRATEGIC TRADE CONTROL CERTIFICATION PROGRAMME

Seminars and training programmes are also important services conventionally offered by CISTEC. Seminars are grouped into four categories: a basic course for beginners, a management course for management-level persons, a theme-oriented course on US Export Administration Regulations and foreign regulations, and sector-specific courses, such as for the electronics sector.

CISTEC also dispatches instructors to companies and universities that wish to hold internal seminars. These order-made and on-demand seminars satisfy the specific needs of exporters.

INTERNATIONAL COOPERATION AND EXCHANGE

CISTEC dispatches a delegation to the US and the EU every two years, and to Asian countries every year, for meetings and dialogues with governmental organizations, industrial associations, and private companies, among others. This initiative has been ongoing since 2002. CISTEC also receives visitors from foreign governments, industrial associations, law firms, consultation firms, and universities, and holds information exchanges and dialogues with them.

CISTEC also conducts industry outreach to Asian countries. This outreach includes training on which items are actually regulated and for what reasons, and what kind of control systems are needed to implement effective and rational export controls. CISTEC has conducted outreach activities with many Asian countries.

As export control is fundamentally a global issue, international cooperation is important for every country. One of CISTEC's most prominent projects is the Asian Export Control Seminar, which begun in 1993 and is held annually under the joint sponsorship of the METI and MOFA in Tokyo. The most recent seminar, held in February 2024, received the participation of more than 230 officials from 17 Asian countries, 16 supporting countries, and major international regimes such as the Nuclear Suppliers Group, the Wassenaar Arrangement, the Australia Group, the Missile Technology Control Regime, and related organizations such as the UN Office for Disarmament Affairs, the UN Panel of Experts, the World Customs Organization, the Stockholm International Peace Research Institute, and so on.

This seminar is regarded as one of most important export control seminars in the world, as it is quite rare for the heads of all international export control regimes to gather in the same forum.

CONCLUSION

CISTEC is a very unique organization in the world and provides an effective example of how to build a bridge between government and industry, which are both key actors in export control. It has also established good cooperative relationships with various countries and dispatch experts. These best practices serve as a useful case study for various countries, providing a unique model that can be adapted to fulfil their obligations under operative paragraph 3 (d) of UNSCR 1540.

UNITED NATIONS SECURITY COUNCIL RESOLUTION 1540: THE CASE FOR SINGAPORE

Singapore is Southeast Asia's busiest transit and trans-shipment centre.

ABSTRACT

Singapore is a small island country that serves its obligations to United Nations Security Council resolution 1540 (2004) (UNSCR 1540). This article examines Singapore's efforts in managing the export of strategic goods via its Strategic Goods Control Act, regulations, and the integrated, "whole-of-government" approach to counter the proliferation of weapons of mass destruction. The article highlights some of the challenges faced and gives recommendations for further improvements. This article highlights the benefits of implementing export control legislation to support trade and development, protecting intellectual property rights, stopping the proliferation of advanced technologies that could be used for weapons of mass destruction, and allowing the sharing of advanced technology among countries.

THE AUTHOR:
Alan Koo Teck Chye

Alan Koo Teck Chye (B.Eng., MBA, MSc Trade Compliance, MSc Safety, CUSECO) is a mechanical engineer by training and is specialized in process improvement, quality management systems, training, safety and trade compliance. He is a currently a Global Trade and Technology Manager at Collins Aerospace Singapore.

INTRODUCTION

UNSCR 1540, adopted in 2004, requires Member States to prevent the proliferation of nuclear, chemical and biological weapons, as well as their means of delivery, to non-State actors, given that this constitutes a threat to international peace and security. Among the different obligations, operative paragraph 3 (d) of the resolution requires "appropriate effective national export and trans-shipment controls" over nuclear, chemical or biological weapons and their means of delivery, including related material. While existing literature has been written in this area, it is the intention of this article to provide the reader with an understanding of the Singaporean framework for export and trans-shipment control, as well as recommendations for its further enhancement.

BACKGROUND

Singapore is Southeast Asia's busiest transit and trans-shipment centre and it supports disarmament and the non-proliferation of weapons of mass destruction. In 2003, it was the first country in Southeast Asia to put in place a stringent export controls system to regulate the transfer of strategic goods and safeguard against the illicit movement of goods and technology that

© Mike Enerio – An image of Singapore.

relate to the development, production and use of nuclear, chemical and biological weapons, missiles capable of delivering such weapons, as well as conventional arms and military equipment.

Exporters will need to know whether their products and technology are subjected to the Singapore Customs' Strategic Goods Control Act (SGCA), as well as the licensing requirements of other export control jurisdictions, such as the US International Traffic in Arms Regulations (ITAR) or Export Administration Regulations (EAR), particularly if they contain US-origin content and if their products are exporting from, trans-shipping or transiting through Singapore. The penalties for exporting without the correct permit under the SGCA can be severe, resulting in fines of 100,000 SGD (approximately 74,000 USD) or three times the value of goods and/or imprisonment of up to two years, on the first offence alone. Additional administrative measures include de-registration and revocation, suspension of permits, as well as seizure and forfeiture of goods.

Singapore is a party to the following international non-proliferation treaties and conventions: the Treaty on the Non-Proliferation of Nuclear Weapons; the Chemical Weapons Convention; and the Biological and Toxin Weapons Convention. It is, however, not a member of any of the four major multilateral export control regimes, in other words, the Wassenaar Arrangement, the Australia Group, the Nuclear Suppliers Group or the Missile Technology Control Regime. Singapore is a signatory to, but has yet to ratify, the Arms Trade Treaty.[1] Singapore has also adopted an integrated, "whole-of-government" approach, with agencies, such as the ports, Customs, immigration, trade, and legal authorities, cooperating to tackle the proliferation of weapons of mass destruction.[2]

1 United Nations, *Treaty Series*, vol. 3013, No. 52373.

2 Ambassador Karen Tan, Permanent Representative of Singapore to the United Nations in New York, Statement to the United Nations at the Open Consultations on the Review of UN Security Council Resolution 1540 (2004), New York, 22 June 2016.

VIOLATIONS OCCURRING IN SINGAPORE

Singapore companies are required to respect national export control laws and, as previously mentioned, penalties for violations can be severe. For example, in September 2023, two Singaporeans were fined 80,000 SGD (approx. 59,000 USD) and their company, Hydronav Services Pte Ltd, fined 1.1 million SGD (approx. 810,000 USD) for selling a multi-beam echo sounder system for seabed mapping (a dual-use item) to Myanmar's navy. They submitted a false end-user statement to Kongsberg Maritime, declaring the end user as an Indonesian Company.[3] Singapore Customs had issued a notification to industry not to sell any strategic goods to Myanmar earlier in the year and hence this was a violation of the Strategic Goods Control Act.

Singapore is equally committed to upholding international law, including resolutions adopted to counter proliferation. A businessman, who was on the United States Federal Bureau of Investigation's (FBI) most-wanted list for allegedly laundering millions of dollars for North Korea, was fined 210,000 SGD (approx. 151,000 USD) in a Singapore district court on 20 October 2021 over offences linked to that country. He had falsified invoices to hide his dealings with North Korea, as Singapore abides by United Nations Security Council resolutions and forbids anyone from using the Singapore financial system to do business with North Korea, an embargoed country.[4]

Although not directly related to UNSCR 1540, these cases illustrate Singapore's rigorous enforcement of export control laws and its dedication to upholding international regulations.

CHALLENGES IN SINGAPORE EXPORT CONTROL

Export compliance is an area that is often confusing to the layperson and the ever-changing regulations are also a challenge for practitioners to keep track of. Amendments in any part of the regulations will often involve changes in the supply chain structure. Companies must comply with these requirements to prevent penalties (i.e., a hefty fine, imprisonment, loss of exporting privileges and reputational damage).

Export control legislation remains unpopular among most developing or less developed countries and is often viewed as something that only developed countries would implement. This is partly because less developed countries place economic development and advancement as their top priority and perceive export control as a restrictive regulatory barrier that is an impediment to trade. This, however, should be considered a misconception: export control can help a company to brand itself as a responsible global firm, and it improves international cooperation and confidence between firms in different countries through the creation of a secure trading environment. Furthermore, it protects the intellectual properties of the companies, stops the proliferation of advanced technologies that could be used for

3 Shaffiq Alkhatib, "$80k fine for pair linked to illegal sale of sonar that ended up with Myanmar Navy", The Straits Times,19 September 2023.

4 Shaffiq Alkhatib, "S'pore businessman wanted by FBI fined $210k over falsified invoices to hide dealings with North Korea", The Straits Times, 20 October 2021.

> **Export control can help a company to brand itself as a responsible global firm.**

weapons of mass destruction and allows the sharing of advanced technology from countries such as Japan, Korea, Taiwan, and Singapore with less developed countries.

EFFORTS BY SINGAPORE CUSTOMS

The Singapore Customs Authority promulgate knowledge through training and the yearly Joint Industry Outreach Programme.[5] In February 2012, the Singapore Customs Academy was officially launched. This training institute is Singapore's first facility providing specialist customs training.

Singapore Customs has introduced a voluntary disclosure programme, which encourages individuals or companies to step forward in good faith to disclose errors on past transactions in exchange for a reduced (or even no) penalty. Singapore Customs will also consider granting instalment schemes for penalties on a case-by-case basis. Singapore Customs has demonstrated its desire to improve and address concerns with its voluntary disclosure programme through public consultations.[6]

In January 2007, Singapore Customs introduced an enhanced control scheme known as the Strategic Trade Scheme. The scheme assists traders in their declaration procedures for transactions of strategic goods for legitimate end use. Companies with a good internal export control compliance programme can enjoy improved facilitative declaration procedures for transactions of strategic goods for non-WMD-related end use. For instance, such companies would be able to make use of a one-time permit approval for multiple shipments of products. Singapore Customs also ensures that industries have free access to all available information through websites and trade notices. This helps to build up the compliance levels of the business community which, in turn, encourages greater self-compliance.

One of the reasons why Singapore companies are slow in implementing an internal compliance programme is the required commitment and re-

5 Singapore, Customs, *Joint Industry Outreach on Strategic Trade Management* (Singapore, 2023).

6 George Tan, "Strategic trade management – the Singapore experience", World ECR, 28 May 2013.

sources, which, sometimes, companies are not willing to invest. Some companies are not seriously considering sustainability, business continuation and corporate governance because, to them, these are luxuries. These kinds of companies tend to be more concerned by their profit margins. Compliance is often viewed as a cost by these companies, not an investment. This is reflected at the regional level, where export control is still a new regulatory notion for many Asian countries and is often regarded as a restrictive regulatory trade barrier.[7]

Companies' trade departments are also constantly challenged to deliver efficiently on their organization's strategy, but their ability to do so is hindered by several concerns that remain unaddressed. One of the concerns relates to the link between strategy and performance, along with the necessary language and tools. Companies' trade departments can consider using an operating model, such as McKinsey's 7-S Model or Deloitte's Legal Operating Model to deliver efficiently on the company's strategy.[8]

CONCLUSION

Singapore has been successful in serving its obligations and has been proactively supporting UNSCR 1540 implementation.

Twenty-first century trade goes beyond the import and export of tangible goods, now also involving the complex movement of intangible goods such as software and services. Keeping international trade safe and secure is of paramount importance, as disruption, caused by acts of crime or terrorism by non-State actors, to any link in the supply chain can have devastating effects on a country's economy. To achieve total supply chain security, authorities need to work with all stakeholders to ensure that they do their part in exporting to the correct end use, the legitimate end user and end-use destination.

The negative effects of export control on a firm's innovation, market competitiveness, investment and trade flows can be mitigated by having the Singapore government and industry working together to maintain a balance. Business strategies, such as being pre-emptive in accommodating regulatory changes, embracing regulatory reform and compensation for loss of market share, can be evaluated by top management and resources allocated as part of business cost.[9] Removing impediments to entrepreneurship is a key challenge for the government and the business sector if the island republic is to maintain its international competitiveness. The various initiatives taken by the Singapore government to stimulate risk-taking can also be used as a catalyst to help Singapore companies.[10] Companies are ready to take on a firmer export control implementation if there is sufficient government support.

7 George Tan, "Asian export controls: a snapshot", World ECR, 28 February 2014.

8 Isabel Hanot, *Trade Departments of Multinational Companies an Operating Model*, Customs and Supply Chain Compliance (Rotterdam, Rotterdam School of Management, 2020).

9 Belay Seyoum, "Export Controls and International Business: A Study with Special Emphasis on Dual-Use Export Controls and Their Impact on Firms in the US", *Journal of Economic Issues*, vol. 51, No. 1 (March 2017).

10 Balbir Bhasin, "Fostering Entrepreneurship: Developing a Risk-taking Culture in Singapore", *New England Journal of Entrepreneurship*, vol. 10, No. 2 (2017).

EXPORT CONTROLS OVER BIOLOGICAL WEAPONS-RELATED MATERIALS IN AFRICA: STATUS, CHALLENGES AND LOOKING FORWARD

© CDC - Medical research is considered a peaceful use of biological agents and toxins

ABSTRACT

National implementation of the obligations of the Biological Weapons Convention (BWC) and related requirements of United Nations Security Council resolution 1540 (UNSCR 1540) are at the cornerstone of countering biological weapons development and use. Implementation of export control requirements are essential to ensuring that biological agents and toxins and their related equipment and technology are not diverted and used for malicious purposes, while enabling secure transfers that can benefit the prevention of diseases and other peaceful uses of the life sciences. States may choose to implement export control requirements in a number of ways, depending on what is most appropriate for their own national system, whether through strategic trade or dual-use trade laws, specific biological weapons laws or a patchwork of laws.

National implementation of export controls of biological weapons-related materials in Africa is of particular interest given a number of factors. The status of BWC and UNSCR 1540 implementation in Africa in that area, based on current data from the United Nations Institute for Disarmament Research and Verification Research, Training and Information Centre BWC National Implementation Measures Database, reflects various approaches and legal challenges. It also shows that African States may benefit from many ongoing initiatives to strengthen such controls.

THE AUTHOR:
Eliza Walsh

Eliza Walsh is a Legal Officer with VERTIC's National Implementation Measures (NIM) Programme. She previously worked with Ireland's delegation to the Organisation for the Prohibition of Chemical Weapons (OPCW) in The Hague, the Netherlands, and holds an LLM in Public International Law from Leiden University, the Netherlands.

THE AUTHOR:
Sonia Drobysz

Sonia Drobysz was Legal Officer, Senior Legal Officer, then Director for VERTIC's NIM Programme during 2013–2023. She is now a consultant providing expert support to projects and activities aimed at strengthening international and national legal frameworks for the non-proliferation and disarmament of chemical, biological and nuclear (CBN) weapons, the security of CBN materials and related issues. She holds a PhD in Public International Law.

In 2016, as it was reiterating the decisions made in UNSCR 1540 (2004), the Security Council "[stressed] the need to strengthen national measures of export control of materials related to nuclear, chemical and biological weapons and their means of delivery…".[1] Six years later, the Comprehensive Review of the Status of Implementation of UNSCR 1540, conducted by the 1540 Committee, emphasized export controls as one area requiring further attention by many States.[2] The Comprehensive Review showed that implementation of border and export control measures for materials related to biological weapons recorded around 5 per cent fewer measures compared to measures for materials related to nuclear and chemical weapons.[3]

This article addresses national implementation of obligations on export controls for biological weapons-related materials, including related requirements, approaches,

1 UN Security Council Resolution 2325 (2016), preamble.

2 2022 comprehensive review of the status of implementation of Security Council resolution 1540 (2004), summary, p.2, in document S/2022/899.

3 *Ibid*, para. 57.

challenges and efforts to meet the objectives of the resolution and the BWC in that regard. It draws from information in the BWC National Implementation Measures Database, developed jointly by the United Nations Institute for Disarmament Research (UNIDIR) and the Verification Research, Training and Information Centre (VERTIC).[4] The database provides an overview of measures taken by each State Party to the BWC or that may be relevant in this context. As such, it is a useful tool for States seeking to identify gaps, consider areas for improvement and look at related examples. It includes a section on export controls, among several other areas.[5]

At the time of writing, 103 country profiles have been completed and published on the database. As the geographical region for which a larger number of country profiles have been completed, this paper focuses on the African continent.

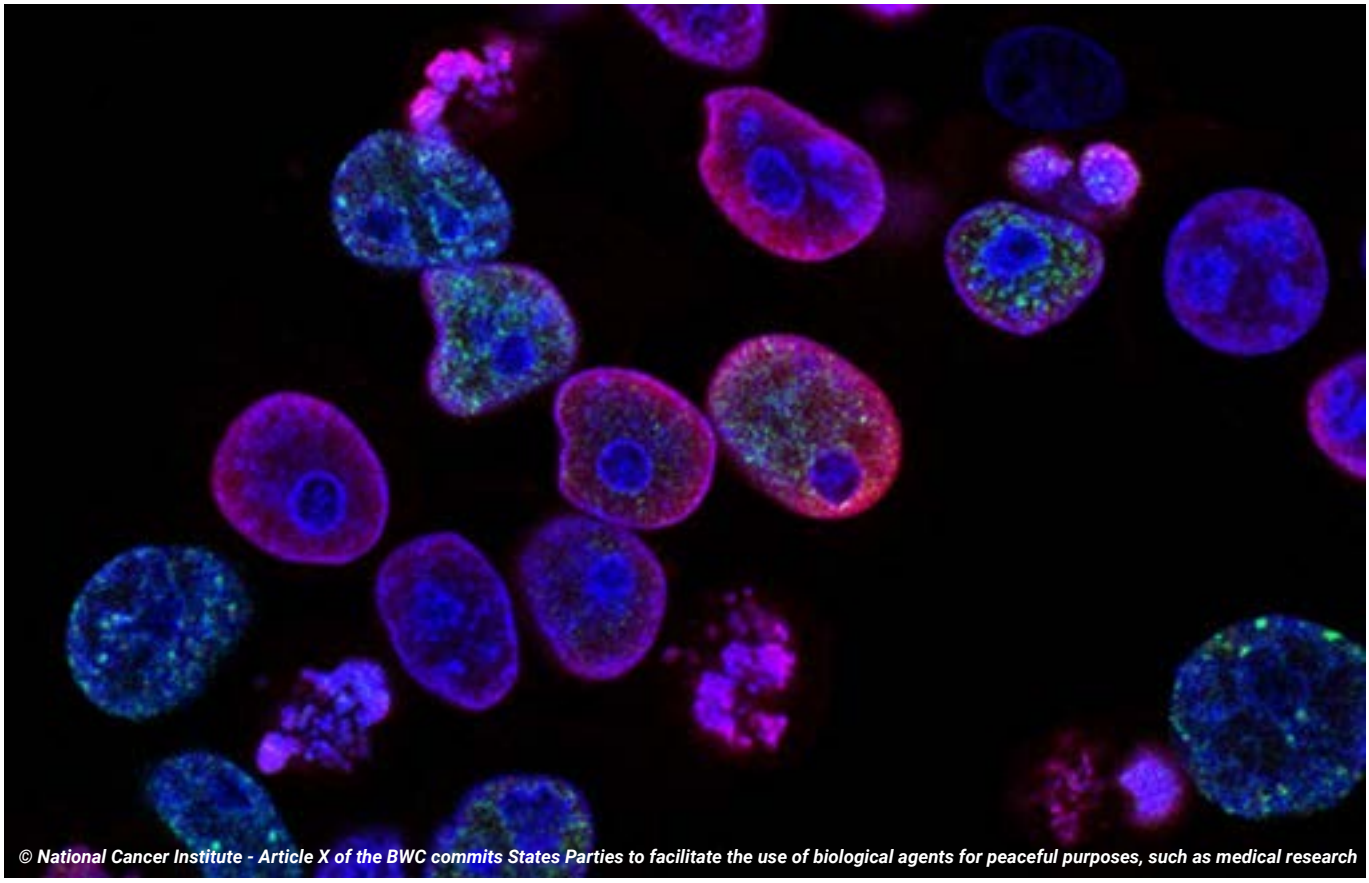
NATIONAL IMPLEMENTATION OF EXPORT CONTROLS OVER BIOLOGICAL WEAPONS-RELATED MATERIALS

The complementarity between UNSCR 1540 and the BWC, which has already been commented on in this journal,[6] exists specifically with regard to export controls. Operative paragraph (OP) 1 of UNSCR 1540 requires States to prohibit any non-State actor to, *inter alia*,

4 UNIDIR and VERTIC, Biological Weapons Convention National Implementation Measures Database, available at: https://bwcimplementation.org/ (accessed on 20 June 2024).

5 See "Categories of Measures" in the Glossary of the Database, available at: https://bwcimplementation.org/page/glossary.

6 Louison Mazeaud and James Revill, 'UNSCR 1540 Lessons Learned from the 'Tending' of the Biological Weapons Regime' in UNICRI 1540 Compass, April 2024, Issue 1, 50-57.



© National Cancer Institute - Article X of the BWC commits States Parties to facilitate the use of biological agents for peaceful purposes, such as medical research

transfer biological weapons and their means of delivery. Similarly, Article III of the BWC obligates each State Party not to transfer biological weapons to any recipient whatsoever, directly or indirectly.

To prevent the transfer of biological weapons, OP 3 (d) of UNSCR 1540 further requires States to "establish, develop, review and maintain appropriate effective national export and trans-shipment controls ... including appropriate laws and regulations to control export, transit, trans-shipment and re-export". Therefore, not only the export of biological agents, toxins, and related equipment and technology must be controlled, but also their transit, trans-shipment and re-export. The resolution also provides for the establishment of end-user controls and the adoption and enforcement of appropriate criminal or civil penalties for violations of export control laws and regulations. The Convention is less specific about such controls, but successive BWC Review Conferences have called for appropriate measures by all States Parties to implement Article III, including effective national export controls.[7]

At the same time, in its preamble, UNSCR 1540 affirms that the prevention of proliferation of biological weapons should not hamper international cooperation in materials, equipment and technology for peaceful purposes. Article X of the BWC goes further and commits States Parties to facilitate the fullest possible exchange of equipment, materials and information for the use of biological agents and toxins for peaceful purposes. Review Conferences have urged States Parties to "review their national regulations governing international exchanges and transfers."[8]

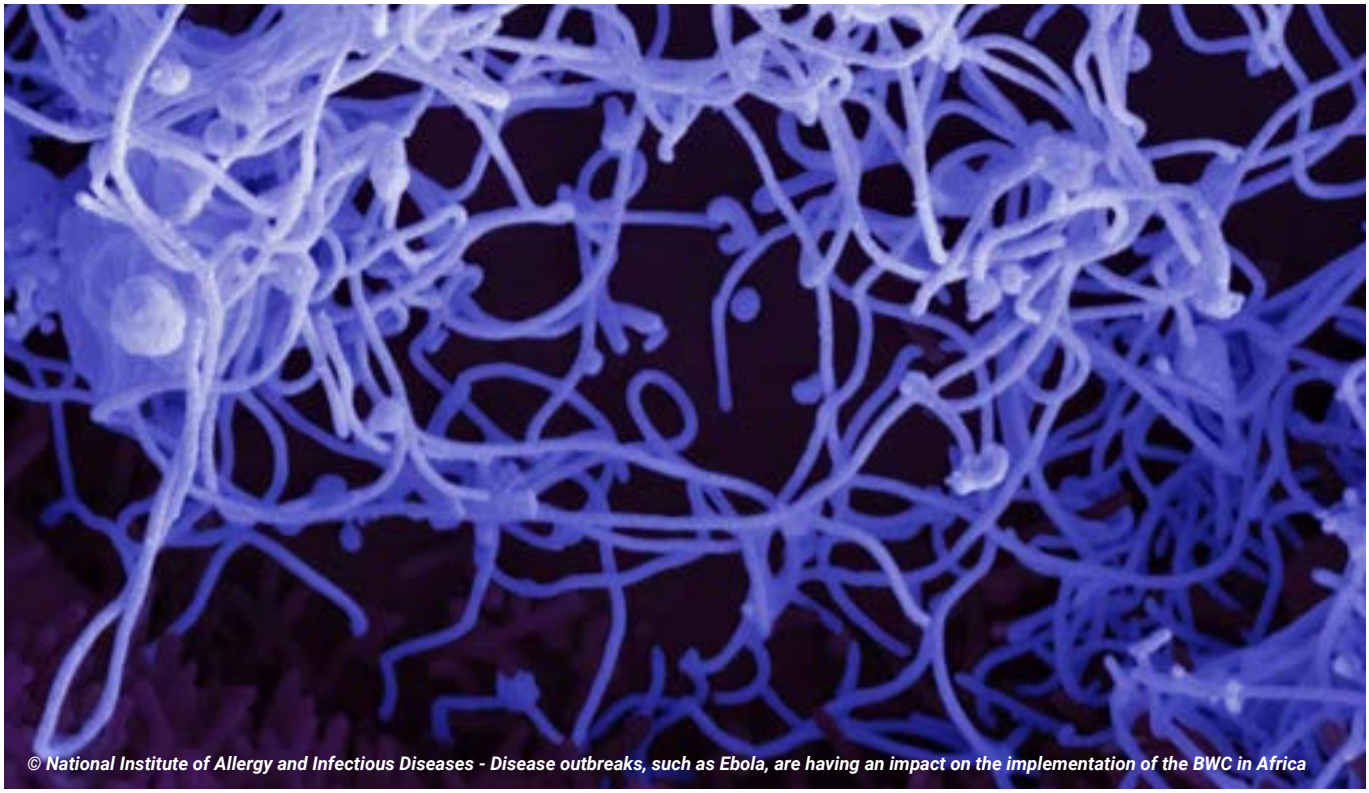
Neither UNSCR 1540 nor the BWC prescribe specific approaches of how to implement their terms. Each State determines how best to implement the requirements in their own national legislation based upon how their legal system functions, and there is no one size fits all. Based on the text of the resolution and the Convention, additional understandings and agreements reached by BWC States Parties,[9] and practice as reflected in measures effectively adopted by States, common elements of an effective and comprehensive export control system typically include:

- national (or in some cases regional) lists of items subject to controls, the utility of which is recognized by OP6 of UNSCR 1540;
- licenses or other control requirements for the export, including re-export, transit, and trans-shipment of controlled items; as well as requirements for related services such as financing;
- end-user controls, as required by OP3 (d);

7 See Additional understandings and agreements reached by previous Review Conferences relating to each article of the Convention Background information document submitted by the Implementation Support Unit, doc. BWC/CONF.IX/PC/5, para. 29.

8 *Ibid*, para. 103.

9 According to doc. BWC/CONF.IX/PC/5, "additional understanding or agreement" is one which: (a) interprets, defines or elaborates the meaning or scope of a provision of the Convention; or (b) provides instructions, guidelines or recommendations on how a provision should be implemented (para.1).



© National Institute of Allergy and Infectious Diseases - Disease outbreaks, such as Ebola, are having an impact on the implementation of the BWC in Africa

- technical, security and accountability requirements in line with OP3 (a) and (b) and other control requirements for transport;

- related prohibitions and sanctions as required by OP2 and OP3 (d).

NATIONAL IMPLEMENTATION OF BW-RELATED EXPORT CONTROLS IN AFRICA

Several African countries are looking at enhancing implementation of the BWC and related provisions of UNSCR 1540.[10] Factors like the expected growth in chemical and pharmaceuticals industries,[11] existing illicit commercial networks, expanding terrorist threats,[12] and the impact that disease outbreaks may have, as shown by the COVID-19 and Ebola outbreaks,[13] are likely playing a role in these developments.

The 2022 Comprehensive Review of the Status of Implementation of UNSCR

10 VERTIC, 'NIM holds CWC drafting workshop with Sierra Leone', available at https://www.vertic.org/2023/06/nim-holds-cwc-drafting-workshop-with-sierra-leone/#:~:text=From%206%2D8%20June%202023,Norwegian%20Ministry%20of%20Foreign%20Affairs . VERTIC, 'VERTIC and CRDF Global hold two BWC workshops with Kenya', available at: https://www.vertic.org/2023/08/vertic-and-crdf-global-hold-two-bwc-workshops-with-kenya/. UNODA, 'Countering the Proliferation and Illicit trafficking of Dual-Use Materials in Botswana', available at: https://disarmament.unoda.org/update/countering-the-proliferation-and-illicit-trafficking-of-dual-use-materials-in-botswana/

11 See African Development Bank Group, 'Africa Industrialisation Index 2022', pp. 4 and 10, available at: https://www.afdb.org/en/documents/africa-industrialization-index-2022 (accessed 20 June 2024) and South African Institute of International Affairs and United Nations Office of Disarmament Affairs, 'Resolution 1540 and the African Continental Free Trade Area', p. 22, available at: https://front.un-arm.org/wp-content/uploads/2023/07/unoda-saiia-pb-res-unscr1540-afcfta.pdf (accessed on 20 June 2024).

12 See South African Institute of International Affairs and United Nations Office of Disarmament Affairs, 'Resolution 1540 and the African Continental Free Trade Area', p.16 available at: https://front.un-arm.org/wp-content/uploads/2023/07/unoda-saiia-pb-res-unscr1540-afcfta.pdf (accessed on 20 June 2024).

13 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction, 'Signature Initiative to Mitigate Biological Threats in Africa (SIMBA)', available at: https://www.gpwmd.com/africa-signature-initiative (accessed 25 June 2024).

1540 found that the level of national implementation of all measures grew from 30 per cent to 38 per cent between 2016 and 2022 in the Africa Group.[14] However, it seems that further efforts are required to increase this level of implementation, specifically in the area of export controls over biological weapons-related materials.

Further insights can be derived from the UNIDIR–VERTIC BWC National Implementation Measures Database. The section dedicated to export controls provides information covering licensing for export, import, transfer and transit of controlled items, end-user certification, control lists, carrier requirements and technical, security and accountability requirements, that are also relevant to UNSCR 1540 export control-related implementation.

At the time of writing, of the 25 completed African profiles on the database, 80 per cent of these States were found to have some license or other control requirements for the export of BWC-related items. However, in many cases, these requirements are found in health, environmental or other sectoral legislation, including legislation on genetically modified organisms. Only a limited scope of BWC-relevant items are therefore covered and a specific non-proliferation purpose is often missing. In only eight per cent of the completed profiles were end-user certification requirements for the export of controlled items found. Similarly, in only 38 per cent of the completed States were lists of items subject to export controls found. While it is acknowledged that this does not provide a complete picture, as not all profiles for African States Parties have yet been completed on the database, it provides a good indication of the areas that may benefit from strengthened implementation.

Different approaches have been taken by African States to implement export controls. Examining them can prove to be a useful exercise to provide inspiration and see what may or may not be suitable for a particular State. Certain States are covering export and other transfer measures through dual-use or strategic trade laws, which usually also include nuclear and chemical related items, and, in some cases, military items. Such laws are sometimes implemented in coordination with BWC-specific implementing laws, with coordination provisions and mechanisms regarding licensing processes. Some countries choose to implement the export control obligations of UNSCR 1540 and the BWC through general export controls or trade laws with specific implementing provisions on dual-use trade.

Export control measures can alternatively be included in BWC-dedicated laws. Examples reflected in the database show, however, that those laws often focus on criminal provisions. In the instances where they do cover export controls, they often lack UNSCR 1540 specific elements such as re-export, trans-shipment and transit. It is also common for these laws to focus on biological agents and toxins, but not related equipment and technology. As mentioned above, export requirements for certain items may also be found in sectoral laws, but these tend to provide incomplete coverage of export control measures.

14 2022 comprehensive review of the status of implementation of Security Council resolution 1540 (2004), summary, p.6, in document S/2022/899.

FUTURE OF NATIONAL IMPLEMENTATION OF BW-RELATED EXPORT CONTROLS IN AFRICA

Based on this brief overview of the status of implementation of BW-related export controls in Africa and the legal challenges they raise,[15] it appears that, in many States in the region, targeted legislative action may be necessary should they wish to implement a comprehensive control regime covering all relevant items and associated activities. This can be done either by developing dual-use trade legislation or BWC legislation covering export controls, or by amending existing laws.

Against this background, ongoing awareness-raising and knowledge sharing amongst States of the relevance and benefits of UNSCR 1540 for export controls over BW-related materials is key. States should be aware of the specifics of UNSCR 1540 and the BWC, respectively, and how they can be mutually reinforcing instruments. The sharing of best practices and experiences has proven to be an effective tool for further implementation. As mentioned in UNSCR 1540 successor resolutions, one of the most effective mechanisms to improve implementation is tailored and coordinated international assistance and cooperation.[16] This includes direct tailored support from entities and organizations such as the BWC Implementation Support Unit,[17] the European Union Partner to Partner Export Control Programme[18] or organizations such as VERTIC, which assists States with their national implementation.[19] In addition, there are a variety of existing tools available to States which can be useful, such as databases, guides, gap analysis and model legislation.[20]

15 On non-legal challenges, see South African Institute of International Affairs and United Nations Office of Disarmament Affairs, 'Resolution 1540 and the African Continental Free Trade Area', available at: https://front.un-arm.org/wp-content/uploads/2023/07/unoda-saia-pb-res-unscr1540-afcfta.pdf (accessed on 20 June 2024).

16 UN Security Council resolution 1540 (2004), S/RES/1540, OP7. UN Security Council resolution 2325 (2016), OP10, 11 and 12.

17 UNODA, Global Partnership Support, available at https://disarmament.unoda.org/global-partnership-support/ (accessed on 20 June 2024).

18 European Union, Partner to Partner Export Control Programme, available at: https://cbrn-risk-mitigation.network.europa.eu/eu-p2p-export-control-programme_en (accessed 20 June 2024).

19 VERTIC, National Implementation Measures Programme, available at: https://www.vertic.org/programmes/nim/ (accessed 20 June 2024).

20 VERTIC, 'Survey Template of National Implementation Measures for the 1972 Biological and Toxin Weapons Convention and biological weapons-related provisions of relevant international instruments', 2021, available at https://www.vertic.org/wp-content/uploads/2021/06/VERTIC_BWC_Legislation_Survey_Template_EN.pdf (accessed 25 June 2024). See also, European Studies Unit, University of Liege, Publications, available at: https://www.esu.ulg.ac.be/publications/ (accessed 25 June 2024).

ABOUT VERTIC

VERTIC is a London-based non-profit organization supporting the development, implementation and verification of international agreements and related regional and national initiatives. Its National Implementation Measures Programme conducts research and analysis and provides tailored assistance to interested States for adherence to and implementation of international instruments focusing on the non-proliferation of chemical, biological, nuclear and radiological weapons and the security of related materials.

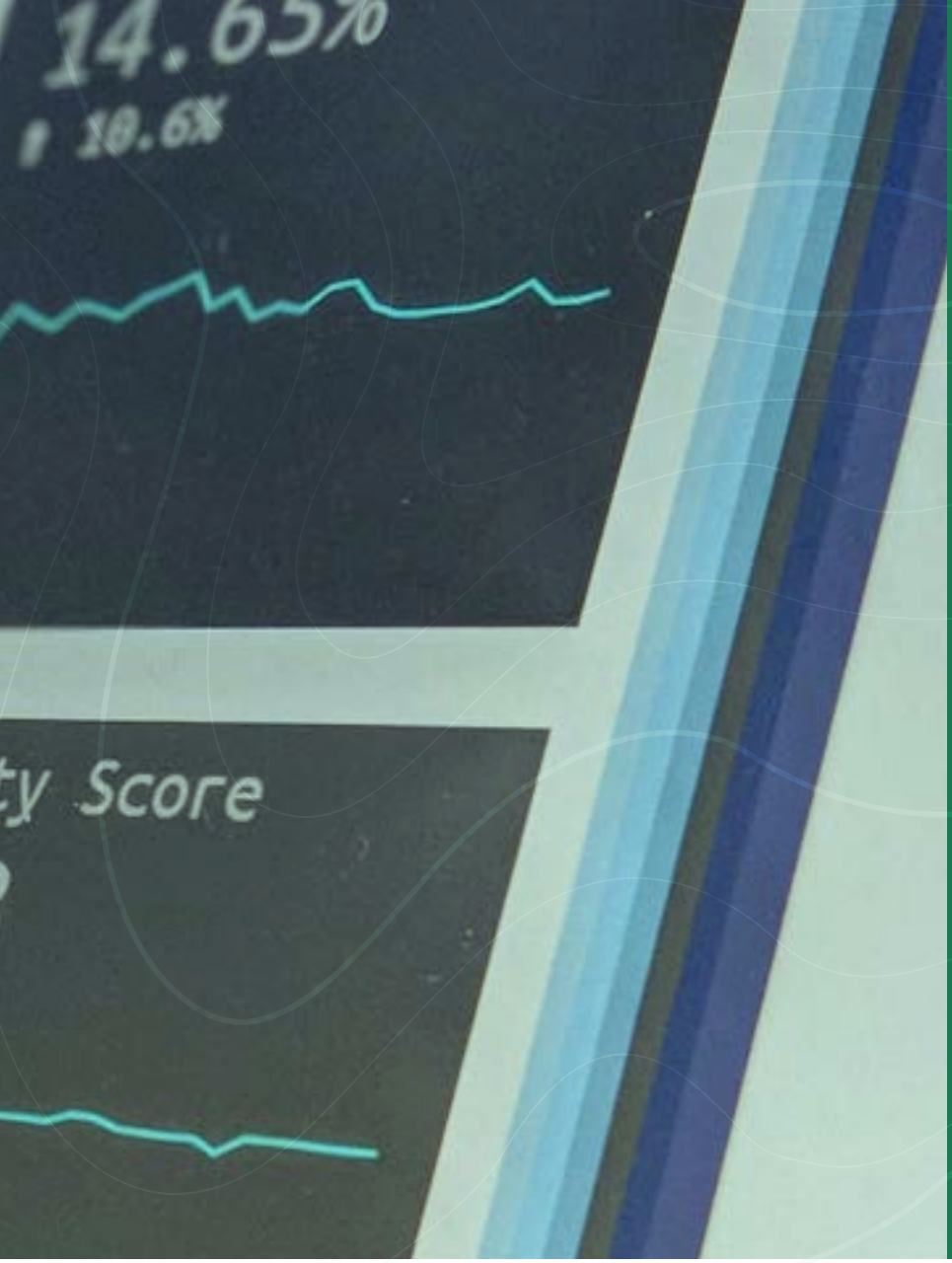
© Media Lens King – Disease outbreaks, such as COVID-19, are likely having an impact on the implementation of the BWC.

WHY IS TRADE COMPLIANCE IMPORTANT IN AN ORGANIZATION?

© Stephen Dawson - Trade compliance is often viewed as a barrier for growth rather than a valuable asset

ABSTRACT

Trade compliance is typically perceived as a roadblock in an organization or corporate world and is often overlooked in the context of relationship building or business-friendly functions. This article aims to change this perception by highlighting the different benefits and value trade compliance brings to organizations. It describes how effective trade compliance, despite being a non-revenue generating function, can enhance company integrity, provide high reputational value, and can help reduce the risk of heavy penalties (monetary fine or seizure of goods) due to non-compliance with export control laws. Additionally, the article aligns trade compliance with international obligations under United Nations Security Council resolution 1540 (2004) (UNSCR 1540), particularly its role in preventing the proliferation of weapons of mass destruction (WMDs) through the implementation of robust trade controls, thereby ensuring both corporate and global security.



THE AUTHOR:
Angela McCabe

Angela McCabe has been in the semiconductor, high-tech and supply chain industry for 20 years and a trade compliance expert for more than a decade. She currently works at McAfee as the Asia Trade Compliance Manager and is also the Vice President of the Centre for Asia Pacific Trade Compliance Information Security (CAPTCIS).

Navigating and understanding the intricacies of trade compliance can seem daunting to many, often labeled as complex or even tedious. It is also often viewed as a barrier for growth rather than one of the most valued stakeholders in an organization. It is a path that not everyone embarks on willingly, but, despite its complexity, trade compliance is crucial for any organization, large or small. This function ensures that businesses operate within legal boundaries and ethical standards.

Trade compliance might be the last thing people consider when thinking about building relationships, however, reshaping this perception requires a fundamental shift in mindset throughout the organization, starting from top management down to every employee. This shift is particularly critical in light of international obligations, such as those outlined in UNSCR 1540, which mandates that States prevent non-State actors from acquiring chemical, biological or nuclear weapons, their means of delivery, and related materials.

Operative paragraph 3 (c) and (d) of UNSCR 1540 explicitly requires all States to implement effective national controls and establish appro-

© Zoshua Colah - Trade compliance is crucial for any organization, large or small

priate laws and regulations that control the transfer of materials that could be used in chemical, biological or nuclear weapons. Trade compliance professionals play a pivotal role in ensuring that businesses adhere to these regulations, thereby contributing to global efforts to prevent the proliferation of WMDs.

So, how do we instigate this change?

Changing this perception begins with trade compliance professionals. We play a key role in this transformation by aligning with the company's goals of growth and seamless execution; we must demonstrate the value of trade compliance in supporting business objectives. This means being 'ahead of the game', becoming proactive strategists, anticipating business needs, participating in decision-making processes and providing support and guidance on trade compliance matters by actively engaging and partnering in all facets of operations.

Embedding trade compliance controls into critical business functions is essential for ensuring compliance across the organization. Here are some examples of how trade compliance is integrated into various functional areas within organizations to ensure legal compliance, mitigate risks, and facilitate international trade:

- **Human resources (HR)**
  - Screening and conducting background checks on foreign workers to ensure compliance with immigration and employment laws, as well as export control.
  - Providing training to employees on trade compliance regulations and policies during the onboarding process.
  - Ensuring that HR processes, such as hiring and training, align with trade compliance requirements.
- **Legal**
  - Reviewing all contracts to ensure compliance with export control regulations.
  - Advising on the inclusion of export control clauses in all contracts, such as End User License Agreements (EULAs).
  - Conducting legal research to stay updated on changes in trade regulations and advising the company on compliance requirements.
- **Sales and marketing**
  - Conducting end-user screenings to ensure that products are not sold to prohibited parties or countries.
  - Reviewing sales contracts to ensure compliance with export control regulations and incorporating necessary export control clauses.
  - Partnering with sales and marketing teams to provide guidance on compliance requirements when expanding into new markets or forming partnerships.
- **Research and development; product management; engineering and IT**
  - Integrating trade compliance considerations into the product development lifecycle to classify items and identify export control requirements early in the process.
  - Collaborating with engineering and IT teams to understand the level of export control for technology transfers and incorporating necessary controls into product design and development.
  - Ensuring that technology and intellectual property rights are protected in accordance with trade regulations during research and development and product management processes.
- **Procurement and supply chain and logistics**

- Screening potential suppliers and conducting due diligence to ensure compliance with trade regulations, including sanctions and export control requirements.
- Evaluating suppliers' compliance programmes and incorporating trade compliance considerations into procurement contracts.
- Ensuring that suppliers meet the company's trade compliance standards before onboarding them into the supply chain.
- Assessing risk and ensuring resilience in the supply chain, both domestic and international.

- **Order management and operations**

- Ensuring that supply chain processes comply with import and export regulations, including customs requirements and documentation.
- Incorporating trade controls into order management systems to ensure that every transaction is compliant with relevant trade regulations.
- Training for order management staff on trade compliance requirements and procedures to prevent non-compliance issues during order processing.

In a global business environment, trade compliance becomes even more critical, with each country's unique regulations requiring meticulous attention. Effective trade compliance is not only a safeguard against potential penalties, but also a crucial element in adhering to the broader security objectives of UNSCR 1540, particularly in controlling the export and transfer of sensitive goods and technologies that could be used in the development of

© Scott Graham - Compliance requirements should be considered when expanding into new markets or forming partnerships

WMDs. While larger companies may have dedicated trade compliance teams, smaller businesses may struggle to allocate resources to this essential function. However, regardless of size, investing in compliance programmes is ultimately a cost-saving measure, preventing potentially hefty penalties and reputational damage down the line. In other words, "invest now or pay later."

As regulations evolve, so must our approach to compliance. Adaptability is key, and compliance professionals must remain vigilant, constantly updating their knowledge and processes to stay ahead of the curve, as ensuring compliance in a rapidly changing regulatory environment is a mandatory necessity.

Though the challenges may be daunting, trade compliance professionals play a vital role in upholding ethical business practices and mitigating risks. By maintaining integrity and a commitment to doing what is right, we not only safeguard our organizations but also contribute to a more compliant and harmonious global marketplace.

In the realm of trade compliance, there are no small victories. Every success, no matter how incremental, contributes to a safer, more transparent business environment. So, let us embrace our role as unsung heroes, knowing that our efforts pave the way for a brighter, more compliant future.

"The only constant in this world is change," as the saying goes. By prioritizing compliance and embracing change, businesses can successfully navigate the complex landscape of international trade. Whenever regulatory changes or new mandates are implemented by local or foreign authorities, whether in the United States, Southeast Asia, or elsewhere, trade compliance professionals must undertake several crucial steps: understanding the amended laws, assessing their impact on business, products, and processes, identifying exceptions and ensuring qualification, integrating changes into operational processes, securing necessary licenses in advance, and executing these changes to maintain compliance and avoid penalties.

These efforts not only fulfill business objectives but also align with international obligations, as stipulated in UNSCR 1540. This resolution emphasizes the need for effective trade controls to prevent the spread of materials that could be used in the development of WMDs, reinforcing the critical role of trade compliance professionals in maintaining both corporate and global security.

Continuous learning and adaption to evolving import and export regulations in each country are imperative, albeit challenging. The ever-changing regulatory landscape complicates business processes for many global companies, demanding swift responses and strict adherence to customs regulations, trade agreements, and export controls. Nevertheless, despite the challenges, there is a sense of fulfillment and pride in working towards a greater good and contributing, albeit indirectly, to global harmony through trade compliance.

ARTIFICIAL INTELLIGENCE: EMERGING CHALLENGES IN IMPLEMENTING UNITED NATIONS SECURITY COUNCIL RESOLUTION 1540

© Chris Yang - Certain characteristics of AI would make end-user a more prominent risk factor

ABSTRACT

This article explores challenges related to the transfer of emerging technologies, specifically artificial intelligence (AI), and the potential impact it has on the framework for strategic trade controls (STC). The widespread impact of AI poses significant challenges for national authorities tasked with implementing United Nations Security Council resolution 1540 (2004) (UNSCR 1540). These challenges include defining controlled AI items, verifying the declared end use, and establishing AI control schemes that extend beyond mere destination. These factors make end-user risk assessment crucial, but they also complicate international harmonization of controls, potentially shifting the focus of UNSCR 1540 from non-State actors to State actors. The article argues that the international community must develop a shared understanding of how to address these emerging risks without compromising global security.

THE AUTHOR:
Hyuk Kim

Hyuk Kim is a Consultant and Non-resident Fellow at 38 North of the Stimson Center. Prior to joining 38 North, Mr. Kim served as a Research Fellow at the James Martin Center for Nonproliferation Studies (CNS) at the Middlebury Institute of International Studies. He has also worked as a Nonproliferation and Nuclear Security Fellow at the Pacific Forum and as a guest researcher at the Stockholm International Peace Research Institute (SIPRI).

Over the past two decades, the international community has witnessed global progress in efforts to curb the illicit procurement of weapons of mass destruction (WMD) and related materials by non-State actors. Following the adoption of UNSCR 1540 in 2004, there was a tremendous increase in the awareness of the potential threat associated with misappropriation of WMD-related materials.[1] Meanwhile, as States placed increased emphasis on controlling these goods, the evolving proliferation risks associated with emerging technologies also became an important consideration. Evidence that these issues warranted careful attention in the implementation of UNSCR 1540 is seen in UNSC resolution 2325 (2016) and its related debates.[2] This article explores challenges related to the transfer of emerging technologies, specifically AI, and the potential impact it has on the framework for STC.

1 "Letter dated 1 December 2016 from the Permanent Representative of Spain to the United Nations addressed to the Secretary-General," S/2016/1013, *United Nations Digital Library*, 1 December 2016. Available at: https://documents.un.org/doc/undoc/gen/n16/410/58/pdf/n1641058.pdf?token=ceUN7G9ifOlqK859Nf&fe=true

2 Resolution 2325 (2016) / adopted by the Security Council at its 7837th meeting, on 15 December 2016," *United Nations Digital Library*, 2016. Available at: https://digitallibrary.un.org/record/852037?ln=en

In general, a national regulatory authority for STC implementation takes at least four factors into account in risk assessment for an intended export: an item's inherent WMD or military potential, its destination, and its stated end-use and end user. In most cases, each element alone cannot constitute a definitive criterion for authorizing a transaction, and the authority should have a holistic view by considering all factors to ascertain the permissibility of the proposed export. However, certain characteristics of AI would make end user a more prominent risk factor than the others as stated below.

First and foremost, akin to a field of study, AI is a horizontal technology. It encompasses a broad range of techniques that can be integrated at any stage of the technology lifecycle across various industrial sectors. In general, AI alone does not exist as a specific controlled item, but becomes subject to controls when it converges with other controlled items in their lifecycle. For instance, the multinational STC arrangements, such as the Nuclear Suppliers Group (NSG), define controlled technology as "information required for the development, production, or use of any item" on the control lists.[3] In this instance, AI becomes a technology transfer concern if an engineer well-versed in techniques for anomaly detection develops software that identifies the malfunctioning status of production equipment for controlled materials, even though those anomaly detection techniques can be used for legitimate civilian applications.

The ubiquitous nature of AI could pose challenges for a national authority seeking to proactively reduce potential AI-driven proliferation risks by setting a list of controlled AI items and related parameters. For instance, in 2020, the US government announced an interim rule to control software for geospatial analysis.[4] The specific criteria for the controlled software included the use of a "Deep Convolutional Neural Network (CNN) to detect the object of interest from positive and negative samples." However, the US private sector, such as ride-handling services, was hesitant to view these criteria as control parameters. They perceived it as merely a description of CNN, a technique widely used, primarily for image classification purposes.[5]

Second, many AI models, such as artificial neural networks (ANNs) can be fine-tuned, rendering end-use less critical for risk assessment. Specifically, a pre-trained ANN model can be further trained through a process called transfer learning to address specific needs or better perform in a particular context.[6] This means that an end user could fine-tune a pre-trained model with a general

3 "Communication received from the Permanent Mission of the Argentine Republic to the International Atomic Energy Agency regarding Certain Member States' Guidelines for Transfers of Nuclear-related Dual-use Equipment, Materials, Software and Related Technology," INFCIRC/254/Rev.12/Part2, *International Atomic Energy Agency*, 29 July 2022. Available at: https://www.iaea.org/sites/default/files/publications/documents/infcircs/1978/infcirc254r12p2.pdf

4 "Addition of Software Specially Designed To Automate the Analysis of Geospatial Imagery to the Export Control Classification Number 0Y521 Series," 85 FR 489, *Federal Register*, 6 January 20020. Available at: https://www.federalregister.gov/documents/2020/01/06/2019-27649/addition-of-software-specially-designed-to-automate-the-analysis-of-geospatial-imagery-to-the-export

5 "AH89 Public Comment 21," *Regulations.gov*, 10 March 2020. Available at: https://www.regulations.gov/document/BIS-2019-0031-0022

6 Hyuk Kim, "North Korea's Artificial Intelligence Research: Trends and Potential Civilian and Military Applications," *38 North*, 23 January 2024. Available at: https://www.38north.org/2024/01/north-koreas-artificial-intelligence-research-trends-and-potential-civilian-and-military-applications/

© Bolivia Inteligente - AI is a horizontal technology that encompasses a broad range of techniques

object detection function to meet specific military requirements. Similarly, a military-oriented pre-trained model could be enhanced to handle more complex environments.[7] In addition, transfer learning does not require the whole dataset used for a pre-trained model. Instead, only the relevant data of interest to the end user is necessary, reducing hardware demands, such as storage and computational power.

A recent study indicates that the object detection capabilities of a pre-trained surveillance model can be improved using transfer learning.[8] The study found that a daytime surveillance system initially trained on RGB images from public datasets can be further trained for night-time surveillance using infrared images.[9] Remarkably, this transferred learning process relies solely on a set of infrared images, avoiding the need for the entire original dataset. Likewise, it is feasible that an end user could repurpose civilian drone object detection software for military target detection via transfer learning. Therefore, the stated end-use in an export license application may not always serve as a reliable risk indicator.

Third, AI is predominantly a software-based technology that can be transferred to the end user via intangible means, called intangible transfer of

7 Toubman, J. J. Roessingh, P. Spronck, A. Plaat and J. Van Den Herik, "Transfer Learning of Air Combat Behavior," *2015 IEEE 14th International Conference on Machine Learning and Applications (ICMLA)*, Miami, FL, USA, 2015, pp. 226-231, doi: 10.1109/ICMLA.2015.61.

8 E. S. Kim, W. Kim, J. Park and K. Yeo, "Human Detection in Infrared Image Using Daytime Model-Based Transfer Learning for Military Surveillance System," *2023 14th International Conference on Information and Communication Technology Convergence (ICTC)*, Jeju Island, Korea, Republic of, 2023, pp. 1306-1308, doi: 10.1109/ICTC58733.2023.10393353.

9 Ibid.

technology (ITT).[10] In contrast to the trading of physical goods, AI software can be transferred via various digital platforms, including email and cloud computing environments. Moreover, many cloud computing services provide AI development environments supported by the latest AI-dedicated chipsets, with which a proliferator could exploit such platforms for malicious AI development without relying on importing AI-related hardware.[11] This means that restrictions focused only on the physical destination of AI hardware are insufficient to fully address proliferation risks associated with AI. In this respect, for national authorities, the characteristic of AI as a software-based technology necessitates a shift in focus beyond the cross-border movement of goods. Rather than concentrating solely on the physical destination of exports, cross-nationality transactions, such as international scientific collaboration, also become a crucial consideration in any jurisdiction.

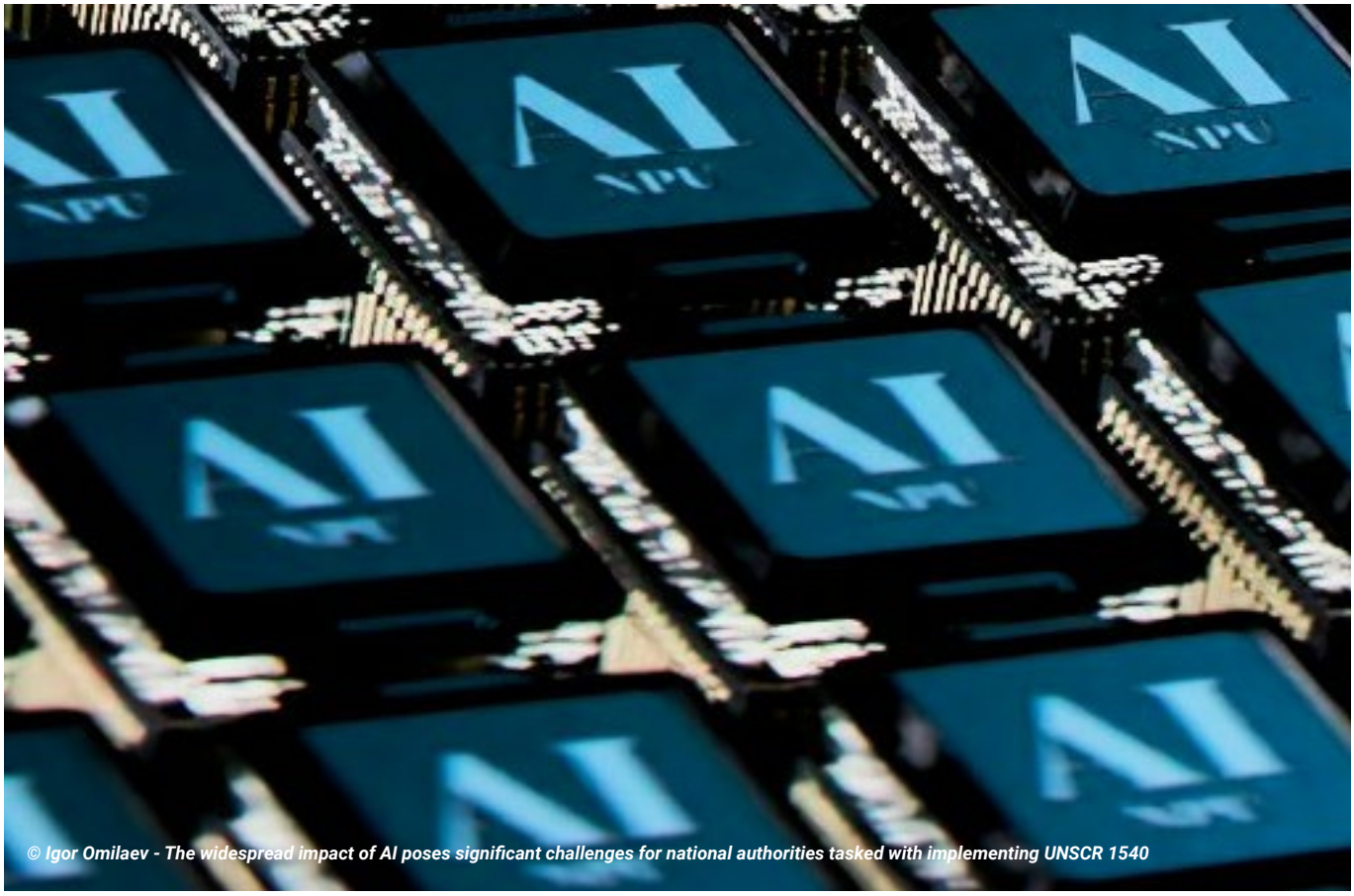
Consequently, the end user, especially one intending to divert AI toward WMD applications, is likely to become a more prominent risk factor compared to other elements. However, end-user-focused STC could be seen as conflicting with the principle of focusing on the threat posed by non-State actors, which was a key factor in the adoption of UNSCR 1540. During the debates on the draft resolution, some States expressed concerns that the obligations under UNSCR 1540 could have significant implications for national security and the right to self-defence. More importantly, they pointed out that coercive measures could indeed be imposed not only on non-State actors, but also on States themselves.[12]

10 Hyuk Kim, "Intangible Transfer of Technology (ITT): Open-source Information Analysis for the Implementation of Sanctions on North Korea," *38 North*, 10 March 2023. Available at: https://www.38north.org/2023/03/intangible-transfer-of-technology-itt-open-source-information-analysis-for-the-implementation-of-sanctions-on-north-korea/

11 Hyuk Kim, "North Korea's Artificial Intelligence Research: Trends and Potential Civilian and Military Applications."

12 UN Security Council 4950th Meeting, S/PV.4950, *Security Council Report*, 22 April 2004. Available at https://www.securitycouncilreport.org/un-documents/document/1540-spv-4950.php

For national authorities, the characteristic of AI as a software-based technology necessitates a shift in focus beyond the cross-border movement of goods.



© Igor Omilaev - The widespread impact of AI poses significant challenges for national authorities tasked with implementing UNSCR 1540

Likewise, it would be challenging for national authorities to achieve global harmonization in their risk assessments of certain end users, except for those related to prominent terrorist organizations. This is because threat perceptions may vary among States, depending on their individual national security and foreign policy interests. If a governmental agency responsible for foreign affairs has more influence in interagency coordination for the export licensing process than a non-proliferation-focused strategic trade control authority, the decision to grant a license could be heavily influenced by the State's geopolitical interests. Consequently, the intended recipient State might interpret such a decision as a reflection of the exporting State's perception of them as a competing State, rather than of the intended importer as a non-State actor.

The widespread impact of AI poses significant challenges for national authorities tasked with implementing UNSCR 1540. These challenges include defining controlled AI items, verifying the declared end-use, and establishing AI control schemes that extend beyond mere destination. Concurrently, a potential increase in reliance on the end user as a risk indicator could alter the spirit of UNSCR 1540 by gradually shifting the primary focus of the resolution from non-State actors to States. These end-user-focused controls could raise political concerns for many States about becoming implicated in regional rivalries or strategic competition. In this regard, to address AI-driven proliferation risks, the international community needs to build a common understanding on how to distinguish non-State actors from State actors.

OVERVIEW OF EMERGING TECHNOLOGIES WITH AN IMPACT ON CHEMICAL DISARMAMENT AND NON-PROLIFERATION REGIMES

© Zmorph All-in-One 3D Printers - 3D printing is a relatively new technology that has the potential to revolutionize the way products are manufactured

ABSTRACT

The rapid advancement of emerging technologies in the chemical domain presents both opportunities and challenges for the implementation of global non-proliferation regimes, specifically United Nations Security Council resolution 1540 (UNSCR 1540) and the Chemical Weapons Convention (CWC). This article explores how dual-use technologies, which can be used for both beneficial and harmful purposes, impact efforts to prevent the proliferation of chemical weapons. While advancements have improved detection, safe handling, and destruction of toxic chemicals, they also raise significant concerns regarding their potential misuse by State and non-State actors. The article highlights the critical need for robust border, export, and end-user controls, as outlined in operative paragraph (OP) 3 (c) and (d) of UNSCR 1540, to mitigate these risks. It further discusses the implications for the CWC's verification mechanisms and offers strategic recommendations to strengthen global non-proliferation efforts in the face of evolving technological threats.

THE AUTHOR:
Dr Kushani De Silva

Dr Kushani De Silva is the Founder and CEO of Gloir.K and a former Programme Development Officer at UNDP.

THE AUTHOR:
Dr Rohan Perera

Dr Rohan Perera is an affiliated subject matter expert at CRDF Global and a former Senior Programme Officer at the Organisation for the Prohibition of Chemical Weapons.

THE AUTHOR:
Prof. Imee Su Martinez

Prof. Imee Martinez is a Professor at the Institute of Chemistry of the University of the Philippines-Diliman in Quezon City, Philippines.

INTRODUCTION

The emergence of new technologies in the chemical domain has significantly impacted the implementation of related disarmament and non-proliferation regimes, including UNSCR 1540 and the CWC. This article will explore the challenges and opportunities these technologies present, with a focus on their dual-use nature, the implications for border and export controls, and the potential risks they pose to global security.

On one hand, new technologies have improved the detection, safe handling, and verification of toxic chemicals. For example, advancements in modern analytical technology have allowed for the real-time detection of trace amounts of particularly acute toxic chemicals, such as chemical warfare agents.[1] Technological innovations have also helped minimize the risk of accidental exposure and reduce the environmental impact of transporting hazardous chemicals and related materials. Equally,

1 Arshid Numan et al., "Advances in Noble-Metal Nanoparticle-Based Fluorescence Detection of Organophosphorous Chemical Warfare Agents", *ACS Omega,* vol. 7, No. 31 (July 2022); Wen-Qi Meng et al., "Fluorescent probes for the detection of chemical warfare agents", *Chem. Soc. Rev.*, vol. 52, No. 2 (September 2022).

incineration and neutralization technologies have been developed to irreversibly decompose highly toxic chemical warfare agents, allowing for their effective destruction.[2] In the context of UNSCR 1540, these advancements can support the enforcement of border controls and law enforcement efforts to detect, deter, prevent, and combat illicit trafficking, in alignment with OP 3 (c).

On the other hand, these technologies can be misused for malicious activities by State or non-State actors. They may generate novel series of chemical warfare agents and new dispersion and dissemination methods. Given the dual-use potential of these technologies, OP 3 (d) of UNSCR 1540, which underscores the importance of establishing end-user and end-use controls for export, becomes of even greater significance. Thus, the impact of emerging technologies on the non-proliferation regimes has been profound.

IMPLICATIONS OF EMERGING TECHNOLOGIES ON THE NON-PROLIFERATION OF CHEMICAL WEAPONS

Emerging technologies have a wide range of ramifications for UNSCR 1540 implementation. These technologies may make it more difficult for non-State actors to create or use chemical warfare agents. Nevertheless, their potential misuse or exploitation for the development or modification of toxic chemicals also raises concerns. Autonomous molecular designs, high throughput screening, technological convergence, small-scale chemical plants, 3D printing, new dissemination and dispersion techniques, and synthetic biology, for example, have the potential to generate new categories of chemical warfare agents.

These emerging technologies are leading to the development of a new series of highly toxic chemicals and more advanced delivery systems, which may have an impact on global peace and security.[3] Given the potential for both positive and negative applications of these technologies, it is crucial to establish robust end-user and end-use controls under OP 3 (d) of UNSCR 1540. Such controls are essential to ensuring that exports of these technologies are not diverted for malicious purposes, thereby reinforcing the global non-proliferation regime.

EMERGING TECHNOLOGIES: A PARADIGM SHIFT IN CHEMICAL WARFARE

Some emerging technologies have an immense impact on non-proliferation regimes, which may influence the production of highly toxic chemicals for non-peaceful applications. Some examples of emerging technologies that may have an impact on the non-proliferation of chemical warfare agents are highlighted below.

2 Selva Balasubramanian et al., "Metal Organic Framework Functionalized Textiles as Protective Clothing for the Detection and Detoxification of Chemical Warfare Agents—A Review", *Ind. Eng. Chem. Res.*, vol. 60, No. 11 (March 2021); Sun Dal Kim and Heesoo Jung, "Neutralization and Decontamination of Chemical Warfare Agents using Homogeneous Chemical Solutions", *Ind. Eng. Chem. Res.*, vol. 62, No. 17 (2023); Wes E. Steiner et al., "Detection of a Chemical Warfare Agent Simulant in Various Aerosol Matrixes by Ion Mobility Time-of-Flight Mass Spectrometry", *Analytical Chemistry*, vol. 77, No. 15, (June 2005).

3 Rafika Nurul et al., "A New Treaty for Fully Autonomous Weapons: A Need or a Want?", *Hasanuddin Law Review*, vol. 4, No. 1 (April 2018).

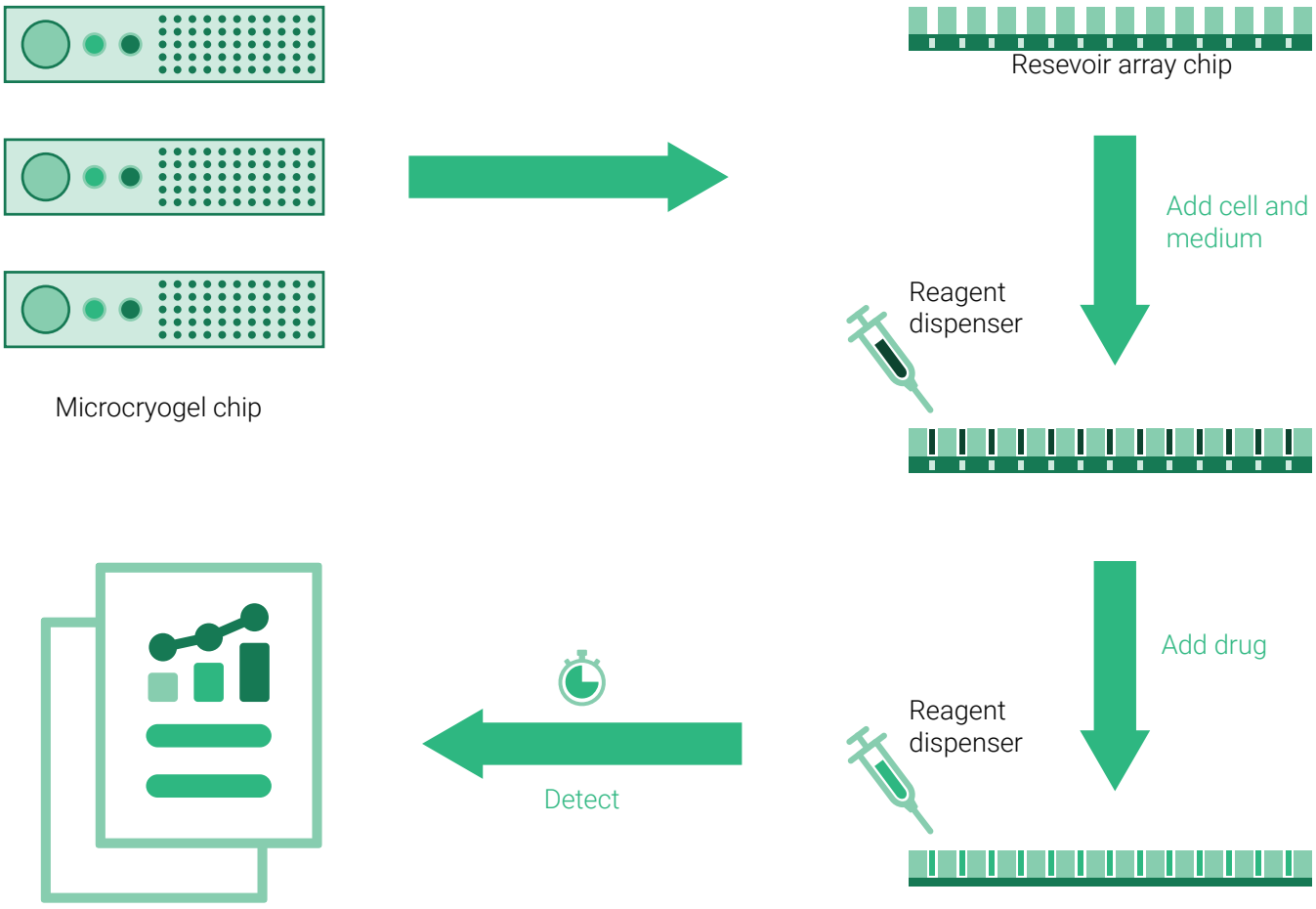


Figure 1: Schematic diagram of autonomous high throughput design screening

i. High throughput screening

High throughput screening (HTS) is a powerful technique that allows the rapid testing of thousands of chemical compounds for their biological activity.[4] This has been widely used in toxicological studies and drug discovery.[5] It has a great impact on the chemical weapon non-proliferation regimes, both as a challenge and an opportunity. It requires careful handling and oversight to ensure its ethical and peaceful use because of its ability to screen thousands of compounds for biological activity and to determine toxicity within a short period.

ii. Autonomous molecular design

Autonomous molecular design is a rapidly growing field that uses artificial intelligence to design new molecules and materials.[6] Artificial intelligence has been increasingly adopted in recent years to expedite molecular design

4 Michael Entzeroth, "Emerging trends in high-throughput screening", *Current Opinion in Pharmacology*, vol. 3, No. 5 (October 2003).

5 Donald Wlodkowic and Marcus Jansen, "High-throughput screening paradigms in ecotoxicity testing: Emerging prospects and ongoing challenges", *Chemosphere*, vol. 307, No. 2 (November 2022).

6 Yan A. Ivanenkov et al., "Chemistry 42: An AI-Driven Platform for Molecular Design and Optimization", *Journal of Chemical Information and Modeling*, vol. 63, No. 3 (February 2023).

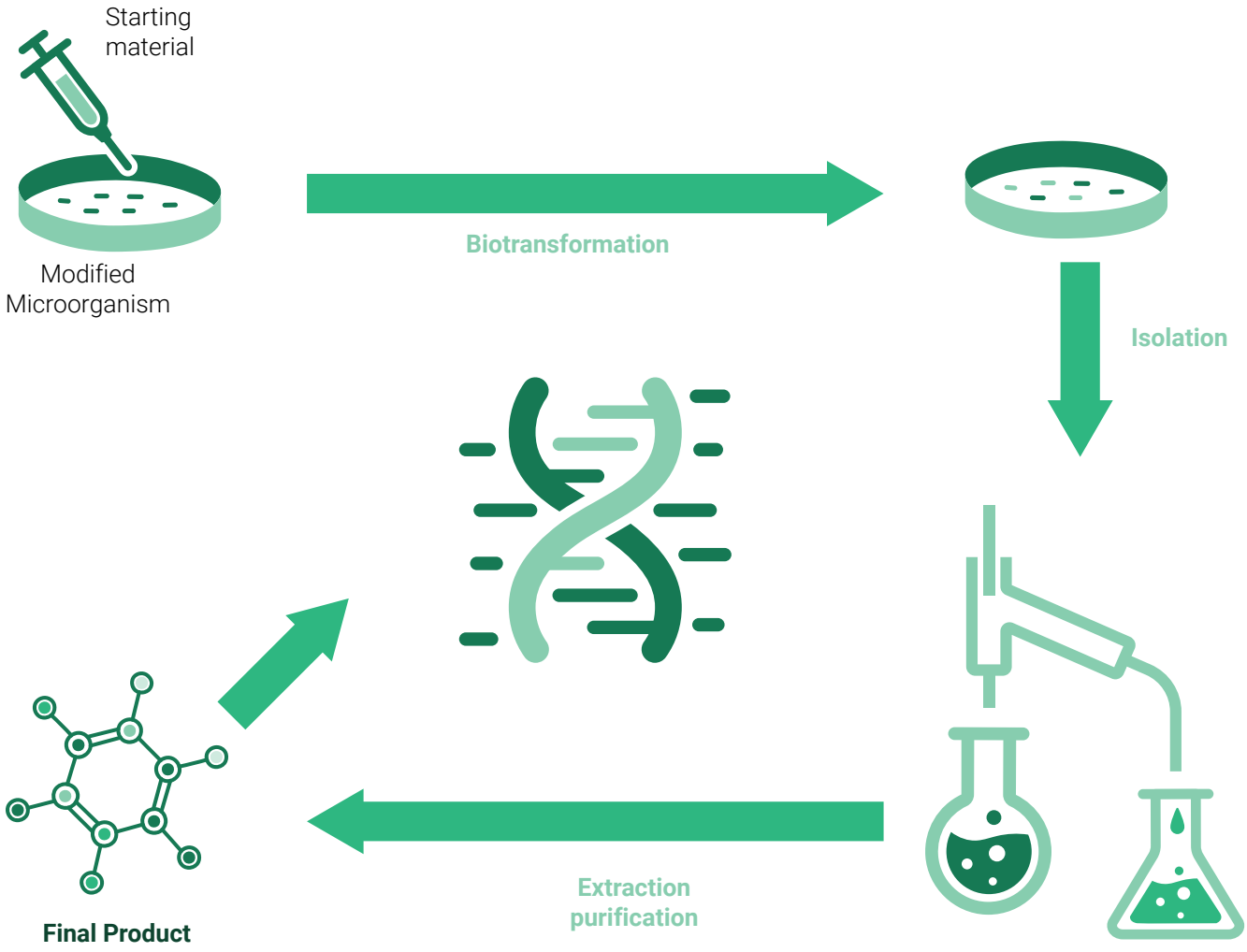


Figure 2: Schematic diagram of biological conversion of chemicals to products

in various applications. An impressive example is Chemistry42.[7] It has the potential to revolutionize the way we develop new drugs, materials, and chemicals. However, it also raises concerns about the potential misuse of these technologies for the development of chemical weapons.

iii. Technological convergence: chemistry-biology convergence

The convergence of chemistry and biology provides new and more sustainable synthetic routes to chemical production, without producing harmful side-products. Chemistry-biology convergence has an impact on the chemical weapon non-proliferation regimes as it can help to generate novel highly toxic chemicals that are not possible to make in traditional organic synthetic methods.[8]

For example, pharmaceutical-based agents (PBAs) pose a threat similar to chemical

7 Rajendra Joshi and Neeraj Kumar, "Artificial Intelligence for Autonomous Molecular Design: A Perspective", *Molecules*, vol. 26, No. 22 (November 2021).

8 Philip J. Kitson et al., "Digitization of multistep organic synthesis in reaction ware for on-demand pharmaceuticals", *Science,* vol. 359, No. 6373 (January 2018).

weapons based on their properties. There are hundreds of thousands of different PBAs that can be synthesized by conventional organic synthesis methods. The synthesis of opioid drugs is a complex process that involves several steps.

iv. Small scale chemical plants

The recent development of small-scale chemical plants that are fixed into a small space efficiently allows for the synthesis of chemicals.[9] Scientific developments in organic synthesis and changes in chemical plant design may be misused by non-State actors to make highly toxic chemicals for malicious use. They also pose new challenges to the Chemical Weapons Convention, as the regime has the authority to inspect any facility or site, but this does not apply to small plants due to their size.

v. 3D Printing

3D printing is a relatively new technology that has the potential to revolutionize the way products are manufactured.[10] In recent years, the potential threat posed by 3D printing has been widely discussed and many organizations have been working to develop strategies to address this issue. It is necessary to research the use of 3D printing for the production of chemical weapons and work with industry to develop best practices for the safe use of 3D printing technology. Equally, end-user controls for the export of 3D printing technologies, in line with OP 3(d), are essential to ensure that these capabilities are not exploited for the production of chemical weapons.

vi. New dissemination and dispersal technology

It has become increasingly evident that drones should now be considered a means of delivery for chemical weapons.[11] Advances in technology raise concerns about the potential use of commercial drones for chemical warfare as a dispersion method. These drones could deliver chemical or biological agents to the battlefield more efficiently.

FUTURE OF CHEMICAL WEAPONS NON-PROLIFERATION: CHALLENGES AND RECOMMENDATIONS

The rapid advancement of emerging technologies poses significant challenges to the effective implementation of chemical weapon non-proliferation regimes, such as UNSCR 1540 and the CWC. In the context of UNSCR 1540, the increasing accessibility of these technologies to non-State actors heightens the risk of their exploitation for the development or dissemination of chemical weapons. Equally, recent technological breakthroughs in the chemical sector present a difficult challenge to the CWC's verification regime, as they have resulted in the dispersion of technology and facilities. More technologies have emerged in the manufacturing process, and chemical contract manufacturing has formed. However, the Convention's ability to recognize such changes has not grown considerably.

9 Dominika Kunertova, "Drones have boots: Learning from Russia's war in Ukraine", *Contemporary Security Policy,* vol. 44, No. 4 (October 2023).

10 Douglas B. Walters et al., "Safety, security and dual-use chemicals", *Journal of Chemical Health and Safety*, vol. 22, No. 5, (September–October 2015).

11 Dominika Kunertova, "Drones have boots: Learning from Russia's war in Ukraine", *Contemporary Security Policy,* vol. 44, No. 4 (October 2023).

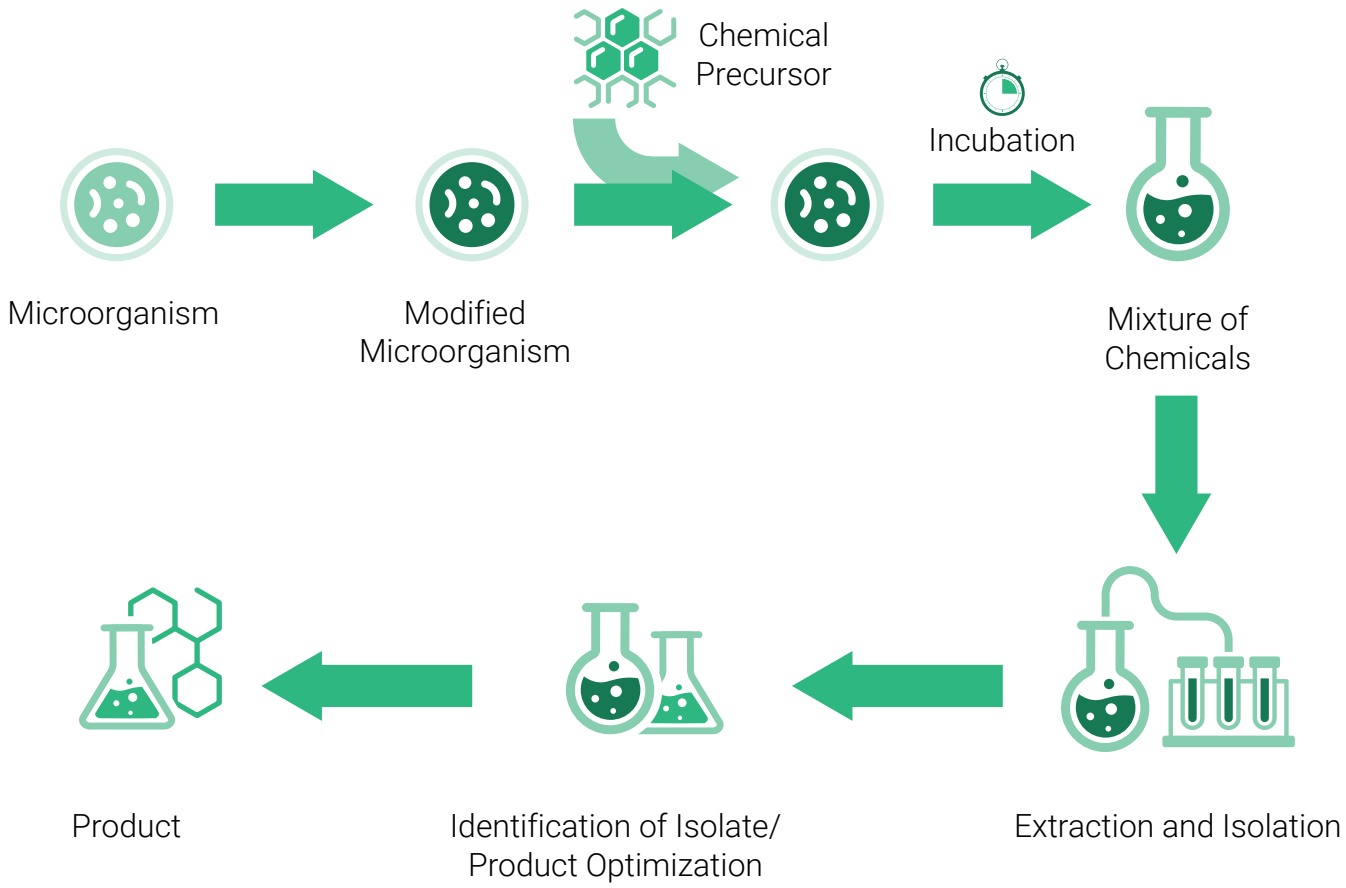


Figure 3: Schematic diagram of opioid synthesis through genetically modified microorganisms

There are many suggestions for non-proliferation regimes to prevent the re-emergence of chemical warfare agents in the wake of advanced technologies. However, this article is focused on five key technological aspects namely high throughput screening, autonomous molecular design, chem-bio convergence, small-scale chemical plants, and the use of drones. Five strategies have been identified for mitigating the risks posed by these key emerging technologies, which are:

- Assessing the impact of new technologies on chemical weapon control
- Awareness of emerging technologies
- Standardized policies and procedures
- Capacity building
- Integrated approach for promoting best practices for domestic stakeholders

Given the dual-use nature of these technologies, establishing end-user and end-use controls for exports is crucial to ensure they are not diverted for malicious purposes. This is in direct alignment with the requirements of OP 3 (d).

Artificial intelligence's recent rapid technological growth and the concerns it raises highlight the critical need for robust export controls, as outlined in OP 3 (d). Policymakers and regulators must ensure that these controls are comprehensive

> **Given the dual-use potential of these technologies, OP 3 (d) of UNSCR 1540, which underscores the importance of establishing end-user and end-use controls for export, becomes of even greater significance.**

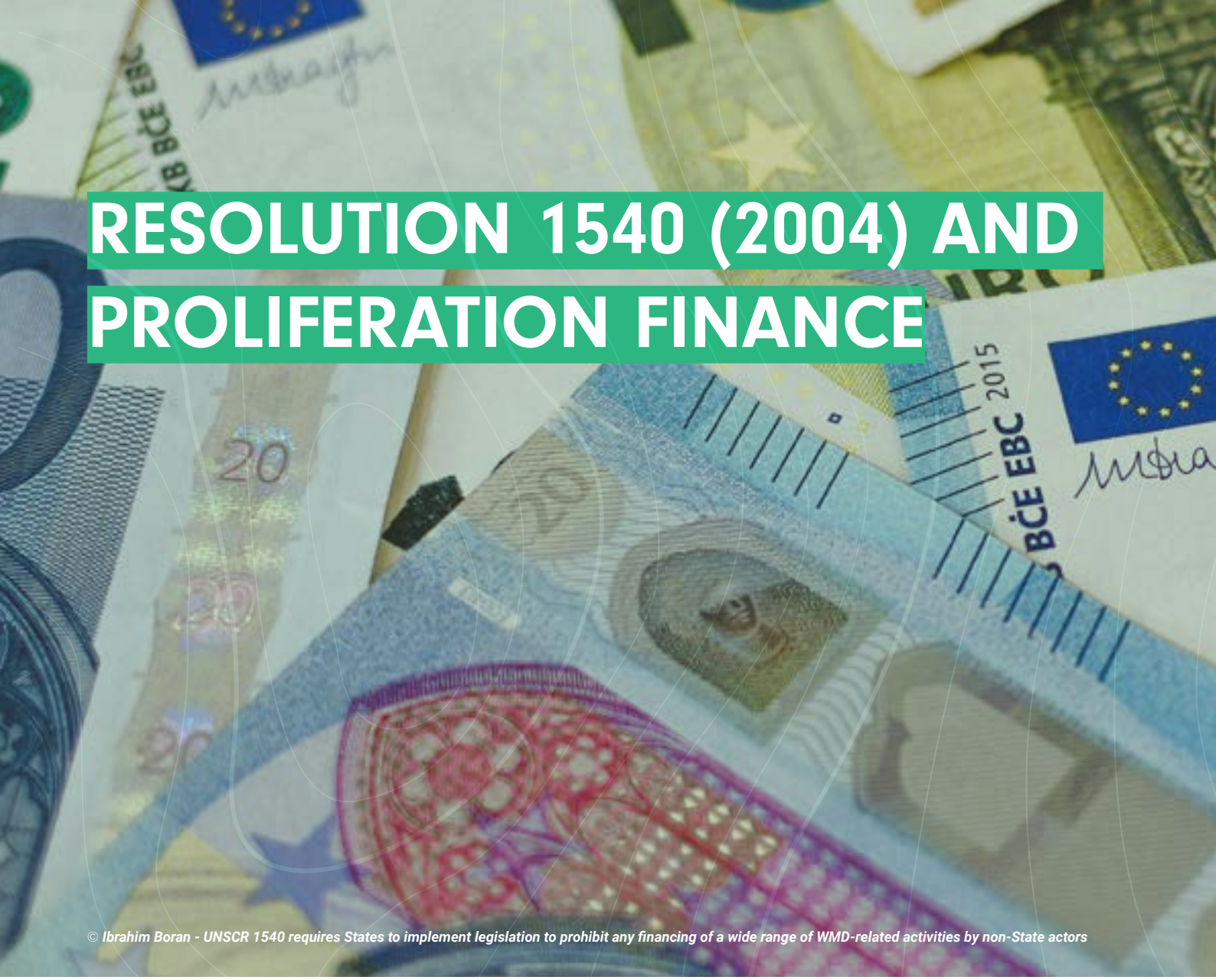
and globally coordinated to effectively mitigate the risks and capitalize on the benefits of AI and other emerging technologies.

One of the most important strategies to prevent the misuse of technologies, in line with UNSCR 1540's OP 3 (c) and (d), is to enhance the capacity of stakeholders in the supply chain and to increase the number of supply chain security vulnerability assessments. These measures are essential for detecting, deterring, and preventing illicit trafficking and controlling the export and trans-shipment of potentially dangerous materials.

Many disarmament and non-proliferation regimes have repeatedly debated the implication of emerging technologies in the chemical, biological, and nuclear domains. In order to address this threat, Member States should enhance their cooperation and collaboration to prevent possible misuse of emerging technologies for malicious purposes. International regimes working on the non-proliferation of weapons of mass destruction must establish capacity-building programmes for chemical, biological, radiological and nuclear security management to promote best practices in security by providing tools and knowledge to mitigate the risks posed by both chemical accidents and the potential misuse of toxic chemicals, including the threat of chemical terrorism.

Collaborating with all domestic stakeholders, as well as regional specialists and international organizations, to develop a strategic policy to prevent malicious State actors and non-State actors from gaining access to new technologies would likely bring a beneficial outcome to the concern. Such collaboration is essential for fulfilling the international obligations under OP 3(c) and (d) of UNSCR 1540 and the CWC, and it is crucial for their effective implementation.

RESOLUTION 1540 (2004) AND PROLIFERATION FINANCE



© Ibrahim Boran - UNSCR 1540 requires States to implement legislation to prohibit any financing of a wide range of WMD-related activities by non-State actors

ABSTRACT

Resolution 1540 (2004) and successor resolutions set out the Security Council's baseline requirements regarding weapons of mass destruction (WMD) proliferation financing. Countering proliferation finance is important to combating WMD proliferation, but the Report of the 2022 Comprehensive Review did not identify a significantly higher level of implementation by States than compared to 2016. Although the 1540 Committee offered no direction in this respect, the Security Council acknowledges Financial Action Task Force (FATF) guidance in several 1540 successor resolutions, suggesting FATF is well-placed to do so. Publishing 1540 proliferation financing implementation guidance would be a good start.

THE AUTHOR:
Dr Jonathan Brewer

Dr Jonathan Brewer is a Visiting Professor at King's College London. He is a former Acting Coordinator of the UN Panel on the Democratic People's Republic of Korea (DPRK); Coordinator of the UN 1540 Group of Experts and Financial Expert of the UN Panel on Iran. As a member of the UK Foreign Service (1983–2010) he was posted overseas to UK Embassies in Luanda, Mexico City and Moscow. In London, appointments included Secretary of the UK Joint Intelligence Committee and Head of Counter-Proliferation.

INTRODUCTION

Resolution 661 (1990), imposed on Saddam Hussein's Iraq, was the first Security Council resolution to focus on the threat from WMD.[1] Amongst other requirements, the resolution prohibited making available to Iraq any funds or any other financial or economic resources, although no distinction was made between funds for Iraq's WMD programmes and funds for other purposes.

Resolution 1540 (2004) was the first Security Council resolution to include language specifically addressing the financial underpinnings of WMD proliferation (although the resolution does not use the term WMD, referring instead to nuclear, chemical and biological weapons and means of delivery). Resolution 1540 includes two key requirements in this respect: first, States must implement legislation to prohibit any financing of a wide range of WMD-related activities by non-State actors and, second, States must put in place controls on funding or financial services related to export or trans-shipment of WMD and related materials that would contribute to proliferation (whether by non-State or by other actors is left unspecified). Subsequent resolutions restate these two requirements but do not add to them (see Table below).

1 S/RES/661

1540 (2004)	1810 (2008)	1977 (2011)	2325 (2016)	2663 (2022)
(OP 2) Decides ... that all States... shall adopt and enforce appropriate effective laws which prohibit any non-State actor to manufacture, acquire, possess, develop, transport, transfer or use nuclear, chemical or biological weapons and their means of delivery, in particular for terrorist purposes, as well as attempts to … finance [these activities]; (OP 3) (d) Decides ... that all States shall ... Establish, develop, review and maintain appropriate effective national export and trans-shipment controls over [nuclear, chemical, or biological weapons and their means of delivery, and related materials], including … controls on providing funds and services related to … export and trans-shipment such as financing, … that would contribute to proliferation, … and establishing and enforcing appropriate criminal or civil penalties for violations of such export control laws and regulations.	(PP) Taking note of international efforts towards … preventing the financing of proliferation-related activities, taking into consideration the guidance of the framework of the Financial Action Task Force (FATF)... (OP 10) Decides that the 1540 Committee shall continue to ... promote the full implementation ... of resolution 1540 (2004), [including] the compilation of information on ... [paragraph] 2 of that resolution, as well as of paragraph 3 … including controls on providing funds and services such as financing to … export and trans-shipment.	(PP) Emphasizing the need for States to take all appropriate national measures ... consistent with international law, to … prevent proliferation financing … Taking note of international efforts towards … preventing the financing of proliferation-related activities, and taking into consideration the guidance of the framework of the Financial Action Task Force (FATF) ... (OP 9) Decides that the 1540 Committee shall continue to ... promote the full implementation ... of resolution 1540 (2004), [including] the compilation of information on ... [paragraph] 2 of that resolution, as well as of paragraph 3 … including controls on providing funds and services such as financing to … export and trans-shipment.	(OP 12) Decides that the 1540 Committee shall continue to ... promote the full implementation by all States of resolution 1540 (2004) … particularly noting the need for more attention on: … proliferation finance measures; …	(PP) ... taking note of efforts to prevent the financing of proliferation-related activities, and taking into consideration inter alia the guidance of the framework of the Financial Action Task Force (FATF) … (OP 12) Decides that the 1540 Committee shall continue to ... promote the full implementation ... of resolution 1540 (2004) ... particularly noting the need for more attention on: … proliferation finance measures; …

Table

References to financing, funds or financial services in resolution 1540 (2004) and successor resolutions.

(PP = Preambular Paragraph; OP = Operative Paragraph)

> **Controls on funding or financial services related to exports or trans-shipments are complex to formulate and implement, but the lack of significant improvement since 2016 would suggest that States currently afford such controls a low priority.**

CURRENT STATE OF PLAY

With respect to the first requirement, prohibitions on financing, the 2022 Comprehensive Review Report records that, of all possible measures across all States, the Committee identified 88 per cent implementation (the Committee provided no estimates of numbers of States). This was an increase of 5 per cent in comparison with 2016 data.[2] The Report also notes that, as in 2016, legislation related to counter-terrorism financing, country-specific targeted financial sanctions and financial intelligence units, rather than to resolution 1540's primarily activity-based prohibitions on financing.

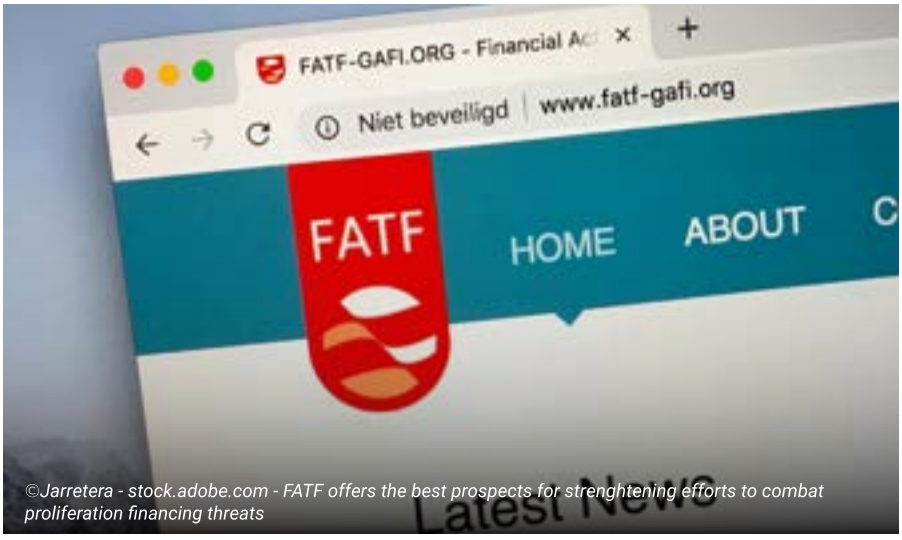
As regards the second requirement, the Committee's Report noted that around 58 per cent of Member States had adopted measures relevant to the financing of exports and trans-shipments but that this was not significantly different from 2016 data. Again, the Committee noted that legislation related mainly to terrorism financing, money-laundering and the role of financial intelligence units.[3]

Given that resolution 1540 dates from 2004, 58 per cent would appear a rather low percentage. Of course, controls on funding or financial services related to exports or trans-shipments are complex to formulate and implement, but the lack of significant improvement since 2016 would suggest that States currently afford such controls a low priority. Arguably, the 2022 Comprehensive Review was a missed opportunity to try to improve this percentage by strengthening language on proliferation financing, as was proposed by some Committee members.

2 Paragraph 42 of S/2022/899.

3 Paragraph 70 of S/2022/899.

DEFINITION OF PROLIFERATION FINANCE



©Jarretera - stock.adobe.com - FATF offers the best prospects for strenghtening efforts to combat proliferation financing threats

The Table illustrates two other important points: first, the terms "proliferation finance" or "proliferation financing" do not actually appear in resolution 1540. They are included only in three successor resolutions, 1977 (2011), 2325 (2016) and 2366 (2022). Second, these three successor resolutions also reference "guidance of the framework of the Financial Action Task Force (FATF)".

On the first point, why did the Security Council introduce the terms "proliferation finance" or "proliferation financing" only into successor resolutions, and not resolution 1540 itself? Were they intended as general references to the prohibitions on funding or financing activities of non-State actors as set out in operative paragraph 2 of resolution 1540? Or references to controls on funding or financing that States must have in place under operative paragraph 3 (d), even though restricted to export and trans-shipment? Or both? Or perhaps they reflected the influence of FATF's separate work on proliferation finance at the time, even though this was orientated towards Security Council targeted sanctions, rather than resolution 1540 activity-based controls.[4]

The terms "proliferation financing" or "proliferation finance" are not defined in a UN context, nor used elsewhere by the Security Council. They do not appear in Security Council sanctions resolutions on the Democratic People's Republic of Korea (DPRK) (1718 (2006) and successor resolutions), nor those on the Islamic Republic of Iran (1737 (2006) and successor resolutions, now terminated, and 2231 (2015)). Nor are they used by the General Assembly.[5] FATF has published two definitions (in guidance documents dated 2010[6] and 2021[7]), but neither would appear to constitute a definition formally approved by FATF. Many States use their own definition.

Counter-proliferation financing has developed into an integral element of the international community's toolbox to combat WMD proliferation. However, in the absence of a common definition, different States focus on different aspects of the threat and their collective actions are probably less effective than they might be. The 2022 Comprehensive Review was arguably a

4 FATF's first publication on proliferation financing was a Proliferation Finance Typologies Report (2008); FATF's revised Standards of 2012 included a requirement (Recommendation 7) to implement UN Security Council WMD-related targeted financial sanctions, available at https://www.fatf-gafi.org/en/publications/Fatfrecommendations/Fatf-recommendations.html.

5 For example, General Assembly resolution 32/84 of 1977 defines WMD but includes no reference to financing.

6 Paragraph 28, FATF, Combating Proliferation Financing: A Status Report on Policy Development and Consultation, February 2010.

7 Footnote 7, FATF, Guidance on Proliferation Financing Risk Assessment and Mitigation, June 2021.

missed opportunity by the 1540 Committee to agree on a definition to further bolster collective efforts to combat WMD proliferation.

FATF'S POTENTIAL ROLE

The second important point illustrated by the Table is that FATF guidance is referenced in three of the successor resolutions. FATF uses peer reviews to assess how well States meet FATF standards. The results are public, and States make great efforts beforehand to ensure legislation is in place and effectively enforced. Unfortunately, FATF's proliferation finance requirements are limited to Security Council targeted financial sanctions on the DPRK and exclude the financing or financial services requirements of resolution 1540.

Under the FATF Mandate of 12 April 2019, FATF Ministers committed to further action to strengthen the global response to WMD proliferation financing.[8] Such action might take two forms: first, and ideally, FATF would modify its standards to include the need to implement the proliferation finance requirements of resolution 1540. Second, FATF could publish a guidance document on implementation of resolution 1540 proliferation finance requirements.[9] The Security Council has laid the groundwork for such a document: preambular paragraphs of resolutions 1810 (2008), 1977 (2011), and 2663 (2022) reference "guidance of the framework of the Financial Action Task Force (FATF)" (see the Table). The Security Council also encourages international organizations to "highlight the obligations of resolution 1540 (2004) in their model legislation and/or guidelines, where appropriate, pertaining to instruments under their mandate relevant to the resolution".[10]

There is a strong case for FATF to start work now on such a document. Under the next round of peer reviews scheduled to start in 2025, States will be assessed on a new requirement to conduct proliferation financing national risk assessments (Recommendation 1). Even though "risk" will be restricted to Security Council targeted financial sanctions on the DPRK, the new requirement should encourage States to reassess their overall approach. A FATF guidance document would help ensure such reassessment covered resolution 1540 proliferation finance requirements.

CONCLUSION

Despite the importance of counter-proliferation financing for combating WMD proliferation, the Committee's 2022 Comprehensive Review did not identify significant improvements in this area of resolution 1540 (2004) in comparison with the 2016 Comprehensive Review. Committee action in this respect is unlikely before the next Comprehensive Review scheduled for December 2027. In the meantime, FATF offers the best prospects for strengthening international efforts to combat proliferation financing threats. A good start would be the publication of FATF guidance on effective implementation by States of the proliferation finance requirements of resolution 1540 (2004).

8 Paragraph 9 of the FATF Mandate Approved by the Ministers and Representatives of the Financial Action Task Force, 12 April 2019, Washington, DC, available at https://www.fatf-gafi.org/en/the-fatf/mandate-of-the-fatf.html#accordion-ffd0cfcabc-item-a5fb5ae357

9 Several FATF guidance documents relate to proliferation finance sanctions but none deals specifically with resolution 1540.

10 Paragraph 25 of S/RES/2325.

UNDERSTANDING PROLIFERATION FINANCE NATIONAL RISK ASSESSMENTS

© FATF - FATF leads global action to tackle money laundering, terrorist and proliferation financing

ABSTRACT

The renewed interest in assessing the risks associated with the financial support to WMD proliferation activities, spurred by the amendment to FATF Recommendation 1, represents a pivotal moment to accelerate the paradigm shift from a rule-based to a risk-based approach. This article argues that, despite the challenges posed by the complexity of the matter and the production of the risk assessment, it is critical that national authorities and the private sector do not miss the opportunity of assessing the risk of proliferation finance more broadly, by not only focusing on compliance with the FATF standard. Although FATF Recommendation 1 focuses on UN targeted financial sanctions related to WMD proliferation, other risks of financing WMD programmes, including the violation of resolution 1540 (2004), should not be overlooked.

THE AUTHOR:
Giuseppe Di Luccia

Giuseppe Di Luccia is a Research Associate at the Centre for Science and Security Studies (King's College London) where he focuses on WMD non-proliferation and countering its financing. He has developed his expertise working in research centres, in international organizations, as well as in the private sector.

In October 2020, the Financial Action Task Force's[1] (FATF) Recommendation 1 and its Interpretative Note were amended to extend the obligation of performing risk assessments on money laundering and terrorism financing to proliferation financing (PF). Countries and the private sector were requested to identify, assess, and understand proliferation financing risk and to adopt commensurate measures to mitigate it. While Recommendation 1 only requires covering the risk of breach, non-implementation or evasion of the targeted financial sanctions (TFS) adopted by the United Nations Security Council (UNSC) against listed entities and individuals involved in specific weapons of mass destruction (WMD) and ballistic programmes, FATF also encourages countries to look beyond the required scope.[2]

When FATF began to explore measures to counter WMD proliferation finance, it focused on the implementation of the obli-

1 The Financial Action Task Force is the intergovernmental body tasked with defining standards to protect the international financial system from illicit financial activities including money laundering, terrorist financing and proliferation financing.

2 "An understanding of the risk of WMD proliferation and its underlying financing, which is not required under the FATF Standards, may positively contribute to the understanding of the risk of the breach, non-implementation or evasion of PF-TFS (i.e. the narrow definition of PF risks covered in the FATF Standards)." Financial Action Task Force, *Guidance on Proliferation Financing and Risk Assessment and Mitigation*, Paris, France, June 2021, p. 8.

© FATF - The amendment to FATF's Recommendation 1 obliges countries to perform risk assessments for proliferation financing

gations stemming from UNSC resolution 1540 (2004). More precisely, the assessment of the proliferation finance threat was primarily associated to the risk of providing "financial services for the transfer and export of nuclear, chemical or biological weapons; their means of delivery and related materials." In particular, it involved "the financing of trade in proliferation sensitive goods, but could also include other financial support to individuals or entities engaged in proliferation."[3]

The sophistication and mutability of the risk of WMD proliferators exploiting jurisdictions' financial systems or resources have urged the transition from a rule-based approach —clear but inflexible— to a risk-based approach —complex but adaptive—. Flexibility has become necessary to respond to the evolving PF schemes and tactics adopted by WMD proliferators, whether listed individuals or entities, related networks or any State or non-State actor with malign intentions.

KNOW THYSELF

The amendment to FATF Recommendation 1 marked a watershed in counter-proliferation financing (CPF), because it acknowledged the complexity of this illicit financial activity and required jurisdictions to become fully aware of their exposure to PF. In other words, the risk-based approach requires countries to go beyond compliance with its prescriptive and precise rules. The purpose of this novel approach is to mitigate the risks by effectively allocating the limited resources available: the higher the risk, the greater the resources; the lower the risk, the greater its tolerance.

The national risk assessment (NRA) is an inward-looking exercise involving the identification of PF actors and networks, also referred to as threats, and the country's weaknesses or contextual

3 Financial Action Task Force, *Proliferation Financing Report*, Paris, France, June 2008, p. 3.

factors, also referred to as vulnerabilities. Once threats and vulnerabilities are identified, the authorities should assess the likelihood of the former exploiting the latter and the consequences that these events could generate in the event of the advancement of WMD programmes. Based on the NRA findings, the authorities prioritize the risks and decide which risk management strategy to implement.

The NRA is a self-awareness path, where the members of the working group[4] representing different agencies become familiar with PF-related matters, investigate the set of data they own and analysing relevant qualitative and quantitative information. Each element contributes to the formation of a mosaic depicting possible scenarios, which define the risk. This research is key to build the country's understanding of the potential sources of the risks and of the aspects to improve in the national counter-proliferation financing (CPF) regime, such as the level of awareness and the preventive measures the exposed economic sectors should adopt.

CHALLENGES

Understandably, the completion of a PF national risk assessment gives rise to different challenges. A first challenge is the perception of the PF risk. Since there may be limited knowledge among authorities on the multifaceted nature of proliferation finance, despite its potentially high impact, it is often perceived as a low probability risk. Therefore, PF-NRAs have historically struggled to acquire top positions in decision-makers' agenda.

While FATF's amendment of Recommendation 1 partially changed this perception by making the PF-NRA an international standard, the requirement is still only limited to a narrow definition of PF, sometimes leading to PF-NRAs that are limited in scope. In fact, the risk of financing the proliferation of weapons of mass destruction is far-reaching: it stems not only from individuals and entities listed in UN sanctions lists (and their respective networks), but also from any other potential proliferator, whether a non-State actor or a country of proliferation concern. Understanding this complexity is critical to protect national security and the financial system.

A second challenge is PF awareness. The agencies asked to participate in a PF-NRA working group may be not familiar with proliferation finance if their activities are only tangentially or indirectly affected by the PF risk. Nonetheless, the importance of each agency's contribution to the mosaic is crucial to piece together PF networks and their schemes, given that a holistic approach is needed to understand a country's exposure to PF risks. Hence, the authorities in charge of coordinating the drafting process should ensure that all members of the working group are trained and ready to analyse and discuss the findings of their respective investigations.

A third challenge, from the perspective of resource allocation, is represented by the time and the efforts required to produce the PF-NRA document. The data collection and analysis do not occur overnight. Research, questionnaires, interviews and evaluations are necessary to

4 The leading agency should involve in the PF-NRA those authorities involved in the national CPF institutional framework as listed in the 2018 FATF Guidance on Counter Proliferation Financing (e.g. policy departments, supervisory authority, customs, export control agencies, law enforcement and prosecution, financial intelligence units, intelligence services) as well as consult their respective industry stakeholders.

produce reliable outcomes, generally further vetted by the national authorities tasked with coordination. Moreover, the actual drafting can be time-consuming, as the editors must translate and synthetize the often complex quantitative and qualitative data into a document that is accessible to readers. Thus, the first PF-NRA process should be carefully planned and budgeted to guarantee rapid and valuable results. PF-NRAs must be updated regularly, however subsequent versions usually take less time and are less resource-intensive.

LIMITATIONS

While national risk assessments are pivotal preventive measures for the protection of the international financial system, there are a few limitations to consider. First, the assessment procedure for PF risks is not standardized. The differences in scope of each country's PF-NRA, as well as the different criteria used to assess each country's exposure, do not allow for a comparison between them. While one country may decide to focus on the risks of breach, non-implementation or evasion of the UN targeted financial sanctions, another may adopt a broader scope, including, for example, the provision of financial services to trade-related proliferation or revenue-generating tactics aimed at providing financial support to WMD proliferation programmes.

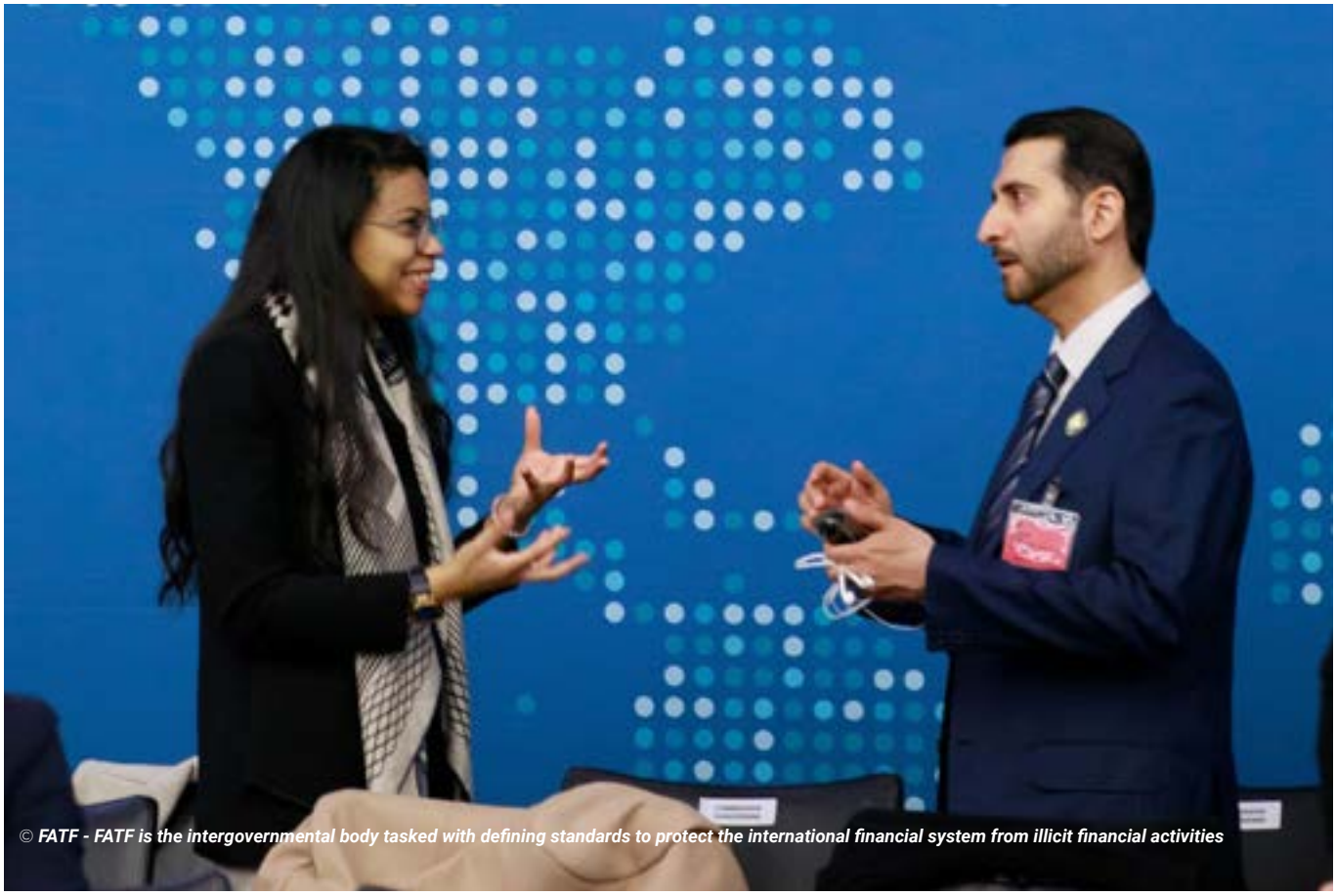
Moreover, PF-NRAs may appear subjective in some respects. However reasonable and balanced, the criteria for the assessment and the risk measurement system are not agreed upon at international level, but rather defined by the authors. Therefore, the same PF risk determined by similar conditions may be evaluated, for instance, as low in one PF-NRA and medium in another. Finally, since proliferation financing sits at the intersection between finance and security, certain data arising from agencies' investigations are sensitive and cannot be disclosed. Therefore, national authorities may decide to draft two versions of the document: a confidential version for internal use only and a second one to release.

ASSESS TO ADDRESS

Nonetheless, the above-mentioned limitations are dwarfed by the positive effects of conducting a PF national risk assessment. The document represents a critical achievement in the enhancement of the national counter-proliferation financing regime, both in terms of the process and of the product. Identifying PF actors and tactics and how the country is exposed to them lays the foundations for an effective CPF strategy encompassing a multiagency response, coordination between government and the private sector and possibly bilateral and multilateral cooperation at international level. Among the immediate results, it is worth highlighting that the establishment of a working group for the drafting of the PF-NRA is, in itself, a welcome defeat of silo-based approaches in line with the CPF inter-agency mechanism requested in FATF Recommendation 2.[5]

Further, the PF-NRA provides invaluable guidance to the private sector for conducting institutional risk assessments.

5 Pursuant to FATF Recommendation 2, competent authorities should have co-operation, coordination and information sharing mechanisms to combat the financing of proliferation of weapons of mass destruction.



© FATF - FATF is the intergovernmental body tasked with defining standards to protect the international financial system from illicit financial activities

The NRA defines the framework in which businesses and professionals operate while providing directions on the threats and the vulnerabilities to consider in institutional risk assessments. Consequently, financial institutions and the private sector at large, as the first line of defence, are enabled to internalize the PF risk in their daily activities through policies and procedures. Concurrently, institutional risk assessments support national authorities to build reliable PF-NRAs. Increased security and resource optimization are the corollary to such process.

Finally, by sharing information and PF cases, countries build trust and pave the way to global cooperation in countering proliferation finance. Cases represent the greatest contribution to the fight against this transnational financial crime, as they illustrate the characteristics and the evolution of the PF networks and of their tactics. Case collection helps develop PF typologies, which, in turn, help to identify the risk indicators, or red flags, that operators consider when assessing clients or transactions.

In conclusion, while FATF Recommendation 1 on PF-NRA currently only covers the risk of breach, non-implementation and evasion of relevant UN targeted financial sanctions, countries should address the risk of proliferation finance in broader terms. Despite the challenges posed by their complexity, NRAs should assess proliferation finance risks more comprehensively, including the core meaning of PF stemming from UNSCR 1540 (2004), in light of the greater benefits to national and international security.

UNSCR 1540 AND INDIRECT PROLIFERATION FINANCING

© Wu Zhongyi – Trade in luxury goods can indirectly finance proliferation.

ABSTRACT

UN Security Council resolution (UNSCR) 1540 has played a significant role over the past two decades in curbing the proliferation of weapons of mass destruction (WMD) by non-State actors. However, its effectiveness is hampered by a lack of clarity and specificity in addressing the financing of WMD proliferation, particularly indirect financing through, for example, the trade of luxury goods. To enhance the resolution's impact, it is crucial to address these ambiguities, expand the scope of proliferation finance in the context of UNSCR 1540, and strengthen international cooperation and capacity-building initiatives.

THE AUTHOR:
Chandana Seshadri

Chandana Seshadri is a Research Analyst at the Centre for Finance and Security at the Royal United Services Institute (RUSI). Her area of focus is counter proliferation finance research and analysis. She also provides technical assistance training to jurisdictions with a special focus on the threat and exposure of the non-banking sector to proliferation financing risks. Her research expands to integrate the emerging geopolitical dynamics and the impact of sanctions on the Global South.

Twenty years on, and UNSCR 1540 has made significant progress by requiring all States to implement controls to prevent the proliferation of weapons of mass destruction (WMD) and their delivery systems by non-State actors.[1] To date, the resolution is one of the most powerful legal instruments in the wider arsenal for curbing weapons proliferation by non-State actors.[2] Yet, when it comes to the financing of WMD proliferation, UNSCR 1540 falls short.

The resolution attempts to provide a broad structure to the counter-proliferation finance mechanism through operative paragraph 3. This paragraph requires all States to enforce effective controls on "providing funds and services related to such export and trans-shipment such as financing…", essentially assigning a "catch-all" provision to encompass controls on the financing of WMD proliferation in accordance with national procedures.[3] However, this is a broad and

1 UNSC Res. 1540 (28th April 2004), UN Doc S/RES/1540 (2004).

2 Benjamin Kienzle and Daniel Salisbury, 'The United Nations Security Council and the 1540 Committee', in Christopher Hobbs, Sarah Tzinieris, and Sukesh K. Aghara (eds), The Oxford Handbook of Nuclear Security (2024; online edn, Oxford Academic, 22 May 2023), https://doi.org/10.1093/oxfordhb/9780192847935.013.12, p.163.

3 Sarah Shirazyan, Building a Universal Counter-Proliferation Regime: The Institutional Limits of United Nations Security Council Resolution 1540 (February 11, 2019). Journal of National Security Law and Policy, Vol. 10, 2019, < https://ssrn.com/abstract=3339096 > p. 14.

non-specific interpretation of proliferation finance, limited only to an implication and with no explicit obligation for States. The Financial Action Task Force —the global money laundering and terrorist financing watchdog— also attempts to provide a working definition of proliferation finance by including the funds and financial services used, but this still does not encompass indirect financing of proliferation.[4]

Indirect financing of proliferation is often analogous with revenue-raising activities and notable examples include the broad range of activities engaged in by North Korea to fund their WMD programme.[5] In this regard, one activity consistently reported by the UN Panel of Experts on North Korea is the trade and export of *luxury goods*.

Luxury goods contribute to indirect proliferation financing, but they could also be included within the conceptualization of proliferation finance by UNSCR 1540.[6] However, this is unlikely to become a reality, predominantly because of a lack of political will, assessment capabilities and legal systems to support better implementation of provisions, as well as a narrow scope of understanding of what constitutes luxury goods.[7]

LIMITED DEFINITION OF LUXURY GOODS

The most interesting cluster of prohibited goods mentioned in UNSCR 1718 —the resolution adopted following North Korea's first nuclear test in 2006— was *luxury goods*.[8] It occupies the least amount of space, as there is no description of what constitutes luxury goods and the intent for inclusion. It was not until UNSCR 2094, adopted in 2013, that an annex of products was incorporated. This annex limits the definition of luxury goods to only two categories: *Jewellery and Transportation items;* and describes the lists as *non-exhaustive*.[9] However, an obvious limitation of this narrow and non-exhaustive definition is that it permits a wide degree of interpretation.

As examined in detail through the 2015 UN Panel of Experts report on North Korea, there are multiple interpretations of luxury goods.[10] This is because not all Member States uniformly follow either the resolution's or each other's lists of prohibited goods.[11] For example, Singapore covers only precious jewellery, but not precious metals and stones. Canada, on the other hand, covers jewellery, gems and precious metals, but does not specify the stones or even jewellery that is clad with

4 FATF, 'Combating Proliferation Financing: A Status report on Policy Development and Consultation', 2010, < https://www.fatf-gafi.org/content/dam/fatf-gafi/reports/Status-report-proliferation-financing.pdf > p. 5; See also, Anagha Joshi, Emil Dall and Darya Dolzikova, 'Guide to Conducting a National Proliferation Financing Risk Assessment,' Royal United Services Institute (RUSI), 2019 < https://static.rusi.org/20190513_guide_to_conducting_a_national_proliferation_financing_risk_assessment_web.pdf > p.6.

5 *Ibid*, p.13.

6 Darya Dolzikova, "Strengthening the Role of UNSCR 1540 in Countering Proliferation Financing", RUSI NewsBrief, < https://www.rusi.org/explore-our-research/publications/rusi-newsbrief/strengthening-role-unscr-1540-countering-proliferation-financing >.

7 *Ibid,* p.13.

8 United Nations Security Council (UNSC) Res. 1718 (14 October 2006), UN Doc S/RES/1718 (2006).

9 UNSC Res. 2094 (7 March 2013), UN Doc S/RES/2094 (2013).

10 UNSC, 'Final report of the Panel of Experts submitted pursuant to resolution 2141 (2014) (UNSC POE Report),' S/2015/131, 23 February 2015, p.102-108.

11 UNSC Res. 2094 (7 March 2013), UN Doc S/RES/2094 (2013).

© Jonathan Francisca – Luxury goods can encompass a broad variety of products, including watches.

precious metals. Moreover, this list is non-exhaustive. While variations were added to the categories via the successor resolutions, 2270 (2016) and 2321 (2016), the additions cease here.[12]

Considering these differences, it is possible to classify a broad variety of products as 'luxury goods,' rendering the phrase extremely ambiguous. Subsequently, very few Member States maintain their own prohibited goods list. As a result, regulations are implemented unevenly, and enforcement capacities vary across several jurisdictions.[13] Not to mention, the gap widens due to the absence of protocols and measures prohibiting transhipment and re-export of these luxury goods from various third jurisdictions.[14]

SIGNIFICANCE OF LUXURY GOODS

Indirect proliferation financing through luxury goods is an important category when comprehending how other activities —that do not involve direct procurement of proliferation-sensitive goods— support the funding of a WMD programme. As luxury goods are sold and re-sold due to their high-value, it creates opportunities to fund the procurement of proliferation-sensitive goods.

However, the narrow application of indirect proliferation financing set forth in UNSCR 1540 also enables non-State actors —especially transnational criminal organizations— to collaborate with State actors and operate in silos to procure proliferation-sensitive goods and evade sanctions. These transnational organized criminal groups have historically collaborated with State actors, such as North Korea, to build

12 UNSC Res. 2270 (2 March 2016), UN Doc S/RES/2270 (2016); UNSC Res. 2321 (30 November 2016), UN Doc S/RES/2321 (2016).

13 UNSC POE Report, S/2010/571, 5 November 2010, p.28.

14 *Ibid*, p.29.

© Keith Luke – Both the EU and Switzerland classify pure-bred horses as luxury goods which are subject to sanctions controls.

complex corporate structures and move funds across multiple jurisdictions to fund their WMD programme.[15]

These multiple relations also highlight the shared characteristics between State and non-State actors in terms of techniques used to conceal finances and ownership structures, and the subsequent impact on enforcement of international sanctions and controls on non-proliferation. Revealed through the historical cases of non-State actors —such as the A. Q. Khan network and its vast expanses, Al-Qaeda's interest in procuring WMDs in 1998, and the use of chemical weapons by the Islamic State in Syria and Iraq in 2014— is the extensive use of procurement networks to share sensitive information, technology, obfuscate beneficial ownership details and move funds across borders to fund proliferation of WMDs.[16]

These cases outline the need to re-examine resolution 1540's catch-all provisions, due to the growing risk of proliferation financing emerging through the sale and re-sale of luxury goods. However, it can be difficult for States to comprehend this risk because of principality issues, financial constraints, lack of technical expertise, and weak institutional support systems.[17] As a result, nations' efforts to meet the requirements of UNSCR 1540 stagnate in the

15 Financial Times, North Korea and the Triads: Gangsters, Ghost Ships and Spies, FT film, 31 March 2023, <https://www.ft.com/video/3a-6c06ee-14b7-4d6f-8b08-08cdd947c0a7>.

16 Rolf Mowatt-Larssen, "Al Qaeda's pursuit of weapons of mass destruction." Foreign Policy 25 (2010); Bruce Hoffman, "The First Non-state Use of a Chemical Weapon in Warfare: The Tamil Tigers Assault on East Kiran," Small Wars & Insurgencies 20, no. 3–4 (2009): 463–77; Markus K. Binder, Jillian M. Quigley, and Herbert F. Tinsley, "Islamic State Chemical Weapons: A Case Contained by Its Context?" CTC Sentinel 11, no. 3 (March 2018): 27–31.

17 United Nations Security Council, "2022 comprehensive review of the status of implementation of Security Council resolution 1540 (2004)," (November 2022).

© Gabrielle Henderson – Perfumes and jewellery are classified as luxury goods by many countries.

absence of best practices and guidance. Moreover, the 1540 Committee —the body in charge of monitoring and supporting resolution 1540 implementation— lacks the mandate to investigate and evaluate countries' performance in fulfilling their obligations under the resolution.[18]

Therefore, the underlying challenge for all these highlighted issues is the narrow definition of financing of WMD proliferation, inevitably impacting the efficacy of the 1540 Committee's monitoring capability. Furthermore, regarding luxury goods, there is still a lack of a single comprehensive list of products and insufficient classifications wherein a designation might be applied, such as price thresholds or ethical classifications.

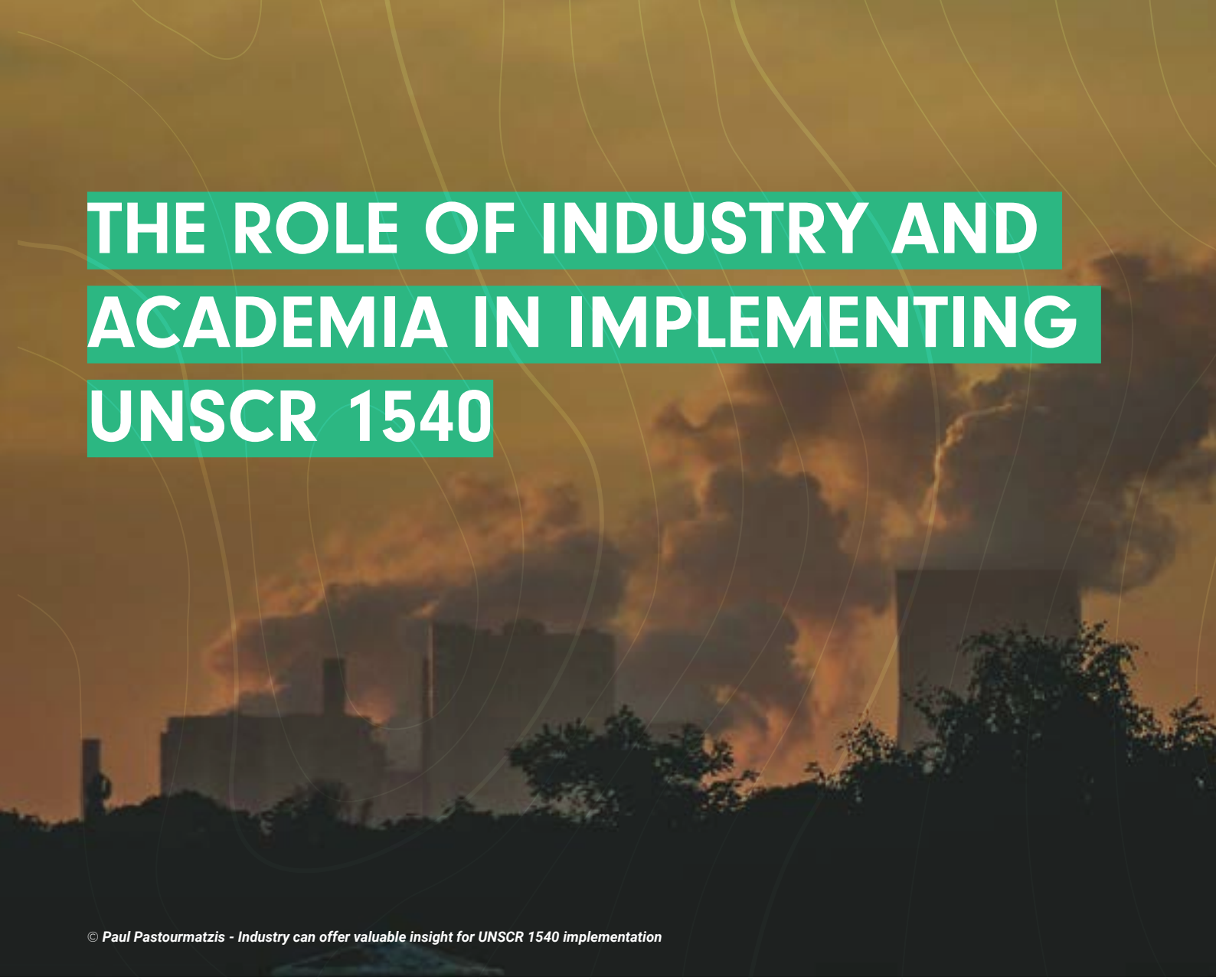
In the last twenty years, to overcome these essential challenges and strengthen implementation, the resolution has been subject to several recommendations, including the development of a strategic matrix, leveraging on civil society and academia, seeking wider resourcing and funding opportunities for organizational efforts, and widening themes of operation, etc.[19] However, these recommendations must further expand to incorporate indirect financing of WMDs to improve States' capabilities to meet UNSCR 1540 obligations. Finally, it is important to uphold bilateral and multilateral cooperation, implement capacity building activities and promote legislative backing to include a wide range of indirect proliferation financing activities,[20] as UNSCR 1540 and other non-proliferation regimes are essential in maintaining the UN Security Council's mandate of global peace and security.

18 Sarah Shirazyan, Building a Universal Counter-Proliferation Regime: The Institutional Limits of United Nations Security Council Resolution 1540 (11 February 2019). Journal of National Security Law and Policy, Vol. 10, 2019, < https://ssrn.com/abstract=3339096 > p. 6.

19 *Idib*, p. 40-42.

20 United Nations Security Council, "2022 comprehensive review of the status of implementation of Security Council resolution 1540 (2004)," (November 2022), p. 93.

THE ROLE OF INDUSTRY AND ACADEMIA IN IMPLEMENTING UNSCR 1540



© Paul Pastourmatzis - Industry can offer valuable insight for UNSCR 1540 implementation

ABSTRACT

This paper explores the essential roles of industry and academia in supporting the implementation of United Nations Security Council resolution 1540 (UNSCR 1540) through compliance, innovation, education, and research. Industry, with its practical experience and technological capabilities, ensures the secure handling and monitoring of sensitive materials, while academia provides critical training and generates research to inform policy and practice. The paper highlights the need for a collaborative, State-driven approach that leverages the strengths of industry and academia to enhance counter-proliferation efforts. Challenges such as differing priorities, lack of awareness, and communication barriers are discussed, along with recommendations for fostering a unified strategy through increased funding, diverse expert involvement, and regular stakeholder interaction. The paper concludes that a comprehensive, integrated approach involving State, industry, and academia is vital for the effective implementation of UNSCR 1540 and the advancement of global security.

THE AUTHOR:
Ali Alkis

Ali Alkis is NTI's Emerging Nuclear Security Leader and is currently pursuing a PhD in nuclear security in Türkiye. Serving as the World Institute for Nuclear Security (WINS) Ambassador to Türkiye, Ali is deeply engaged in research on nuclear security, non-proliferation, nuclear terrorism, and nuclear piracy. Ali's contributions to the field include numerous articles, book chapters, interviews, and op-eds.

INTRODUCTION

In 2004, the United Nations Security Council adopted resolution 1540, which brought legally binding obligations to all UN Member States. For this reason, it is one of the key international agreements designed to prevent non-State actors from acquiring WMDs and their means of delivery.[1] The resolution, essentially, calls on Member States to take the required actions to prevent the spread of chemical, biological, and nuclear weapons. In particular, operative paragraph 3 (c) and (d) emphasize the need to protect technology and sensitive materials and to ensure that policies are in place to prevent illegal use and trafficking.[2]

Given the complexity and global nature of WMD threats and the evolving threat of terrorism, it is important to have a unified approach driven by State policy.[3] Industry and academia, having a substantial

1 Muhammed Ali Alkış, "Threat of Nuclear Terrorism: The Developing Nuclear Security Regime," *International Journal of Nuclear Security* (2022), https://dx.doi.org/10.7290/ijns07e3t1.

2 UN Security Council, *UN Security Council Resolution 1540* (New York, NY: United Nations, 2004), https://documents.un.org/doc/undoc/gen/n04/328/43/pdf/n0432843.pdf.

3 George Foster (Amport Risk), interview by the Author, June 2024.

role in the implementation of requirements and education of current and next generations, bring diverse and specialized perspectives for integrated State-driven counter proliferation efforts. In this context, industry provides inputs from real-world experiences of day-to-day practicalities. At the same time, academia educates and trains students, professionals, and policymakers so that they are equipped with relevant knowledge and skills. All in all, this paper examines the value of State-industry-academia dialogue on counter-WMD proliferation priorities and issues. It offers how these stakeholders contribute to support compliance and the development of robust counter-proliferation measures.

UNSCR 1540 AND NON-STATE ACTORS

UNSCR 1540 targets non-State actors explicitly by calling for all nations to abstain from offering any assistance to non-State actors who seek to develop, obtain, produce, possess, transfer, or use nuclear, chemical, or biological weapons and their delivery systems.[4] It emphasizes the importance of preventing non-State actors —like terrorist groups or criminal organizations— from obtaining WMDs, in acknowledgement that even the possibility of such a scenario presents a serious risk to international security.[5]

However, it is misleading to assume all non-State actors pose a risk to international security; industry and academia, which could be categorized as non-State actors themselves, play crucial and positive roles in countering these threats. Their expertise and experience are important assets in the implementation of effective counter-proliferation measures, for which they are well positioned to complement Member States' efforts.

INDUSTRY'S ROLE IN IMPLEMENTING UNSCR 1540

Within a cohesive State-led strategy, industry, particularly the sectors engaged in the development, handling, and export of technology and sensitive materials, should be at the forefront of the fight against the spread of WMDs. Industries in the nuclear, biological, chemical, and radiological domains have the cutting-edge skills and expertise required to create and carry out efficient policies.

Industry translates the responsibility imposed on Member States by the resolution into compliance with regulatory requirements.[6] The industry's role includes innovation and deployment of technologies to detect, track, and secure materials to prevent any unauthorized or criminal activities within their scope of work. Nuclear power plants, chemical manufacturers, and biotech companies generally follow strict security protocols so that their goods and research do not fall into the wrong hands. This compliance not only satisfies legal obligations, but also preserves the financial and moral standing of the companies.

Moving beyond legal compliance, industry's practical experience offers valuable insights to policymakers and the wider international community, sup-

4 UN Security Council.

5 Mustafa Kibaroglu (MEF University), interview by the Author, June 2024.

6 Alex Barrow (Nuclear Transport Solutions), interview by the Author, May 2024, Online.

© Victor Uoli - Industry has the cutting-edge expertise required to shape 1540 policy

porting decision-making and prioritization of efforts at the multilateral level. Industries have developed sophisticated systems for monitoring and controlling the use of dangerous substances, directly contributing to the objectives of UNSCR 1540. Furthermore, industries may have a significant influence on laws and policies related to countering the spread of WMDs. Their real-world, experience-based, practical insights and input on suggested solutions guarantee that the policies are workable and beneficial in the real world.

To continue this conversation, internal compliance initiatives and strong corporate leadership, such as employee training, frequent audits, and safe handling procedures for confidential data, are needed to comply with both national and international laws. Industries that have such programmes will be better equipped to handle potential security breaches and ensure regulatory compliance, as well as to develop a robust security culture. This bottom-up approach can also complement the top-down approaches that most States have, so that practical experiences can fill in gaps appearing due to policy implementation challenges.

ACADEMIA'S ROLE IN IMPLEMENTING UNSCR 1540

Complementary to a comprehensive State-driven policy, academia plays an important role in training current and future generations about the dangers presented by non-State actors and the proliferation of WMD. Under this framework, academic institutions and research centres provide specialized

© Louis Reed - Academia can educate the next generation on proliferation risks

courses on biological risk management, chemical safety, nuclear security, and security studies. In return, these provide students, professionals and policymakers with the information and abilities they need to combat proliferation efforts in their current or future employment.[7]

Academic institutions also cooperate with State agencies and international organizations to develop and deliver training programmes for professionals. These programmes range from technical know-how to legal compliance and ethical considerations with an interdisciplinary approach, covering various aspects of WMD counter-proliferation.[8] In addition, academia has the flexibility to update its programmes, so that professionals are well-prepared to address emerging threats and challenges.

In addition to the educational role of academia, academic research contributes to the body of knowledge on WMD counter-proliferation. Scholars conduct various types of research, which will often lead to the exploration of new strategies. These strategies can reinforce the existing mechanisms for detecting and preventing the spread of sensitive materials, assessing the effectiveness of existing policies, and proposing innovative solutions to emerging challenges. In this way, research findings might provide a scientific basis for policy development and help identify areas needing additional efforts.

7 Mustafa Kibaroglu (MEF University), interview.

8 Mustafa Kibaroglu (MEF University), interview.

Based on their scientific research, academics might also engage in policy analysis and advocacy, possibly influencing the direction of national and international WMD counter-proliferation policies. With academic-scientific perspectives, they might help policymakers design robust and informed counter-proliferation strategies.[9]

THE IMPORTANCE OF OUTREACH

As the role that industry and academia can play is clear, it is possible to state that a strong dialogue among different stakeholders —in other words, State, industry, and academia— is important for the effective implementation of UNSCR 1540. However, it requires the political will, policies and pan-stakeholder structures to enable an integrated approach.[10] Then, this collaboration can benefit from the unique strengths of each and foster an integrated approach to counter-proliferation. In this context, States benefit from the technical expertise and practical insights of industry and academia, while industry and academia gain a better understanding of regulatory requirements and policy objectives.[11] These collaborations leverage the strengths of each sector, combining the industry's practical expertise with academia's research capabilities and the State's regulatory authority.

In reference to the benefits of this collaboration, knowledge exchange between academia and industry can foster innovation and drive progress in counter-proliferation technologies. Joint research projects might facilitate the sharing of expertise and resources. These engagements will create opportunities to identify gaps in existing measures and share best practices. Such findings open the doors for the development of innovative solutions to complex problems surrounding WMD proliferation risks.

While it is difficult to dispute the importance of this partnership, the conversation will not take place without political willingness. To address this, States need to interact with industry and academia so that there is a higher chance of leveraging the most recent advancements in science and technology into counter-proliferation plans. These initiatives might take several forms, such as collaborative research projects, workshops, conferences, and monthly meetings. These will provide stakeholders the chance to talk about problems, exchange experiences, and come up with creative solutions.

CHALLENGES AND RECOMMENDATIONS

While outreach efforts have certain advantages, there exist challenges, too. In general, despite 20 years since its adoption, legislative, financial, border control, and other obligations stemming from the resolution are considered to be complex at the Member State level, and might not be translated into the understanding of different stakeholders easily.[12] In addition, top-down strategies and excessive

9 Mustafa Kibaroglu (MEF University), interview.

10 George Foster (Amport Risk), interview.

11 Alex Barrow (Nuclear Transport Solutions), interview.

12 Christina McAllister and Annie Trentham, "UNSCR 1540 at 20 Years," Stimson Center, 2024, https://www.stimson.org/2024/unscr-1540-at-20-years/.

secrecy can make collaboration difficult. Industry professionals and academic researchers are not always aware of, or do not always have a clear understanding of, non-State actors and proliferation concerns. This has a direct and negative impact on collaborative efforts.

There are different reasons for such challenges. One major hurdle is the differing priorities and languages of State, industry, and academia. States focus on security and compliance, industries on profitability and innovation, and academia on research and education. Furthermore, providing information might present difficulties for both parties. Certain information may make industry and academic organizations unwilling to cooperate because of proprietary or competitive concerns. At the same time, States can be less transparent due to the sensitivity of the information.

There are a few strategies that can help to address these problems. For example, a common framework and understanding can facilitate bridging the gaps with the overarching goal of counter-proliferation.[13] In addition, securing increased funding for counter-proliferation research and training programmes will be a better way to foster innovative solutions and build capacity within industry and academia. Equally, diversifying the nomination of national experts to participate in influential decision-making bodies, advisory committees, working groups, and consultative meetings is a game changer.[14] This does not necessarily imply depending less on conventional State and regulatory officials, but rather on increasing the number of industry and academic professionals.

Including industry entities and academia in the planning and delivery of conference side-events and routine capacity-building initiatives is equally important, as their involvement can bring in operational perspectives, elucidate the real-world impact of new technologies, identify gaps in the existing legal and regulatory framework, and highlight emergent security issues. In a similar vein, regular forums, seminars, and information-sharing platforms will improve coordination and dialogue. Consequently, these will address common problems and encourage a unified strategy for counter-proliferation. Regular interaction among stakeholders will ensure a more unified and effective strategy to better navigate the complexities of counter-proliferation efforts.

While each group —industry, academia, and State— has its distinct role, the way forward to success lies in their ability to work together rather than in isolation. These different stakeholders can develop integrated plans by not only playing to their strengths, but also looking to others with vested interests.[15] This approach strengthens one another as they work towards the common goal of a more secure world. Only when each speciality incorporates methodologies from other stakeholders is it possible to talk about effective counter-proliferation strategies.

13 Geoff McCabe (Energie NB Power), interview by the author, June 2024.

14 Alex Barrow (Nuclear Transport Solutions), interview.

15 Geoff McCabe (Energie NB Power), interview.


© Arno Senoner - Industry compliance is crucial for UNSCR 1540

CONCLUSION

In conclusion, for the successful implementation of UNSCR 1540, it is imperative to establish a deliberate and integrated State-driven policy that actively involves every relevant stakeholder, particularly industry and academia. States should prioritize creating frameworks that facilitate collaboration and knowledge exchange between these sectors. States must benefit from the expertise and experience of academia and industry to develop and maintain counter-proliferation technologies and strategies through public-private cooperation and joint research initiatives. Additionally, it is highly recommended that States focus on increasing the alignment of national policies with required legislation, having sufficient funding for counter-proliferation research, and promoting continuous education and training programmes. Such a comprehensive and State-led approach will ensure robust and effective counter-proliferation efforts are in place, which will contribute to more secure global environment.

CHEMICAL SECURITY IS A GLOBAL RESPONSIBILITY: THE GLOBAL CONGRESS ADVANCES UNSCR 1540 IMPLEMENTATION THROUGH INTERNATIONAL COOPERATION

© INTERPOL - "Chemical security is a global responsibility" These are the words echoed throughout the Global Congress Plenary meeting;

ABSTRACT

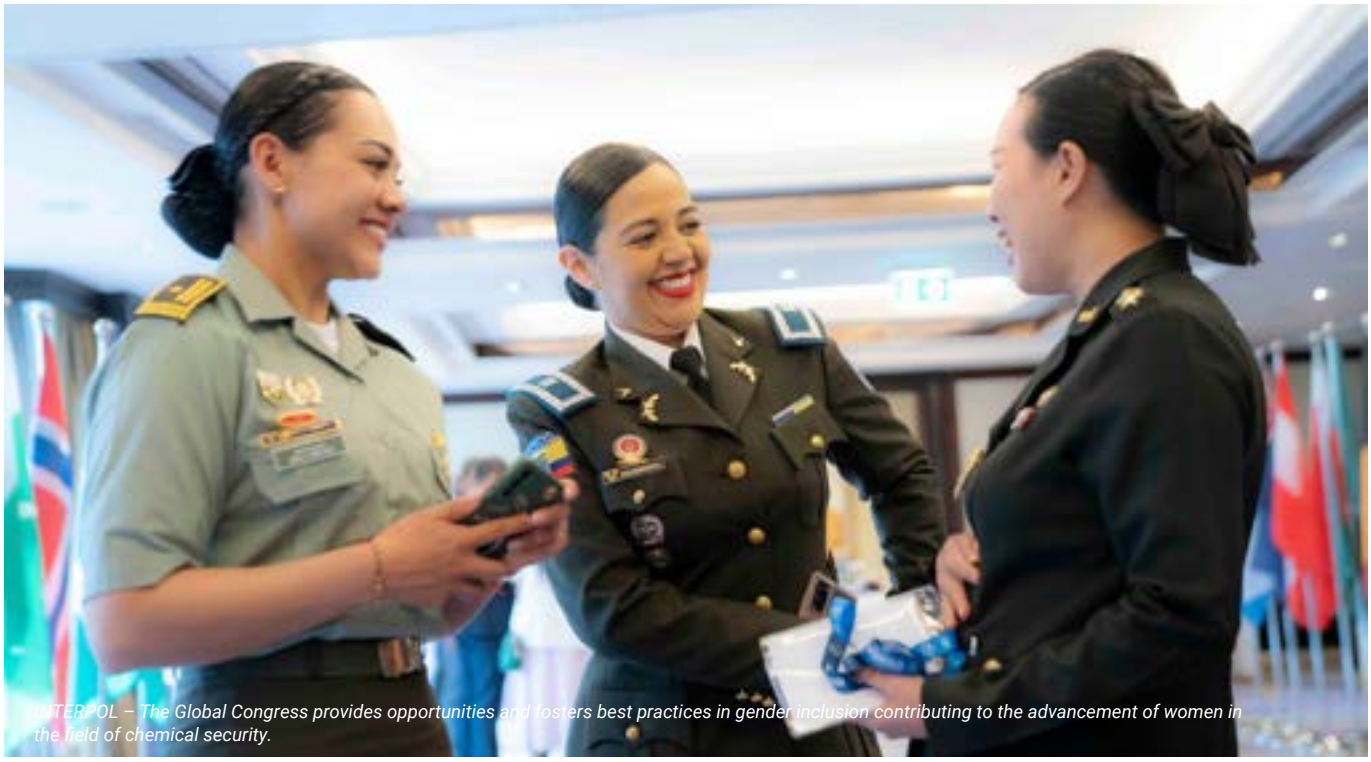
As chemical and explosive material diversion continues to surge, fuelled by supply chain vulnerabilities and rapid advancements in artificial intelligence (AI) and emerging technologies, the situation has reached a critical point. In this precarious landscape, a unified, multi-stakeholder approach —the bedrock of the Global Congress on Chemical Security & Emerging Threats— is crucial, for it is clear that chemical security issues cannot be achieved in isolation. This article provides a high-level introduction to the Global Congress and highlights how this initiative is relevant to the implementation of the United Nations Security Council resolution 1540 (2004) (UNSCR 1540).

THE AUTHOR:
Camille Scotto de César

Camille Scotto de César is a policy analyst within the Chemical, Biological, Radioactive, Nuclear and Explosives (CBRNE) Sub-Directorate of INTERPOL. The Sub-Directorate supports member countries to execute law enforcement duties related to CBRNE threats of a deliberate or unintentional nature by leveraging their competencies in three pillars of work: police data management and analysis, specialized expertise and international engagement.

The proliferation of weapons of mass destruction (WMD) and their means of delivery poses a significant threat to global peace and security. In response to this growing concern, the United Nations Security Council adopted resolution 1540 in 2004, calling on all UN Member States to prevent the proliferation of nuclear, chemical, and biological weapons. The resolution acknowledges the link between proliferation and the risk of non-State actors, including terrorists, acquiring such weapons or related materials. To mitigate this risk, UN Member States are urged to strengthen national legislative and regulatory frameworks and to establish and enforce effective measures to control WMD-related materials. This is achieved primarily by enhancing border security and providing law enforcement agencies with the right tools to detect, deter, prevent, and combat the illicit trafficking of nuclear, chemical, and biological weapons.

For years, INTERPOL's CBRNE Sub-Directorate has been a driving force in the global fight against CBRNE terrorism, spearheading international efforts to prevent, detect, respond to, and support the investigation of these threats. By harnessing its expertise, the Sub-Directorate has empowered the global law enforcement community through implementing specialized training and capacity-building initiatives, providing agencies with actionable intelligence and an-



INTERPOL – The Global Congress provides opportunities and fosters best practices in gender inclusion contributing to the advancement of women in the field of chemical security.

alytical products, and fostering seamless information sharing among its 196 Member Countries.

INTERPOL has pinpointed a significant gap in coordination among national stakeholders involved in CBRNE security, a gap also acknowledged in the resolution, which urges States to "*develop appropriate ways to work with and inform industry and the public regarding their obligations (…)*". Cognisant of this, INTERPOL's CBRNE Sub-Directorate has made national cooperation among all national stakeholders involved in CBRNE security a cornerstone of its programming efforts, fostering a collaborative approach and cultivating public-private partnerships to address this key issue.

INTERPOL's Chemical and Explosives Terrorism Prevention (CMX) Unit has established itself as a pioneer in combating the evolving threats of terrorist use of chemicals and explosives, driving multi-sectoral and international collaboration through initiatives like the Global Congress on Chemical Security and Emerging Threats. As chemical and explosive material diversion continues to surge, fuelled by supply chain vulnerabilities and rapid advancements in artificial intelligence and emerging technologies, the situation has reached a critical point. In this precarious landscape, a unified, multi-stakeholder approach —the bedrock of the Global Congress— is crucial, for it is clear that chemical security issues cannot be tackled in isolation.

Launched in 2018, the Global Congress was established in response to a call by the Chemical Security Working Group of the G7 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction to foster an international community of chemical security experts. The Global Partnership has actively supported the implementation of UNSCR 1540 since its adoption

and regularly reiterates such support.[1] Today, the Global Congress has evolved into a dynamic network of over 1,600 chemical security experts from around the world, working together to combat the threat of terrorist use of chemicals and explosives. Through these efforts, the Global Congress is also effectively contributing to the effective implementation of UNSCR 1540.

The Global Congress is a collaborative effort, jointly led by five agencies: INTERPOL, Global Affairs Canada, the US Cybersecurity and Infrastructure Security Agency, the US Defense Threat Reduction Agency, and the US Federal Bureau of Investigation. The network continues to expand, fostering a holistic and multi-sector dialogue that enables a collective response to the global chemical and explosive threat.

The Global Congress serves as a unique platform, convening subject matter experts from across the chemical security supply chain to build relationships, exchange expertise, and share critical information on emerging threats and innovative best practices. This diverse gathering of stakeholders facilitates a comprehensive approach to identifying and addressing vulnerabilities in the supply chain, thereby preventing criminals and terrorists from exploiting them to acquire chemical and explosive precursors.

The Global Congress Plenary (GCP) meetings provide a vital platform for regular information exchange, ensuring that experts and practitioners stay abreast of the latest developments and contribute to the global dialogue. In October 2023, the fourth GCP brought together over 300 experts from more than 80 countries in Bangkok, Thailand, marking its largest event to date.

The meeting facilitated collaborative dialogue among experts from law enforcement, industry, government, academia, and international organizations, focusing on chemical security, risk management, public-private partnerships, and emerging threats, such as 3D printing, biological toxins, and AI. Presentations highlighted AI's potential risks and benefits, as well as innovative technologies and cyber security solutions to detect and prevent threats. In this context, the Global Congress not only contributes to the development of "effective border controls and law enforcement efforts to detect, deter, prevent and combat (…) illicit trafficking"[2] of chemical weapons, but also enables participating countries to sustain such efforts, as called for by UNSCR 1540, by reinforcing their law enforcement agencies' knowledge of the latest threats.

The importance of public-private partnerships was at the heart of the dialogue, with presentations highlighting success stories from bolstering these partnerships. The meeting agenda was driven by the established call-for-abstracts process, which enables the most pertinent topics to be brought to the forefront of the dialogue and allows the network to have a driving voice in the agenda development. This collaborative approach is essential for effective implementation of UNSCR 1540, as it fosters a coordinated response to

1 Chemical Weapons Convention, 5th Review Conference, 2023, Global Partnership Against the Spread of Weapons and Materials of Mass Destruction (GP), Statement, Delivered by Japan, as 2023 President – Available at https://www.opcw.org/sites/default/files/documents/2023/05/WEBSITE%20RC5%20G7GP%20STATEMENT.pdf (accessed on 16 July 2024).

2 S/RES/1540, Op 3(c).

the threat of chemical weapons and their means of delivery, and underscores the understanding that chemical security is a global responsibility that requires collective action and commitment.

Beyond its plenary meetings, the Global Congress fosters a far-reaching mechanism that promotes partnerships, information sharing, and continuous dialogue. The network cultivates a trusted environment, facilitating the sharing of actionable information and identifying opportunities for peer-to-peer exchange. Members can tap into the network's collective expertise by requesting technical assistance and support, giving rise to innovative systems that foster peer-to-peer learning, capacity building, and knowledge sharing, thereby facilitating the exchange of assistance encouraged by UNSCR 1540.[3]

The core objectives of the Global Congress are building public-private partnerships and developing opportunities for collaboration across sectors, ultimately driving positive change for global chemical security. To achieve this, the Global Congress continues to invest in developing its capabilities and to leverage the network's collective expertise. The Global Congress Advisory Bodies, currently comprising the Steering Committee and Industry Advisory Group, provide strategic guidance, ensuring that multi-sectoral and multinational perspectives are reflected in its programming activities. The Steering Committee guides discussions on cross-sectoral

3 S/RES/1540, Op 7.

©The Global Congress sets network diversity and inclusivity as one of its three Strategic Goals for 2024-2026, thereby ensuring discussions continue to include all voices across the chemical supply chain; Credit, INTERPOL

collaborations to counter security threats by providing law enforcement agencies with the right tools. The Industry Advisory Group addresses the needs and challenges of the chemical industry sector, hence engaging a dialogue between sectors on the existing rules and regulations.

The Global Congress launched the 2024–26 Global Congress Strategic Framework in April 2024, which serves as a guide to focus efforts and to channel resources towards achieving tangible, impactful results that drive meaningful change for chemical security. The Strategic Framework provides a clear roadmap for collective efforts, ensuring that the Global Congress is working towards a common goal: a safer, more secure world.

The Global Congress facilitates effective implementation of UNSCR 1540 by providing multidimensional support to participating countries. This includes enhanced coordination efforts at the national, regional, and international levels, as well as dialogue among all relevant chemical security stakeholders. The Congress also fosters the exchange of assistance between countries, which helps to improve the understanding of the threat and identify vulnerabilities in legitimate activities. By sharing best practices in regulating the chemical industry, the Congress contributes to supporting national law enforcement efforts to prevent non-State actors from acquiring chemical weapons and their means of delivery. In recognition of the critical role that international cooperation plays in preventing these threats, chemical security is viewed as a global responsibility that requires collective action and commitment.

UPCOMING EVENTS

September 2024

Singapore City, Singapore (Asia and the Pacific)

04/05 **2nd Peer Review Roundtable on Export Controls**

Organizer: UNODA

This 2nd Peer Review between the Philippines and Singapore provides both States with an opportunity to share information, experiences, challenges and identify areas for improvement related to implementation of UNSCR 1540 with a focus on export controls. Japan will attend as an observer.

Manila, Philippines (Asia and the Pacific)

09/12 **Philippine Strategic Trade Management Summit (PhSTMS 2024)**

Co-Organizers: U.S. Department of State, U.S. Department of Energy and Department of Trade and Industry Philippines

This premier annual conference, which rotates throughout Southeast Asia, focuses on the intricacies of strategic trade regulations, and fosters collaborative partnerships.

Manila, Philippines (Asia and the Pacific)

13 **5th Conference of Partnership Programmes on Strategic Trade Controls of Dual-use Goods in Southeast Asia Meeting**

Co-Organizers: EU P2P Programme, EXBS, and UNODA

This conference optimizes the success of partnership programmes aimed at supporting the enhancement of States' dual-use goods trade control systems in Southeast Asia and Indo-Pacific regions by providing a platform to identify complementarity and avoid overlap.

Port Vila, Vanuatu (Asia and the Pacific)

24/26 **Conference on Effective Customs Control over the Trade and Transit of Toxic Chemicals in the Pacific Region**

Organizer: OPCW

This conference is set to unite the States Parties to the CWC in the Pacific Region alongside relevant regional and international organizations with a view to strengthening the awareness and understanding of Pacific Island States' customs administrations and national authorities of the importance the Convention for addressing contemporary security threats, in particular those related to trafficking of toxic chemicals.

Rio de Janeiro, Brazil (Latin America and Caribbean)

25/26 **BTWC and UNSCR 1540 Bilateral Cooperation Meeting**

Co-Organizers: OAS/CICTE and Fiocruz Institute of Brazil

This bilateral cooperation meeting between Brazil and Peru will look at the implementation of biosafety measures in relation to the Biological and Toxin Weapons Convention (BTWC) and United Nations Security Council resolution 1540 (2004).

Panama City, Panama (Latin America and Caribbean)

26/27 National Workshop on Strategic Trade Controls

Organizers: OAS/CICTE

The two-day workshop will strengthen the capacities of the new and existing members of the Technical Committee on Safe and Secure Transportation of Panama on strategic trade management and will analyse current legal frameworks (Decree 81).

October 2024

Vienna, Austria (Europe/International)

01/03 Triennial Meeting of States' Points of Contact for the Incident and Trafficking Database

Organizer: IAEA

Regular meetings of the designated national State Points of Contact for the Incident and Trafficking Database (ITDB) provide a forum for exchanging views and experiences on the prevention, detection and response to incidents of illicit trafficking, and other unauthorized activities involving nuclear and other radioactive material out of regulatory control.

Panama City, Panama (Latin America and Caribbean)

07/10 Proliferation Financing for Latin America and the Caribbean

Co-Organizers: OAS/CICTE and Financial Analysis Unit of Panama

This regional workshop will enhance the capacity of stakeholders from GRULAC countries to detect, prevent, and combat proliferation financing and foster regional cooperation and information-sharing. Latin American countries will be on 7–8 October and Caribbean countries on 9–10.

New York, USA (North America/ International)

9 Side event commemorating the 20th Anniversary of Resolution 1540

Co-Organizers: UNODA – 1540 Support Unit and the Republic of Ecuador

This event will be an opportunity to reflect on the progress made in implementing resolution 1540, deliberate on the evolving nature of the risks of proliferation, and showcase the support role played by UNODA.

New York, USA (North America/ International)

09/10 1540 Open Briefing

Organizer: 1540 Committee

The 1540 Committee will hold an open briefing for Member States and international, regional and subregional organizations, on the status of the implementation of the resolution.

New York, USA (North America/ International)

10 Side event at the margins of the 1540 Open Briefing

Organizer: OAS

This side event will focus on biosecurity in Latin America in terms of the implementation of the resolution 1540 (2004).

UPCOMING EVENTS

Rabat, Morocco (Africa/International)

22/24

Global Conference: The role of artificial intelligence in advancing the implementation of the Chemical Weapons Convention

Co-Organizers: OPCW and the Kingdom of Morocco

The conference will explore the implications of AI technology within the framework of the Convention, with the support of a cross-cutting group of global experts.

Djibouti City, Djibouti (Africa)

29/30

Outreach Visit on CBRN Disarmament, nonproliferation and security

Co-Organizers: EU CBRN CoE, UNICRI, UNODA, and the Government of Djibouti

The visit aims to raise awareness and promote the full and effective implementation of the relevant international instruments, including the BWC and resolution 1540 (2004), and promote the benefits of cooperative and capacity building frameworks, particularly the CBRN Centres of Excellence Initiative.

London, UK (Europe)

30/31

Proliferation Finance Conference

Co-Organizers: Proliferation Finance Observatoire at the Centre for Science and Security Studies, King's College London and Pacific Northwest National Laboratory

This event aims to bring together experts in the field to discuss, share insights, and propose solutions to the challenges in proliferation finance.

November 2024

Addis Ababa, Ethiopia (Africa)

05/07

Training Course for National Points of Contact on Resolution 1540 in Africa

Co-Organizers: UNODA – 1540 Support Unit and the Government of Mozambique

The training aims to provide a forum for capacity building and consultations on different implementation aspects among and between PoCs, the 1540 Committee and international and regional organizations, and strengthen the network of PoCs in Africa.

December 2024

Washington D.C., US (Latin America and Caribbean)

07/08

Strengthening biosafety and biosecurity in Latin America cooperation meeting

Organizer: OAS

The meeting will gather representatives from the 11 beneficiary countries to work on a roadmap that supports the implementation of the project activities.

Lima, Peru (Latin America and Caribbean)

26/27

Securing Science Symposium

Co-Organizers: CICTE/OAS and the Ministry of Foreign Affairs of Peru

This symposium will discuss matters related to laboratory biosecurity and dual-use research governance.

Geneva, Switzerland (Europe/ International)

16/18

2024 Meeting of the State Parties to the BWC

Organizer: BWC–ISU

The annual Meeting of the States Parties will review progress towards universalization and look at how the BWC can be strengthened.

Geneva, Switzerland (Europe/ International)

16/18

Side event at the margins of the 2024 Meeting of the State Parties to the BWC

Co-Organizers: OAS/CICTE and Ministries of Foreign Affairs of Brazil and Peru

This side event will highlight the bilateral cooperation between Brazil and Peru regarding the implementation of the BWC.

1540 Open Briefing – OCTOBER

The 1540 Committee has confirmed that it will hold an Open Briefing on 9 and 10 October. The first day will be open to Member States only, whereas the second day will also include international, regional and sub-regional organizations.

Regional Biosecurity Workshop – NOVEMBER

TBC (Latin America and Caribbean) | Organizer: OAS

This regional workshop aims to develop the calendar of activities to strengthen biosecurity in the Americas.

NOTIFICATIONS

IN MEMORIAM: DAVID ROBIN WENSLEY, 1960–2024

With deep regret, the 1540 Compass acknowledges the passing of David Robin Wensley, shortly after his appointment to the 1540 Group of Experts. He was highly regarded at South Africa's Department of International Relations and Cooperation, where he had worked for nearly 36 years, most recently in the role of Deputy Director of Conventional Arms.

Wensley made important contributions to multilateral arms control efforts, including serving as the alternate representative to the UN Security Council during South Africa's membership and chairpersonship of the 1540 Committee in 2012, and chairing the 2013 Group of Governmental Experts on the United Nations Register of Conventional Arms, established pursuant to GA resolution 66/39 of 2 December 2011.

Wensley will be sorely missed by those who knew him and the wider 1540 community. We offer our deepest condolences to his family, friends and colleagues.

ONBOARDING OF FOUR NEW EXPERTS TO THE 1540 GROUP OF EXPERTS

The 1540 Compass is pleased to announce that four new experts have formally taken up their posts in the 1540 Group of Experts. The experts are: Mr Luiz Carlos de Faria (Brazil), Ms Li Peihan (China), Mr Andrew Horton (United Kingdom of Great Britain and Northern Ireland), and Mr Scott Purvis (United States of America). Their diverse expertise and backgrounds will greatly enhance the Committee's work. We look forward to their contributions in supporting the implementation of resolution 1540.