

XXXIV

TECMUN Jr.

**INTERNATIONAL
MARITIME
ORGANIZATION**

XXXIV TECMUN Jr.
Session schedule

Wednesday, November 11th

Registration	8:00 – 9:00 h.
Opening Ceremony	9:00 – 10:00 h.
Break	10:00 – 10:30 h.
First Session	10:30 – 12:30 h.
Break	12:30 – 13:00 h.
Second Session	13:00 – 15:00 h.
Lunch	15:00 – 16:00 h.
Third Session	16:00 – 18:00 h.

Thursday, November 12th

Masterly Conference	8:30 – 9:30 h
Break	9:30 – 10:00 h..
Fourth Session	10:00 – 12:30 h.
Break	12:30 – 13:00 h.
Fifth Session	13:00 – 15:00 h.
Lunch	15:00 – 16:00 h.
Sixth Session	16:00 – 18:00 h.

Friday, November 13th

Seventh Session	8:00 – 9:30 h
Break	9:30 – 10:00 h
Eighth Session	10:00 – 12:00 h
Break	12:00 – 12:30 h
Ninth Session	12:30 – 14:40 h
Lunch	14:40 – 16:00 h
Closing Ceremony	16:00 – 18:00 h

XXXIV TECMUN Jr.

General Agenda

Secretary General: David Trujillo Loza

GENERAL COORDINATION

Undersecretary of General Coordination: Alexa Esmeralda Rivera Jimenez
General Coordination Supervisor for Secretary Co: Ana Sofía Parra Meza y Narda
Regina Rentería Martínez

GENERAL ASSEMBLY

General Subsecretary: Diego Alejandro Salazar Náfate
Coordination Supervisor: Maria Fernanda Granados Martínez

Plenary Session for the General Assembly

President: Andrea Teresa Romero Bravo

Topic A) Strategies to address the transnational financing networks and arms smuggling mechanisms sustaining the operations of Al-Shabaab in the Horn of Africa.

Topic B) Addressing Cross-Border protection measures and legal frameworks for climate displaced populations especially in the Bay of Bengal and South Asia.

First Committee on Disarmament and International Security

President: Marco Omar Montemurro Spano

Topic A) Measures to restore military transparency and reduce the operational preparation of nuclear arsenals between the Russian Federation and the United States of America.

Topic B) Strategies to confront the illicit trafficking of commercial explosives and military grade weaponry within South America, with emphasis on regional cooperation, stockpile security and the logistical capabilities of transnational criminal networks.

United Nations Office on Drugs and Crime

President: Jeshua Isaí Jordan López

Topic A) Measures to address human trafficking for forced criminality in scam compounds across the Mekong sub-region, with emphasis on transnational cooperation and the protection of trafficking victims.

Topic B) Strategies to dismantle the laundering of drug trafficking profits enabled by corruption in the Sahel region, with emphasis on the cocaine route between South America and Europe.

Comisión del Derecho Internacional
Presidenta: Alexa Ortiz Van Der Graaff

Tópico A) Estrategias para abordar la difusión transfronteriza de contenido sintético generado por inteligencia artificial, que compromete la integridad electoral y la estabilidad diplomática internacional.

Tópico B) Medidas para fortalecer la protección jurídica internacional de personas desplazadas por desastres naturales y crisis climáticas en regiones vulnerables del Sudeste Asiático y el Pacífico.

Haut Commissariat des Nations Unies Pour les Réfugiés
President: Mauricio Antillón Mota

Sujet A) Actions visant à renforcer l'accès aux services essentiels dans les camps de réfugiés rohingyas situés en République Populaire du Bangladesh, en mettant particulièrement l'accent sur les défis climatiques.

Sujet B) Stratégies pour renforcer l'assistance humanitaire destinée aux personnes déplacées internes en République du Soudan, dans le contexte du conflit armé entre les Forces armées soudanaises et les Forces de soutien rapide.

Fondo de las Naciones Unidas para el Desarrollo de la Infancia
Presidenta: Andrea Hernández Caballero

Tópico A) Estrategias para abordar la desinformación en línea y la amplificación algorítmica de contenido dañino que socava el acceso de los niños a información confiable en entornos digitales en Latinoamérica y el Caribe.

Tópico B) Estrategias para garantizar el acceso humanitario infantil en la Franja de Gaza durante los conflictos armados.

International Maritime Organization
President: Isabella Buendía Ramírez

Topic A) Mechanisms to strengthen international regulatory frameworks addressing the deployment of autonomous and AI-assisted maritime systems and their implications for maritime safety, accountability and international coordination.

Topic B) Measures to strengthen occupational safety and environmental sustainability in international ship recycling practices.

Special Political and Decolonization Committee
President: Ariadna Joseline Pacheco Spirina

Topic A) Measures to strengthen international cooperation for environmental remediation and humanitarian assistance in territories affected by the legacy of nuclear testing in the Pacific and Central Asia.

Topic B) Measures to address the legal and political implications of climate-induced territorial loss affecting Low-Lying Non-Self-Governing Territories.

Sixth Legal Committee

President: Diane González Martínez

Topic A) Measures to strengthen international cooperation for environmental remediation and humanitarian assistance in territories affected by the legacy of nuclear testing in the Pacific and Central Asia.

Topic B) Measures to address the legal and political implications of climate-induced territorial loss affecting Low-Lying Non-Self-Governing Territories.

ECONOMIC AND SOCIAL COUNCIL

General Subsecretary: María Fernanda Domínguez Heredia

Coordination Supervisor: Aitana Rodríguez Hernández

Organización Internacional de la Policía Criminal

Presidenta: Andrea Guadalupe Zaldívar Escamilla

Tópico A) Acciones para fortalecer la cooperación policial internacional en la identificación y desarticulación de organizaciones criminales transnacionales responsables de ataques de ransomware contra infraestructuras críticas en Europa, con énfasis en el Reino Unido de Gran Bretaña e Irlanda del norte .

Tópico B) Mecanismos para fortalecer la cooperación policial internacional en la identificación y desarticulación de redes criminales transnacionales dedicadas al tráfico ilícito de migrantes a través de rutas terrestres irregulares entre América Latina y América del Norte.

United Nations Interregional Crime and Justice Research Institute

President: Sara Vázquez Zamora

Topic A) Actions for enhancing multilateral efforts to address human trafficking and cross border fraud and cybercrime with emphasis in the Republic of the Union of Myanmar.

Topic B) Measures to address the use of cryptocurrencies in the laundering of criminal proceeds conducted by drug cartels in Latin America with an emphasis in the United Mexican States

Comité de los Derechos del Niño

Presidenta: Camila Aimee Castañeda Espinoza

Tópico A) Medidas internacionales para prevenir el reclutamiento forzado de menores por grupos armados en la República de Haití frente al aumento de violencia de pandillas y crisis institucional.

Tópico B) Estrategias regionales para proteger a menores migrantes no acompañados en la frontera entre los Estados Unidos Mexicanos y los Estados Unidos de América frente al tráfico humano y la violencia del crimen organizado.

Entidad de las Naciones Unidas para la Igualdad de Género y el Empoderamiento de las Mujeres

Presidenta: Danna Valeria Márquez Mejía

Tópico A) Estrategias para fomentar el empoderamiento económico y la inclusión laboral de las mujeres migrantes y refugiadas por motivos de violencia sistemática en América Latina.

Tópico B) Medidas para garantizar la igualdad económica y el derecho a la propiedad de tierras de las mujeres en la reconstrucción de zonas post-conflicto en África, con énfasis en la República Democrática del Congo.

United Nations Institute for Disarmament Research

President: Emiliano Sánchez Dorantes

Topic A) Security risks associated with the transfer, proliferation, and regulation of military artificial intelligence systems in the Indo-Pacific Region.

Topic B) Counterspace capabilities, including cyberattacks and jamming against satellite networks, and their impact on communications, navigation, and strategic systems in Eastern Europe.

Consejo de Derechos Humanos

Presidenta: Andrea Meza Hernández

Tópico A) Medidas para garantizar la protección de periodistas y el acceso libre a la información en situaciones de conflicto armado, con énfasis en la región de Oriente Medio.

Tópico B) Acciones para garantizar la protección de las infancias y adolescencias frente al reclutamiento forzado y las violaciones a los derechos humanos en la región del Sahel ante la expansión de grupos extremistas.

Comité de Expertos de las Naciones Unidas sobre la Gestión Global de la Información Geospacial

Presidenta: Regina Hernández Caballero

Tópico A) Reducción de la brecha tecnológica geoespacial en los Estados Insulares del Pacífico.

Tópico B) Fortalecimiento de la gobernanza ética de datos en sistemas de prevención y respuesta ante desastres naturales en Estados insulares del Caribe.

Food and Agriculture Organization

President: Mariana Jiménez Zamudio

Topic A) Strategies to address bioprospecting and genetic patenting inciting biopiracy that undermines traditional agricultural knowledge and smallholder seed sovereignty in Southern Asia.

Topic B) Confronting the causes of child labour and exploitative practices within West African cocoa supply chains with emphasis in the Republic of Côte d'Ivoire.

Historical Commission on Crime Prevention and Criminal Justice

President: Sofía López Rodríguez

Topic A) Mechanisms to counter the transnational growth of the Primer Comando da Capital while addressing the systemic prison crisis in the Federative Republic of Brazil (1993-2016).

Topic B) Mechanisms to combat the transnational trafficking of women and sexual exploitation networks operated by the Russian Mafia (Bratva) in Post-Soviet states (1991-2005).

SPECIALIZED AGENCIES AND REGIONAL ORGANISMS

General Subsecretary: Miguel Ander Hernández Aguilar

Coordination Supervisor: Romina Valle Velázquez

Organización del Tratado del Atlántico Norte

Presidente: Emilio Gutierrez

Tópico A) Medidas para enfrentar las crecientes tensiones internacionales, así como la amenaza de un posible conflicto bélico en la región del Medio Oriente, con énfasis en el crecimiento del programa nuclear de la República Islámica de Irán y sus posibles implicaciones para la seguridad global

Tópico B) Medidas para responder al incremento de las tensiones en Europa Oriental, así como a sus posibles repercusiones en la seguridad y estabilidad de la República de Polonia y la República de Lituania, con especial énfasis en la militarización del enclave de Kaliningrado por parte de la Federación de Rusia.

Organización Mundial de la Salud

Presidente: Javier Gil Rodríguez

Tópico A) Acciones para fortalecer la vigilancia, prescripción responsable y acceso regulado a fármacos antimicrobianos en los centros hospitalarios de la Unión Europea, con énfasis en la resistencia bacteriana a los antibióticos, el uso inadecuado de fármacos y las fallas estructurales asociadas.

Tópico B) Medidas para apoyar la recuperación de la infraestructura sanitaria y reforzar la protección del personal de salud en zonas de conflicto armado, con un enfoque crítico en la desnutrición aguda infantil en la República de Sudán.

Consejo de Seguridad

Presidente: Joaquín Pérez y Rodríguez

Tópico A) Estrategias para contrarrestar el conflicto armado en Sudán, haciendo énfasis en el genocidio y los crímenes de guerra cometidos en Darfur y las amenazas que representa para la estabilidad del África Oriental.

Tópico B) Medidas para frenar los ataques militares de los Estados Unidos de América y el Estado de Israel contra el territorio de la República Islámica de Irán, poniendo especial atención en el riesgo de escalada a un conflicto armado generalizado en Medio Oriente.

Fondo Monetario Internacional

Presidente: Daniel Emiliano Morales Ramírez

Tópico A) Estrategias para mitigar el impacto económico global causado por el conflicto en el estrecho de Ormuz tras las tensiones en Oriente Medio,

Tópico B) Mecanismos para enfrentar las repercusiones de las políticas arancelarias de Estados Unidos de América en las economías comerciales asociadas.

Organización Internacional de Energía Atómica

Presidenta: Natalia García Olmos

Tópico A) Reforzamiento de los mecanismos internacionales de verificación y no proliferación en relación con el programa nuclear de la República Islámica de Irán.

Tópico B) Fortalecimiento de las medidas y mecanismos internacionales para mitigar los riesgos ambientales, garantizar la seguridad nuclear y reforzar la protección tecnológica de las instalaciones nucleares en Ucrania.

Counter-Terrorism Committee

President: Santiago Castañeda Castro

Topic A) Measures to address the humanitarian and security crisis in Cabo Delgado, with emphasis on the violent campaign of Ahlu Sunnah Wa-Jamo (ASWJ) and extremist recruitment prevention.

Topic B) Mechanisms to eradicate the security vacuum in Somalia as a consequence of the transition from ATMIS, in the context of the operational resurgence of Al-Shabaab.

Organization for the Prohibition of Chemical Weapons

President: Mauricio Alejandro Salazar López

Topic A) Measures to address the threat of undeclared chemical weapons stockpiles and the proliferation of dual-use chemical substances in the Syrian Arab Republic after the fall of the Assad government.

Topic B) Measures to strengthen international emergency response and assistance mechanisms in relation to alleged chemical weapons incidents in the Republic of the Sudan.

Organización de los Estados Americanos

Presidenta: Andrea Vázquez Zamora

Tópico A) Mecanismos para la supervisión del uso de vehículos aéreos no tripulados en zonas con altas tasas de crimen organizado en Latinoamérica con énfasis en la República de Haití.

Tópico B) Medidas para la regulación del uso de Inteligencia Artificial (IA) enfocado en la manipulación de procesos electorales en Latinoamérica con énfasis en la República Federativa de Brasil.

International Criminal Court

President: Marco Bourget Alvarez

Case A) The Prosecutor v Rodrigo Roa Duterte for alleged crimes against humanity in the Republic of the Philippines.

Case B) 2017 Clearance Operations in the Republic of the Union of Myanmar, with emphasis on the application for a warrant of arrest against Min Aung Hlaing, Commander-in-Chief of the Myanmar Defence Services at the time of the operations, for alleged crimes against humanity.

“The world offers you comfort. But you were not made for comfort, you were made for greatness”

- *Joseph Ratzinger*

Dear reader,

Five years ago, I began this project without knowing what it would become. I arrived at TECMUN thinking that it was only an academic event; three days later, that perception had completely changed, and eight models later, they made me realize that the meaning I once saw in it does not come close to what I see it as today and what it truly is. Like many others, I began with the belief that TECMUN was a model of agents seeking to change and solve the problems that develop in our world. However, diplomacy and communication are only a small part of what this model is about and what it gives you to go out and truly make a difference.

The problem in our days does not lie in the lack of knowledge we have about them, but in the lack of willingness of those who know and do not act. The human fear of attempting that which we know makes us uncomfortable surpasses the desire we have to do it and, in an attempt to change that mindset, TECMUN came to shape and change those who hesitate to act out of fear of transcending and facing realities. The agents of change that I thought were formed through formality were, in reality, being shaped through adversity and setbacks, with people willing to embrace what is difficult, people willing to empty themselves of what they have in abundance and fill themselves with what they lack.

Understanding this, I invite you, delegate, advisor, and secretariat, to empty yourself of what is simple and fill yourself with what is complex. I invite you to leave conformity behind and choose transcendence for these three days. Because if you long for change as much as I do, there is no better initiative than starting with oneself. In this way, many Model United Nations conferences can teach you communication and diplomacy, but few seek a transition the way TECMUN does. Love change and work with love for it, because only then will greatness prevail over conformity.

David Trujillo Loza
Secretary General for the
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"Every great dream begins with a dreamer. Always remember, you have within you the strength, the patience, and the passion to reach for the stars to change the world."
- Harriet Tubman.

Querido soñador:

Siempre he pensado que cada uno de nosotros llegó a este universo con un mismo propósito: cambiar el mundo. Estoy segura de que debes tener miles de sueños y metas que anhelas cumplir en un futuro; yo vengo a pedirte que nunca te rindas. Hoy en día el mundo está lleno de noticias sobre cómo la humanidad está siendo gobernada por el poder y la ambición, y yo sé que eso puede llegar a desanimar e incluso desviar nuestros propósitos, pero, por favor, nunca dejes que los retrocesos sean una razón para dejar de intentar; al contrario, que se conviertan en el porqué de tus pasos hacia el cambio.

Hace algunos años mis sueños seguían borrosos, no era muy consciente de mis alrededores y tampoco tenía herramientas para comprenderlo del todo, pero el día que entré a Tecmun fue como si hubiera visto con lentes por primera vez. Tecmun me ha enseñado que el primer paso para el cambio es el volvernos conscientes; con esto me refiero a no hundirnos en la ignorancia y empezar a ver el mundo desde cualquier perspectiva posible, empezar a investigar sobre todo lo bueno y lo malo y formar un criterio de ello.

Si me preguntaran cómo describiría a Tecmun, diría que es un espacio para descubrir; dentro de este eres capaz de pensar más allá e intentar buscar soluciones para problemáticas que gente real vive día con día. No solo analizas, te vuelves un poquito más empático con cada propuesta que realizas. Tecmun es un lugar para soñadores; está basado en un modelo de naciones que surgió para evitar futuros conflictos, pero yo considero que Tecmun es aún más que eso.

Para mí, Tecmun se ha convertido en los tres días que espero con ansias cada semestre. El motivo eres tú; trabajar durante todo el semestre para llegar al modelo y poder verte list@ para adentrarte en un mundo lleno de ideas y soluciones, de creatividad y pasión, hace que todo mi esfuerzo valga la pena. Mi propósito es que te enamores de Tecmun al igual que yo lo hice; busco transmitirte mi pasión y hacerte ver este proyecto como lo hago yo, como el lugar en el que los sueños se hacen realidad.

Como jóvenes debemos luchar por un mundo mejor; somos el futuro de nuestra sociedad y debemos actuar como tal. Nuestro deber como estudiantes es querer ser mejor cada día, pero no por los demás, sino porque esa alma soñadora que tenemos en nuestros corazones nos vea triunfar y ser la persona más feliz del mundo, siempre apegada a nuestros valores, siempre perseverante, siempre libre. Luchemos por tener un mundo mejor, pensemos en grande y no dejemos que nunca nadie nos quite lo más importante que poseemos, nuestra humanidad. Gracias por estar aquí, por hacer el cambio, por no rendirte.

Alexa Esmeralda Rivera Jiménez
Under-Secretary-General for Coordination for the
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“No se trata de si van a derribarte, se trata de si vas a levantarte cuando lo hagan”
-Vince Lombardi

Querido lector:

Si hay algo de lo que TECMUN me ha hecho un fiel creyente, es de que, con la dedicación suficiente y la voluntad de dar un paso al frente, tu voz y tu presencia siempre tendrán el poder de generar un cambio.

Más allá de las habilidades que he adquirido para debatir, negociar o resolver problemas, TECMUN me enseñó algo mucho más valioso: las personas. Este proyecto me regaló amistades, momentos y aprendizajes que nunca imaginé encontrar. Gracias a esta comunidad entendí que crecer no siempre significa hacerlo solo; muchas veces significa rodearte de gente que cree en ti incluso antes de que tú lo hagas.

Si hoy sostienes este blurb, probablemente compartes la misma curiosidad que alguna vez me llevó a sentarme por primera vez en un comité. Tal vez llegues con nervios, con expectativas o incluso con dudas sobre lo que eres capaz de lograr. Quiero que sepas que todos empezamos ahí.

Aprovecha cada discurso, cada caucus y cada conversación en los pasillos. Defiende tus ideas con convicción, pero escucha con la misma atención con la que deseas ser escuchado. Las resoluciones que escribas serán importantes, pero las personas que conozcas y las experiencias que vivas serán las que permanezcan contigo mucho después de que la conferencia termine.

Espero que ames tanto a TECMUN como yo y que te inspire tanto como me inspiro a mí. Que encuentres aquí un lugar para crecer, para desafiarte y para descubrir que una sola voz, cuando se usa con propósito, puede dejar una huella mucho más grande de lo que imaginas.

Diego Alejandro Salazar Náfate
Subsecretary for the General Assembly for the
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“What you wish to ignite in others must first burn within yourself.”

-Charlotte Brontë

To whom it may concern,

There has always been something about Model United Nations that I find truly special. From the outside, it may look like debates, research, countless hours of preparation or even awards. But those of us who have experienced it know that it has never been just about any of those things. Behind every speech, every position, and every argument is someone who chose to engage with the world instead of ignoring it. Someone who, even at a young age, decided to dedicate time to understanding problems they may never face directly, simply because they believe that seeking solutions is worthwhile. That is what truly makes this community so special.

Speaking up can be intimidating. Raising your placard for the first time, addressing a room full of people, or wondering whether your ideas are good enough is something many of us have experienced. Yet fear should never be what speaks for us. Confidence rarely comes before taking the first step; more often, it is built because we choose to take it.

The goal is not to create a committee filled with perfect speeches, but one where everyone feels comfortable participating, listening carefully, changing their minds when a compelling argument challenges their perspective and discovering what we are capable of when we leave fear aside. That's where the most valuable thing about TECMUN happens: when we stop worrying about impressing others and start learning from each other.

In the end, what you will remember will not be every motion or every resolution. It will be the conversations, the people you met, and the moment you realized that your voice could make a meaningful difference. On behalf of the entire chair, thank you for accepting this challenge and for choosing to be part of this experience. I hope the International Maritime Organization becomes a place that challenges you, inspires you, and reminds you that the best solutions always begin with people who are willing to listen, collaborate, and have the courage to take the first step.

Isabella Buendía Ramírez

President of the International Maritime Organization

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Background

The International Maritime Organization (IMO) is a specialized agency of the United Nations, responsible for regulating international shipping and promoting cooperation among its 176 Member States. The organization was created in response to the need for international cooperation in maritime safety, environmental protection and navigational efficiency. Throughout its development, the IMO has adopted major international conventions such as SOLAS, MARPOL and STCW, which established global standards for maritime safety and environmental protection. The organization has also addressed emerging global concerns, including marine pollution, piracy, maritime security and the strengthening of international regulatory frameworks for safer maritime transport. In recent years, it has expanded its efforts toward sustainable maritime development by promoting environmentally responsible shipping practices, reducing greenhouse gas emissions and protecting global marine ecosystems, in alignment with the United Nations 2030 Agenda for Sustainable Development.

Faculties

As the the primary international authority responsible for ensuring the security of international shipping, the International Maritime Organization carries out the following faculties:

- Develop international regulations and conventions aimed at improving maritime safety, environmental protection, and operational efficiency in global shipping;
- Encourage cooperation among Member States to address challenges related to maritime security, pollution prevention, and the reduction of greenhouse gas emissions;
- Establish technical standards and guidelines concerning vessel construction, navigation systems, crew training, and port operations;

- Promote international cooperation and regulatory frameworks concerning maritime emergencies, including oil spills, navigation accidents and incidents affecting international waters;
- Provide technical assistance and capacity-building programs to support developing countries in the implementation of maritime regulations and sustainable shipping practices.

Topic A

Mechanisms to strengthen international regulatory frameworks addressing the deployment of autonomous and AI-assisted maritime systems and their implications for maritime safety, accountability and international coordination

By: Isabella Buendía Ramírez, Daniela Michelle Guzmán Torres, Mariane Rodríguez Triana

Introduction

International shipping remains one of the most essential pillars of the global economy, transporting approximately 90% of global trade and serving as a critical component of

international supply chains. Nevertheless, the rapid advancement of artificial intelligence and autonomous technologies in maritime operations has begun to transform traditional navigation systems at a pace that challenges international regulation. Among these innovations, Maritime Autonomous Surface Ships (MASS) have emerged as one of the most significant developments, incorporating artificial intelligence, remote operations and advanced navigation systems capable of assisting or performing navigational functions with reduced human intervention. While these technologies present opportunities to enhance efficiency, optimize commercial operations and contribute to more sustainable shipping practices, they have also prompted multilateral dialogue regarding cybersecurity risks, maritime safety, legal accountability and the potential impact on maritime employment.

As the deployment of autonomous and AI-assisted maritime technologies continues to expand, questions have emerged regarding the adequacy of existing international regulatory frameworks to address the challenges associated with their operation. Existing conventions such as SOLAS, MARPOL and STCW continue to provide important foundations for maritime safety and environmental protection; nevertheless, they were developed in a substantially different technological context. Differences in technological capacity among Member States, together with the absence of internationally harmonized standards for autonomous vessels, have contributed to growing discussion regarding regulatory consistency, accountability and operational supervision. Consequently, discussions regarding the adaptation and development of international regulatory frameworks have become increasingly relevant for ensuring the safe, secure and coordinated integration of autonomous and AI-assisted systems into international maritime transport.

Background

The expansion of autonomous and AI-assisted maritime technologies has been driven by increasing participation from public authorities and private stakeholders, contributing to a

broader transformation in the way maritime transport is managed and operated. In response to this technological shift, governments, shipyards and maritime technology developers have played an increasingly active role in supporting testing initiatives and expanding digital capabilities across the maritime industry. Early pilot projects involving remotely operated and autonomous vessels demonstrated the potential of emerging technologies to improve navigational efficiency, operational performance and sustainability. At the same time, investments in digital maritime infrastructure, together with growing efforts to promote environmentally responsible shipping practices, contributed to increased international interest in maritime automation and the future development of commercial shipping operations.

As these technologies continued to evolve, questions emerged regarding the extent to which existing international maritime regulations could effectively address autonomous operations. In response, the International Maritime Organization initiated the Regulatory Scoping Exercise on Maritime Autonomous Surface Ships (MASS), a review process aimed at assessing the applicability of existing maritime conventions to varying degrees of autonomy. The exercise identified several provisions within international regulatory instruments that may require clarification, interpretation or future adaptation to accommodate emerging technologies. In this regard, initiatives such as the autonomous vessel *Yara Birkeland* and various remotely operated vessel trials have brought attention to questions concerning the applicability of existing navigation regulations, the allocation of responsibility in the event of an accident, and the appropriate level of human oversight during autonomous operations. Consequently, discussions regarding legal accountability, operational supervision, safety standards and international regulatory consistency have become increasingly relevant within maritime policy debates, contributing to ongoing efforts to strengthen international regulatory frameworks for autonomous and AI-assisted maritime systems.

Context

As the maritime sector continues to explore autonomous and AI-assisted technologies, their adoption has introduced emerging challenges for the international maritime community. Variations in technological access, regulatory frameworks and institutional capacities have contributed to differing levels of preparedness among Member States in adapting to emerging maritime innovations. While countries such as the Republic of Singapore, the Kingdom of Norway and the Kingdom of Denmark have actively supported pilot projects and developed early regulatory approaches related to autonomous shipping, other States, particularly small island developing States and several developing coastal nations, continue to face limitations associated with digital infrastructure, technical expertise and regulatory resources. In addition, financial constraints and limited access to advanced maritime technologies may restrict their ability to participate in large-scale testing initiatives or implement autonomous maritime systems at the same pace as more technologically advanced States. These differences have contributed to uneven levels of readiness regarding the deployment and supervision of emerging maritime technologies. Furthermore, the integration of autonomous vessels into regulatory frameworks originally developed for conventional shipping operations has highlighted questions regarding operational supervision and the application of established international standards. Given its role in supporting international regulatory coordination and the development of maritime standards, the International Maritime Organization continues to serve as a key platform for examining the implications of autonomous and AI-assisted technologies for maritime safety, regulatory alignment and the broader governance of international shipping activities.

Maritime Safety and Cybersecurity Challenges

The development of Maritime Autonomous Surface Ships (MASS) has been enabled by the integration of advanced digital technologies capable of performing certain navigational and operational activities through automated technologies and reduced human intervention. These systems combine artificial intelligence, navigation technologies, environmental sensors and radar to execute operational functions that previously depended on seafarers. The growing incorporation of these technologies has contributed to the evolution of maritime operational practices. As vessel functions become increasingly dependent on interconnected digital systems, the interaction among software, communication networks and navigational equipment has become an important subject of discussion within the international maritime sector.

The growing adoption of autonomous and AI-assisted technologies has generated new regulatory challenges in cybersecurity and operational safety. The operation of Maritime Autonomous Surface Ships relies on the continuous exchange of information through communication networks, sensors and satellite-based systems, which may be exposed to cyber threats such as GPS spoofing, jamming, signal interference and malicious software. Recent incidents involving cyberattacks against ports and logistics infrastructure have demonstrated the potential consequences of disruptions affecting interconnected maritime systems. In response, some Member States have promoted cybersecurity strategies, testing frameworks and risk management measures for autonomous maritime operations, while others continue to rely primarily on existing international guidance and conventional maritime regulations. Furthermore, cyberattacks on ports, logistics platforms and maritime communication infrastructure may have broader consequences for international trade and supply chain continuity. As international shipping connects multiple regions and economies, cybersecurity risks have become a matter of collective concern, prompting discussions on the development of coordinated international frameworks and common cybersecurity standards under the International Maritime Organization to support safe and secure maritime operations.

Legal Accountability and Human Oversight

The increasing integration of Maritime Autonomous Surface Ships (MASS) and artificial intelligence-assisted systems into international maritime transport has introduced complex legal and regulatory challenges for the international community. While these technologies offer significant opportunities to enhance operational efficiency, navigational safety and sustainability within the maritime sector, they also raise important questions regarding responsibility and decision-making processes when critical operations are performed by autonomous or semi-autonomous systems. As vessels become increasingly reliant on automated technologies, traditional legal frameworks face growing challenges in determining how responsibility should be assigned when incidents involve multiple technological and operational actors. These concerns have become particularly relevant as autonomous systems continue to assume functions that were previously carried out by onboard crews. Consequently, legal accountability and human oversight have emerged as central topics of discussion within ongoing efforts to strengthen international regulatory frameworks applicable to emerging maritime technologies.

According to traditional principles of international maritime law, liability is generally attributed to identifiable parties such as shipowners, vessel operators, masters and flag states. Furthermore, the growing reliance on autonomous systems has complicated the attribution of responsibility, particularly when navigational decisions result from the interaction of software, remote-control operations, sensors and artificial intelligence applications involving multiple stakeholders. In the event of a collision, operational failure, environmental incident or cybersecurity-related disruption involving a MASS, uncertainty may arise regarding whether responsibility should rest with the shipowner, remote operator, software developer, equipment manufacturer or flag State. This uncertainty becomes particularly significant in international

waters, where incidents may involve multiple jurisdictions, flag States and private actors operating under different legal frameworks. For example, if an autonomous vessel were to misinterpret navigational data and collide with another ship, questions could emerge regarding whether liability should be attributed to the vessel operator, the software provider responsible for the automated system, or the authorities responsible for regulatory oversight.

An additional area of discussion concerns the role of human oversight within increasingly automated maritime operations. The International Maritime Organization recognizes different levels of autonomy, ranging from vessels that use automated systems to support human decision-making to fully autonomous ships capable of performing navigational functions with minimal human intervention. As a result, discussions have emerged regarding whether meaningful human control should remain a requirement for critical navigational decisions and how accountability can be maintained as maritime technologies become increasingly autonomous. Furthermore, the growing use of artificial intelligence has highlighted the importance of transparency, monitoring and accountability mechanisms capable of supporting safe maritime operations. The ability to monitor and evaluate decision-making processes carried out by autonomous systems may assist maritime authorities in investigating incidents, improving regulatory compliance and promoting confidence in the safe integration of emerging technologies.

Socioeconomic Challenges Associated with Maritime Automation

Maritime trade has historically relied on human decision-making, onboard personnel and conventional navigation systems. Economic pressures, environmental concerns and technological advancements have become key drivers of automation within the maritime sector, contributing to the growing adoption of autonomous and AI-assisted technologies. As these innovations continue to expand, economic competitiveness, operational efficiency and

technological development have become increasingly important considerations within the maritime industry. Autonomous and remotely operated voyages have gradually evolved from experimental initiatives to practical applications within commercial shipping, with an increasing number of maritime stakeholders utilizing autonomous technologies and AI-assisted systems to improve navigation, optimize decision-making processes and enhance operational performance. The IMO's Maritime Autonomous Surface Ships (MASS) initiative reflects the growing international interest in these technologies, which may contribute to reducing operational costs, improving vessel maintenance, increasing productivity and optimizing commercial routes, generating both economic and environmental benefits for the maritime sector. In this context, the socioeconomic transformation of the industry presents significant governance and regulatory challenges for the International Maritime Organization, particularly regarding workforce adaptation, capacity-building requirements and equitable access to emerging maritime technologies.

Despite these advantages, the expansion of maritime automation has raised important socioeconomic considerations. While autonomous technologies may reduce the need for certain traditional onboard functions, their implementation is expected to increase demand for specialized personnel responsible for the management, supervision and maintenance of advanced technological systems, including cybersecurity and digital operations. In addition, countries with strong innovation ecosystems, advanced digital infrastructure and significant investments in maritime technology may be better positioned to benefit from automation than developing nations facing financial, technical and regulatory limitations. Consequently, the widespread adoption of autonomous maritime technologies may contribute to disparities in technological capacity and economic competitiveness among Member States. These disparities may also influence the ability of certain States to participate effectively in future regulatory discussions concerning autonomous maritime technologies within the IMO framework.

Postures and Actions

The International Maritime Organization has become the primary forum for addressing the regulatory implications of autonomous and AI-assisted maritime technologies. The Organization has implemented several initiatives, including the Regulatory Scoping Exercise on Maritime Autonomous Surface Ships (MASS), to evaluate potential regulatory gaps, examine the applicability of existing international maritime conventions to autonomous vessels, and identify areas that may benefit from further clarification or future regulatory adaptation. Furthermore, the IMO has encouraged cooperation among Member States regarding cybersecurity standards, operational safety and accountability mechanisms related to maritime automation. These efforts reflect the Organization's commitment to promoting the safe and responsible integration of autonomous and AI-assisted technologies while maintaining maritime safety, environmental protection and international regulatory coordination.

Member States have adopted markedly different positions regarding the development and regulation of autonomous and AI-assisted maritime technologies. Countries such as the Republic of Singapore, the Kingdom of Norway and the Kingdom of Denmark have actively advanced pilot projects, established regulatory sandboxes and invested in digital maritime infrastructure, positioning themselves at the forefront of autonomous vessel testing and regulatory development. These States generally support the progressive integration of autonomous systems, provided that international standards ensure safety, interoperability and legal clarity. In contrast, many developing States and small island developing States have expressed concerns regarding limited technological infrastructure, high implementation costs and insufficient regulatory capacity to oversee autonomous operations, emphasizing that premature or uneven adoption could exacerbate existing disparities within the global maritime system. These States therefore advocate for stronger capacity-building mechanisms,

technology transfer and phased implementation approaches within the IMO framework. Consequently, discussions within the Organization continue to focus on balancing innovation with inclusivity, ensuring that regulatory frameworks accommodate both technologically advanced and resource-constrained Member States while maintaining maritime safety, accountability and equitable participation.

Conclusion

The growing development of autonomous and AI-assisted maritime technologies has prompted increased attention toward the regulatory challenges associated with maritime automation. Through initiatives such as the Regulatory Scoping Exercise on Maritime Autonomous Surface Ships (MASS), the International Maritime Organization has facilitated discussions regarding maritime safety, legal accountability, cybersecurity and the applicability of existing international conventions to emerging technologies. These efforts have contributed to greater awareness of both the opportunities and regulatory challenges associated with the deployment of autonomous maritime systems. Collectively, they reflect a growing commitment to strengthening regulatory coordination while balancing technological innovation with maritime safety, accountability and sustainable maritime development.

Addressing these challenges remains an ongoing priority for the international maritime community as Member States continue to evaluate how existing regulatory frameworks can adapt to emerging technologies. Given its mandate to promote safe, secure and environmentally responsible shipping, the International Maritime Organization continues to serve as the principal forum for facilitating dialogue and advancing regulatory discussions on autonomous and AI-assisted maritime technologies. As these technologies continue to advance more rapidly than existing regulatory frameworks, delays in regulatory adaptation may increase legal uncertainty,

cybersecurity vulnerabilities and operational risks across international shipping networks. Continued cooperation among Member States, international organizations, industry stakeholders and research institutions may contribute to the development of harmonized standards that support the safe integration of emerging technologies into global shipping. Strengthening regulatory frameworks, promoting capacity-building initiatives and encouraging the exchange of technical expertise will be essential to ensuring that the benefits of maritime automation can be shared while minimizing potential risks.

Mechanisms to strengthen international regulatory frameworks addressing the deployment of autonomous and AI-assisted maritime systems and their implications for maritime safety, accountability and international coordination

Introduction

International shipping remains one of the most essential pillars of the global economy, transporting approximately 90% of global trade and serving as a critical component of international supply chains. Nevertheless, the rapid advancement of artificial intelligence and autonomous technologies in maritime operations has begun to transform traditional navigation systems at a pace that challenges international regulation. Among these innovations, Maritime Autonomous Surface Ships (MASS) have emerged as one of the most significant developments, incorporating artificial intelligence, remote operations and advanced navigation systems capable of assisting or performing navigational functions with reduced human intervention. While these technologies present opportunities to enhance efficiency, optimize commercial operations and contribute to more sustainable shipping practices, they have also prompted multilateral dialogue regarding cybersecurity risks, maritime safety, legal accountability and the potential impact on maritime employment.

As the deployment of autonomous and AI-assisted maritime technologies continues to expand, questions have emerged regarding the adequacy of existing international regulatory frameworks to address the challenges associated with their operation. Existing conventions such as SOLAS, MARPOL and STCW continue to provide important foundations for maritime safety and environmental protection; nevertheless, they were developed in a substantially different technological context. Differences in technological capacity among Member States, together with the absence of internationally harmonized standards for autonomous vessels, have contributed to growing discussion regarding regulatory consistency, accountability and operational supervision. Consequently, discussions regarding the adaptation and development of international regulatory frameworks have become increasingly relevant for ensuring the safe, secure and coordinated integration of autonomous and AI-assisted systems into international maritime transport.

Background

The expansion of autonomous and AI-assisted maritime technologies has been driven by increasing participation from public authorities and private stakeholders, contributing to a broader transformation in the way maritime transport is managed and operated. In response to this technological shift, governments, shipyards and maritime technology developers have played an increasingly active role in supporting testing initiatives and expanding digital capabilities across the maritime industry. Early pilot projects involving remotely operated and autonomous vessels demonstrated the potential of emerging technologies to improve navigational efficiency, operational performance and sustainability. At the same time, investments in digital maritime infrastructure, together with growing efforts to promote environmentally responsible shipping practices, contributed to increased international interest in maritime automation and the future development of commercial shipping operations.

As these technologies continued to evolve, questions emerged regarding the extent to which existing international maritime regulations could effectively address autonomous operations. In response, the International Maritime Organization initiated the Regulatory Scoping Exercise on Maritime Autonomous Surface Ships (MASS), a review process aimed at assessing the applicability of existing maritime conventions to varying degrees of autonomy. The exercise identified several provisions within international regulatory instruments that may require clarification, interpretation or future adaptation to accommodate emerging technologies. In this regard, initiatives such as the autonomous vessel *Yara Birkeland* and various remotely operated vessel trials have brought attention to questions concerning the applicability of existing navigation regulations, the allocation of responsibility in the event of an accident, and the appropriate level of human oversight during autonomous operations. Consequently, discussions regarding legal accountability, operational supervision, safety standards and international regulatory consistency have become increasingly relevant within maritime policy debates, contributing to ongoing efforts to strengthen international regulatory frameworks for autonomous and AI-assisted maritime systems.

Context

As the maritime sector continues to explore autonomous and AI-assisted technologies, their adoption has introduced emerging challenges for the international maritime community. Variations in technological access, regulatory frameworks and institutional capacities have contributed to differing levels of preparedness among Member States in adapting to emerging maritime innovations. While countries such as the Republic of Singapore, the Kingdom of Norway and the Kingdom of Denmark have actively supported pilot projects and developed early regulatory approaches related to autonomous shipping, other States, particularly small island developing States and several developing coastal nations, continue to face limitations

associated with digital infrastructure, technical expertise and regulatory resources. In addition, financial constraints and limited access to advanced maritime technologies may restrict their ability to participate in large-scale testing initiatives or implement autonomous maritime systems at the same pace as more technologically advanced States. These differences have contributed to uneven levels of readiness regarding the deployment and supervision of emerging maritime technologies. Furthermore, the integration of autonomous vessels into regulatory frameworks originally developed for conventional shipping operations has highlighted questions regarding operational supervision and the application of established international standards. Given its role in supporting international regulatory coordination and the development of maritime standards, the International Maritime Organization continues to serve as a key platform for examining the implications of autonomous and AI-assisted technologies for maritime safety, regulatory alignment and the broader governance of international shipping activities.

Maritime Safety and Cybersecurity Challenges

The development of Maritime Autonomous Surface Ships (MASS) has been enabled by the integration of advanced digital technologies capable of performing certain navigational and operational activities through automated technologies and reduced human intervention. These systems combine artificial intelligence, navigation technologies, environmental sensors and radar to execute operational functions that previously depended on seafarers. The growing incorporation of these technologies has contributed to the evolution of maritime operational practices. As vessel functions become increasingly dependent on interconnected digital systems, the interaction among software, communication networks and navigational equipment has become an important subject of discussion within the international maritime sector.

The growing adoption of autonomous and AI-assisted technologies has generated new regulatory challenges in cybersecurity and operational safety. The operation of Maritime Autonomous Surface Ships relies on the continuous exchange of information through communication networks, sensors and satellite-based systems, which may be exposed to cyber threats such as GPS spoofing, jamming, signal interference and malicious software. Recent incidents involving cyberattacks against ports and logistics infrastructure have demonstrated the potential consequences of disruptions affecting interconnected maritime systems. In response, some Member States have promoted cybersecurity strategies, testing frameworks and risk management measures for autonomous maritime operations, while others continue to rely primarily on existing international guidance and conventional maritime regulations. Furthermore, cyberattacks on ports, logistics platforms and maritime communication infrastructure may have broader consequences for international trade and supply chain continuity. As international shipping connects multiple regions and economies, cybersecurity risks have become a matter of collective concern, prompting discussions on the development of coordinated international frameworks and common cybersecurity standards under the International Maritime Organization to support safe and secure maritime operations.

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Recommend Material

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Topic B

Measures to strengthen occupational safety and environmental sustainability in international ship recycling practices.

By: Isabella Buendía Ramírez, Daniela Michelle Guzmán Torres, Mariane Rodríguez Triana

Introduction

The global ship recycling industry has become an essential component of the maritime sector, facilitating the dismantling of vessels that have completed their operational cycle and enabling the recovery of valuable materials for reuse in global markets. As global maritime trade continues to facilitate the movement of goods and resources across international markets, ship recycling supports industrial output, enhances resource efficiency, and contributes to economic activity in a wide range of regions. In addition, the industry provides employment opportunities and supports domestic demand for recycled materials, particularly in countries where recycling operations are concentrated. Consequently, this industry remains closely connected to the efficient functioning and long-term sustainability of international maritime transport.

Growing attention has increasingly been directed toward the environmental and occupational dimensions of ship recycling practices, particularly within broader efforts in the maritime sector to enhance sustainability and safety standards. In this context, the handling of hazardous substances, the protection of workers involved in ship dismantling operations, along with the enforcement of internationally recognized regulatory frameworks, has remained a continuous area of concern among Member States and relevant maritime stakeholders. These issues surpass the limits of individual national jurisdictions, reflecting the inherently global nature of maritime transport and the constant circulation of vessels across international routes throughout their operational life cycle. Within this framework, the International Maritime Organization plays a central role as the principal international body responsible for developing regulatory instruments, promoting cooperation among Member States and facilitating the harmonization of standards applicable to maritime activities. Accordingly, discussions surrounding ship recycling continue to occupy a relevant place within contemporary maritime governance, particularly in relation to operational safety, environmental protection and regulatory coherence.

Background

The development of ship recycling into a highly concentrated global industry is largely associated with structural economic differences within the maritime sector, particularly in relation to variations in labor costs, industrial capacity, and regulatory frameworks across regions. As vessels reached the end of their operational life, the demand for efficient and cost-effective dismantling solutions increased, encouraging the development of recycling facilities in countries where lower operational expenses and higher demand for reusable materials created favorable economic conditions. Over time, several coastal communities in developing States have become increasingly reliant on this industry as a key source of employment and local economic activity, integrating it into broader processes of industrial growth. At the same time, limited access to advanced waste management systems and occupational safety infrastructure contributed to the gradual emergence of concerns regarding working conditions and environmental management within the industry.

The continued growth of international maritime trade and the sustained demand for recyclable materials have significantly contributed to the expansion of ship recycling activities. As increasing numbers of vessels reached the end of their operational life, the need for large-scale dismantling operations capable of supplying reusable steel and components to industrial sectors worldwide became more pronounced. Nevertheless, the rapid growth of the industry often outpaced the development of consistent regulatory frameworks, which culminated in the adoption of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships as a common framework for promoting safer and more environmentally sound recycling practices. Consequently, ship recycling has evolved into a globally interconnected industry that reflects economic priorities while continuing to raise concerns regarding regulatory coherence, environmental protection, and worker safety.

Context

As ship recycling activities became increasingly concentrated in a limited number of regions, concerns regarding their environmental and occupational implications gained greater international visibility. The growth of ship dismantling activities, together with the hazardous substances commonly found aboard vessels approaching the end of their service life, led to increasing attention from governments, international organizations and civil society stakeholders. Over time, reports highlighting environmental degradation in coastal areas and risks faced by workers reinforced calls for greater oversight and regulatory coordination within the sector. These developments gradually transformed ship recycling from a predominantly industrial activity into a broader issue of international maritime governance. As a result, discussions concerning the balance between economic benefits, worker protection, and environmental sustainability became increasingly prominent within the maritime community.

In response to these concerns, the International Maritime Organization has continued to promote the effective implementation of internationally recognized standards governing ship recycling practices. The entry into force of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships in 2025 marked a significant milestone in strengthening the international regulatory framework and reflected a growing commitment to safer, more environmentally sustainable recycling practices. Despite this progress, differences in infrastructure, technical capacity, and the implementation of regulatory measures continue to affect the effectiveness of ship recycling operations across various regions. Consequently, the topic remains under active discussion among Member States and maritime stakeholders, particularly regarding the consistent application of international standards and the promotion of occupational safety and environmental sustainability.

Occupational Safety Challenges in Ship Recycling Operations

Ship recycling plays an important role in the maritime industry, as it allows valuable materials such as steel, aluminum, and other components to be recovered and reused once vessels reach the end of their operational lives. Nevertheless, the industry continues to face important occupational safety concerns, particularly in major ships recycling regions such as the People's Republic of Bangladesh, the Republic of India, and the Islamic Republic of Pakistan, where a considerable portion of dismantling activities has traditionally taken place directly on beaches. Although the sector provides employment opportunities and contributes to local economies, ship recycling is widely recognized as a high risk activity due to the physically demanding nature of dismantling operations and the frequent exposure of workers to hazardous conditions. Workers are often required to cut large steel structures, handle heavy equipment, and perform tasks in unstable environments, which may increase the likelihood of serious accidents and injuries. These risks are particularly concerning in facilities where occupational safety standards remain insufficiently implemented.

Workers involved in ship recycling may face numerous occupational hazards, including falls from height, fires, explosions, heavy lifting accidents, and injuries caused by cutting large steel structures. In addition, many vessels contain dangerous materials such as asbestos, lead, heavy metals, residual fuels, and other toxic substances that may pose significant health risks if not properly identified and managed. Prolonged exposure to these materials has been associated with respiratory illnesses, skin diseases, neurological disorders, and other occupational health conditions that can affect workers both in the short and long term. These risks may become more severe in facilities where access to personal protective equipment, specialized training, emergency response procedures, and regulated safety inspections remains limited. Differences between regulated recycling facilities and informal operations have also contributed to disparities in labor standards and worker protection measures. Regulated facilities are generally required to comply with national regulations and international

guidelines, which may include worker training programs, regular safety inspections, and access to personal protective equipment. In contrast, informal operations often face challenges related to limited oversight, insufficient safety measures, and inadequate access to medical assistance and emergency response procedures, potentially increasing occupational risks for workers.

Concern regarding occupational safety within the ship recycling sector has received increasing international attention, particularly following documented workplace accidents and reports highlighting unsafe working conditions in certain recycling yards. In response, international instruments such as the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships seek to establish common standards aimed at improving worker safety and promoting environmentally sound recycling practices. Complementing these regulatory efforts, the International Maritime Organization has promoted technical cooperation and capacity-building initiatives to support Member States in strengthening national implementation, enhancing institutional capacities, and improving occupational safety practices within the ship recycling sector. In addition, the International Labour Organization has described shipbreaking as “one of the most dangerous occupations in the world” (International Labour Organization, 2004), emphasizing the significant risks associated with dismantling activities conducted under inadequate safety conditions. Challenges related to regulatory oversight, uneven implementation, and limited technical and financial capacities continue to affect efforts to ensure safe and healthy working environments. Understanding these issues remains essential for delegates, as discussions within the International Maritime Organization increasingly focus on the implementation of international standards aimed at balancing the economic importance of ship recycling with worker protection and environmentally sustainable maritime practices. These differences continue to generate discussions regarding the balance between regulatory harmonization and the economic realities faced by major recycling States.

Environmental Impacts of Ship Recycling Practices

As an essential component of the maritime industry, ship recycling contributes to resource recovery and supports efforts to reduce pressure on natural resources. Granted that it is widely recognized that ship recycling poses environmental and safety risks, the absence of adequate environmental regulations can result in significant harm. In 2009, the International Maritime Organization adopted the Hong Kong Convention on the recycling of ships, reflecting growing international concern regarding the environmental and occupational risks associated with ship dismantling. This landmark regulation established a structure that supports safer, more sustainable recycling, driven by the urgent need to address the accumulation of hazardous substances like fuel residues, lubricating oils, asbestos, heavy metals, and toxic paints during a vessel's operational life. In addition, improper waste management frequently occurs when dismantling facilities in centers use traditional methods such as the beaching. This process involves dismantling ships on coastal beaches, which can lead to the release of oil residues and other hazardous substances into marine ecosystems, contributing to environmental pollution and the degradation of local biodiversity.

Ship recycling causes significant environmental impacts, including the contamination of coastal waters and the degradation of marine habitats. These effects can have a deep impact on biodiversity, disrupt ecosystem functions, and create risks to environmental quality both in coastal areas and where ship recycling takes place. When pollutants are released into the ocean during this process, they contaminate marine waters and sediments, accumulate in the food chain, and create long-term risks for ecosystems and human health. The contaminants can severely affect water quality and surrounding habitats, threatening species that depend on these environments for food, reproduction, and shelter. Pollution poses a major hazard to mangroves, estuaries, and coral reefs. Toxic exposure can lead to a reduction in biodiversity, disruption of

food supply, and the destruction of natural habitats, which can weaken marine ecosystems and undermine the environmental services they offer to local populations.

Communities located near ship recycling facilities may experience social and economic consequences in addition to the environmental impacts associated with recycling activities. A large number of communities depend on fishing, tourism, and other sea-related activities to maintain their way of life. Consequently, environmental degradation poses a direct risk to these populations, as it threatens the natural resources and ecosystems that are essential for their economic and social well-being. Pollution can deplete fish stocks, deteriorate water quality, or lead to health hazards from exposure to dangerous substances. These challenges highlight the difference between traditional ship recycling methods, which are usually cheaper but less regulated, and more organized approaches that include waste management systems, environmental monitoring, and specialized recycling facilities designed to minimize environmental impact. As a result, the environmental and social impacts related to ship recycling, especially the pollution of marine ecosystems and the dangers it poses to coastal communities, have caused growing concern in the international community, which has led to greater attention from organizations like the International Maritime Organization.

International Response

The International Maritime Organization has consistently emphasized the importance of strengthening occupational safety and environmental sustainability within the ship recycling sector through the development of internationally harmonized regulatory frameworks and technical standards. Recognizing the transnational nature of maritime transport, the Organization has promoted cooperation among Member States to facilitate the safe and environmentally sound recycling of ships while encouraging the consistent implementation of international obligations. The adoption and subsequent entry of the Hong Kong International

Convention for the Safe and Environmentally Sound Recycling of Ships represent central elements of this approach, establishing a common framework to address risks associated with ship dismantling activities throughout the recycling process. Complementing these regulatory efforts, the International Maritime Organization continues to support Member States through technical cooperation programmes, capacity-building initiatives and guidance intended to strengthen national implementation and institutional capabilities.

Member States have adopted different approaches in response to the challenges associated with ship recycling, reflecting their respective economic priorities, industrial capacities and regulatory frameworks. Countries with significant ship recycling industries, including the People's Republic of Bangladesh, the Republic of India, and the Islamic Republic of Pakistan, have undertaken efforts to align their domestic practices with internationally recognized standards through regulatory developments, institutional improvements, and the gradual modernization of recycling facilities. In parallel, ship-owning States and regional organizations have supported initiatives aimed at promoting greater transparency, encouraging responsible recycling practices, and reinforcing environmental and occupational safeguards across the maritime sector. While these efforts have contributed to notable progress, variations in technical capacity, institutional resources and implementation continue to influence the effective application of international standards, underscoring the continued importance of international cooperation and technical assistance within the framework of the International Maritime Organization. Some Member States prioritize rapid implementation of internationally harmonized standards, while others emphasize the need for technical assistance and gradual implementation according to national capacities.

Conclusion

Ship recycling has become a matter of growing international importance due to its implications for maritime safety, environmental protection, and sustainable industrial development. Given the transnational nature of maritime transport, vessels are built, operated, transferred, and ultimately recycled across multiple jurisdictions, extending the impacts associated with ship recycling practices beyond the responsibility of any single State. This international dimension underscores the importance of ongoing cooperation among flag States, recycling States, ship-owning countries, and relevant international organizations to support the effective governance of ship recycling practices. These interconnected dynamics also influence a wide range of areas, including worker welfare, marine environmental protection, international trade, industrial development, and the sustainable use of maritime resources. Consequently, discussions surrounding ship recycling continue to reflect the need to balance its economic importance with the responsibilities associated with safe and environmentally sound recycling practices.

As the implementation of international standards continues to evolve, Member States are presented with the challenge of addressing differences in regulatory capacity, technical resources and national priorities while promoting greater consistency across the sector. In this context, the International Maritime Organization provides an important forum for dialogue and international cooperation to strengthen maritime governance and support the effective application of internationally recognized standards. The diversity of national circumstances and the international nature of maritime transport continue to shape discussions on how these standards can be effectively implemented across different regions. Consequently, delegates are encouraged to examine how occupational safety, environmental sustainability, and regulatory coherence can be advanced, taking into account the diverse economic and institutional realities of Member States and the shared responsibility to preserve a safe, sustainable and resilient maritime sector.

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XXXIV TECMUN Jr.
Glossary of Forbidden Words

Forbidden Words

Defined by the United Nations, are non diplomatic terms participants must avoid to mention during their speeches on the debate and in the writing of resolution projects

Forbidden Words

First world countries
Third world countries

Permitted equivalents

Developed countries
Developing countries
Member of the LGBTIQ+ community
Armed conflict

Gay ¹	Sexual abuse
War ²	Extremist
Rape	Deprive someone of their life
Terrorist	Casualties
Kill or murder	Homicide
Death	Military forces
Assassination	Economic resources
Army	Lack of resources
Money	Yes or agree
Poor	Afrodescendant
Okay	
Black ³	

XXXIV TECMUN Jr. Glossary for Resolution Projects

Preambulatory Phrases

Preambulatory Phrases are used at the beginning of every Resolution Paper in order to give context about the resolutions made for the topic. Preambulatory Phrases must be written in italics followed by a sentence that gives said context. For each Resolution Paper there must be five sentences beginning with a Preambulatory Phrase.

Affirming	Desiring	Noting with deep concern
Alarmed by	Emphasizing	Noting with satisfaction

¹ The word *Gay* is replaced by a more inclusive term, recognizing that not all people within the LGBTIQ+ community identify in the same way.

² The word *War* can be used in order to refer to historical contexts, such as the Cold War, the First World War, etc. It can only be used in the Security Council to refer to armed conflicts.

³ The word *Black*, in reference to ethnicity, is not prohibited but it is recommended to limit its use and refer to this sector as a dark-skinned person or afrodescendant as the case may be.

Approving	Expecting	Noting further
Bearing in mind	Expressing its appreciation	Observing
Believing	Fulfilling	Reaffirming
Confident	Fully aware	Realizing
Contemplating	Further deploring	Recalling
Convinced	Further recalling	Recognizing
Declaring	Guided by	Referring
Deeply concerned	Having adopted	Seeking
Deeply conscious	Having considered	Taking into consideration
Deeply convinced	Having examined	Taking note
Deeply disturbed	Having received	Viewing with appreciation
Deeply regretting	Keeping in mind	Welcoming

XXXIV TECMUN Jr.
Glossary for Resolution Projects

Operative Clauses

Operative Clauses are used at the beginning of every resolution within the Resolution Paper on the debated topic. They must be written in italics and bold.

Accepts	Endorses	Notes
Affirms	Draws the attentions	Proclaims
Approves	Emphasizes	Reaffirms

Authorizes	Encourages	Recommends
Calls	Expresses its appreciation	Regrets
Calls upon	Expresses its hope	Reminds
Condemns	Further invites	Requests
Confirms	Further proclaims	Solemnly
Congratulates	Further reminds	Affirms
Considers	Further recommends	Strongly
Declares accordingly	Further requests	condemns
Deplores	Further resolves	Supports
Designates	Has resolved	Takes note of
		Transmits
		Trusts

Personal notes



[illegible]