

SUMMARY REPORT | MARCH 2025

Deep dive on seafarer sustainability

Supporting the opportunity for Africa and women to create a sustainable supply of seafarers for the future



The **Global Maritime Trends programme** launched by Lloyd's Register and Lloyd's Register Foundation, is a dynamic, multi-year research initiative, designed to provide evidence, insight, and foresight into the major challenges shaping the maritime industry between now and 2050, taking a holistic view of the maritime world, from fishing to offshore wind.

The programme launched in 2023 with the Global Maritime Trends 2050 Report (GMT2050 Report) by Economist Impact, which analyses possible future scenarios for maritime in 2050, based on the speed of technology adoption and the level of global collaboration, to help the industry forecast risks, opportunities, and required investment.

At the heart of the programme is a series of 'deep dive' reports which explore critical maritime issues, delivering expert analysis and robust data to provide a comprehensive understanding of the evolving maritime landscape and the potential implications for various maritime stakeholders.

In parallel with those deep dives and part of that same programme is the **Global Maritime Trends Barometer** which offers an annual pulse of the maritime industry's journey through the energy transition and digital transition, while assessing progress towards the four future scenarios as outlined in the GMT2050 Report by Economist Impact. The Barometer is structured along five key components of the maritime industry: maritime trade, energy, vessels, ports and people.

Scan to find out more about the GMT programme.



The **World Maritime University (WMU)** in Malmö, Sweden is established within the framework of the International Maritime Organization (IMO), a specialized agency of the United Nations. The mission of WMU is to be the world centre of excellence in postgraduate maritime and oceans education, professional training and research, while building global capacity and promoting sustainable development. WMU's vision is to inspire leadership and innovation for a sustainable maritime and oceans future. WMU is an organisation by and for the international maritime community and is committed to the United Nations 2030 Sustainable Development Agenda.

This is the first in a series of ‘deep dives’ following the launch of the Global Maritime Trends 2050 report published in 2023 in partnership with Lloyd’s Register Foundation, Lloyd’s Register and Economist Impact.

The deep dives provide evidence, insight, and foresight on the large-scale challenges affecting the maritime industry over coming years as indicated in Global Maritime Trends 2050.

These subsequent reports draw on expert analyses and robust data to provide a comprehensive understanding of the evolving landscape and the potential implications for various maritime stakeholders.

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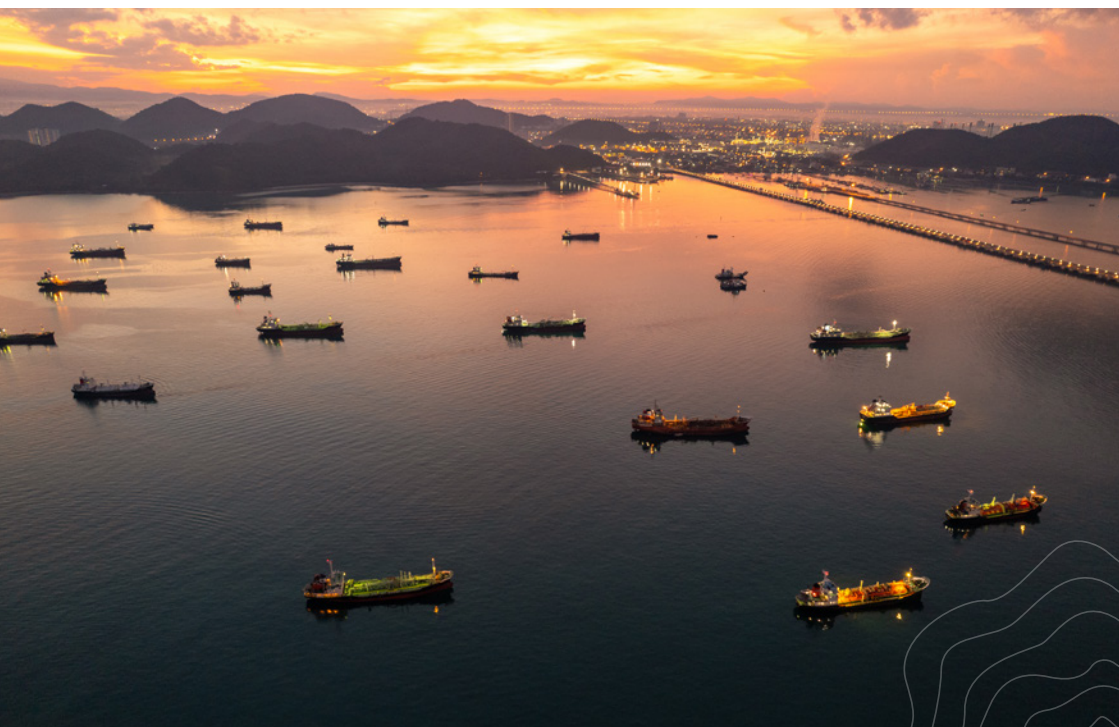
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**Scan to view the Global
Maritime Trends 2050 report.**



Executive Summary

Seafarers are the backbone of the maritime industry, driving over 80 percent of global trade and supporting the seamless and safe movement of goods across oceans (UNCTAD, 2024; EMSA, 2024).

Without seafarers' important contribution, the production and transport of goods across continents would be under serious threat.

The sustainable supply of seafarers to crew ships is one of the key challenges in the maritime industry right now with a persistent shortage sparking critical discussions on addressing the global demand and supply gap.

As of 2021, the global seafarer workforce was estimated at 1.9 million, with Asia and the Pacific supplying 50 percent, Europe contributing 33 percent and Africa accounting for just 4 percent. Of this, women seafarers are estimated as only 1.28 percent of the total seafarer population (BIMCO & ICS, 2021). This imbalance underscores the untapped potential of underrepresented regions, particularly Africa, highlighting both an opportunity and a pressing need for targeted investments in Maritime Education and Training (MET).

It also requires an uptake in Science, Technology, Engineering and Mathematics (STEM) courses given the critical role they play in shaping the next generation of skilled maritime professionals.

By providing equal access to STEM education, millions of young women could be empowered to envision themselves in careers that once seemed inaccessible. Breaking barriers in classrooms and subsequently MET institutions worldwide would see a steady influx of talented women enrolling in seafaring programmes.

To date, the focus in ensuring a more sustainable maritime future has largely been in alternative fuels and technology. However, the Global Maritime Trends 2050 report points to the critical role of the human element and forecasts two possible scenarios by 2050:

1. Africa's young and talented demographic could emerge as pivotal in reshaping the global maritime labour market as the next generation of seafarers globally.
2. Women seafarers increase to become 25 percent of the total workforce in shipping by 2050.

The question this report answers is, what is needed to make this happen? It presents a challenge with significant implications for the future of the industry and demands innovative and evidence-based solutions as highlighted in the report's recommendations.

Data gathering

This deep dive used a mix of different methods to gather information from both new and existing sources in three regions of Africa: Eastern, Southern, and Western Africa. Data was collected from September to December 2024, focusing on MET institutions and national maritime administrations in African countries.

Ghana, Kenya, Namibia, Nigeria, South Africa, and Tanzania were included in the study. While baseline data on women seafarers and MET is largely absent, the study combined available numbers, such as MET enrolment and graduation rates and the number of active African seafarers on ships, with insights from literature reviews and discussions with stakeholders.

The full report, including methodologies can be found here:



That data provided valuable insights. Key findings highlight not only the challenges but also the opportunities and strategic actions that need to be taken to achieve a pipeline of suitably skilled and qualified seafarers to meet the evolving needs of global and domestic shipping into the long-term, including addressing barriers in seafarer retention, in Africa and beyond.

Women in Maritime São Tomé and Príncipe

(Photo credit: reprinted with kind permission of © Coast Guard of São Tomé and Príncipe. All rights reserved.)



“Clearly, there are vast and largely untapped numbers of female and African seafarers with much to offer the maritime economy. What has been less clear, is how the potential of women and African seafarers can be realised on a large scale, which is what this report attempts to answer. Researchers at the World Maritime University have obtained and collated data, unseen elsewhere, on African Maritime Education and Training enrolment and graduation, good practice, and on subsequent employment, as well as data and good practice relating to the employment of women seafarers, globally. Their analysis allows policy makers and other stakeholders to understand the current state of play, and where to focus efforts to improve it.”

**Beth Elliot, Director of Strategic Communications,
Lloyd’s Register Foundation**



“While progress has been made, significant challenges remain. Women and marginalised groups continue to be underrepresented, and structural barriers persist. By championing diversity and fostering inclusion, we can unlock the full potential of the maritime workforce. This report can work as a reminder that the future of maritime lies in our ability to adapt, innovate, and embrace diversity. As we chart the course ahead, let us commit to building an industry that is not only sustainable but also equitable and inclusive – for everyone who calls the sea their home.”

Philippa Charlton, Chief Marketing Officer, Lloyd’s Register

“This research explores the intricate dynamics of seafarer supply and demand. The results highlight the opportunities that may be available by investing in Africa’s emerging talents and empowering women to play a more significant role in maritime professions. Women currently account for only 1.28 percent of the global seafarer workforce. Their inclusion in maritime professions is not only a matter of equity; it is also a driver of innovation and diverse perspectives to benefit the industry. The research indicates that targeted policies, accessible training, and clear pathways into the industry must be implemented, empowering women to play a more prominent role at sea and ultimately creating a richer and more inclusive maritime workforce. Fostering inclusivity, enhancing training infrastructure and embracing sustainable practices will help the industry to meet the evolving demands of global maritime trade and secure a resilient workforce for the future.”

Professor Maximo Q. Mejia Jr, President, World Maritime University

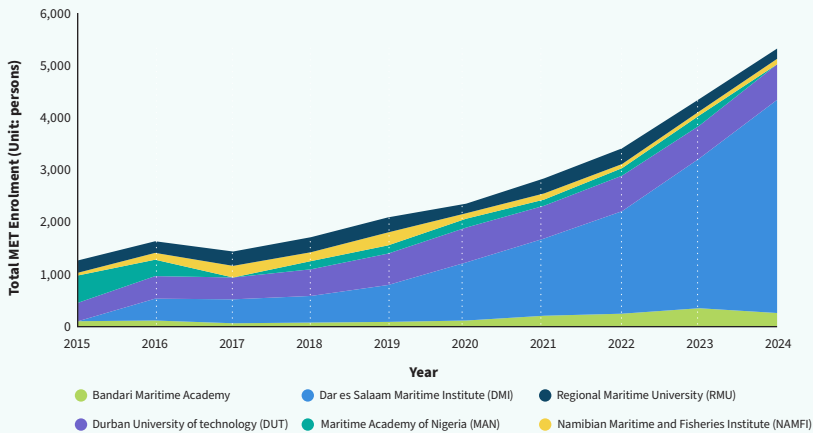
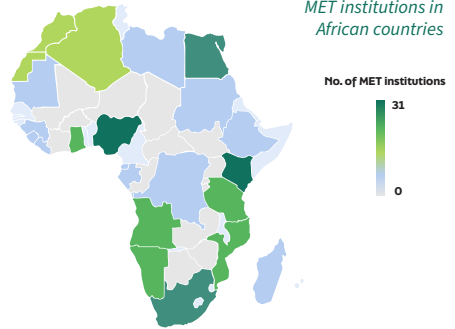


Key findings

Africa has approximately 150 MET institutions, demonstrating its potential to significantly contribute to the global maritime workforce.

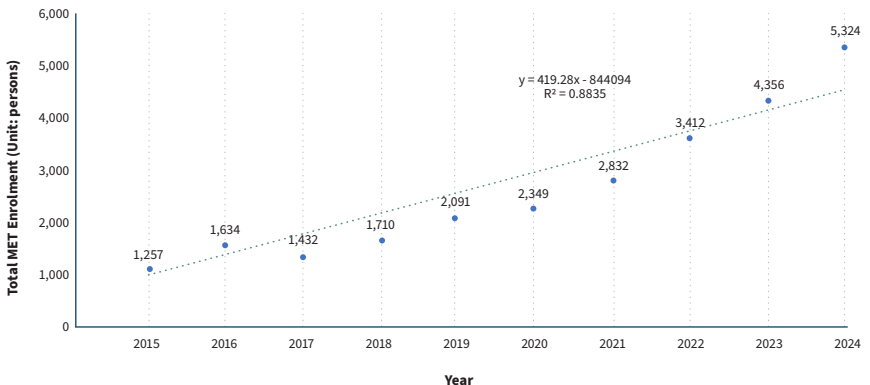
Overall, there is an increase in the number of student enrolments across the studied African MET institutions over the past decade (2015–2024), reflecting a rising appeal of maritime education and Africa's potential to address workforce gaps in the global maritime industry. However, significant challenges exist:

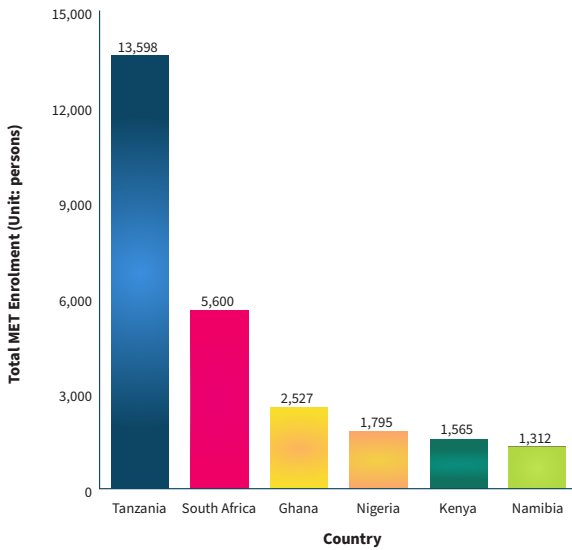
The geographical distribution of MET institutions in African countries



Trends in student enrolment across six MET institutions in Africa from 2015–2024

Overall trends and projections in student enrolment growth at MET institutions across selected African countries over the past decade (2015–2024)





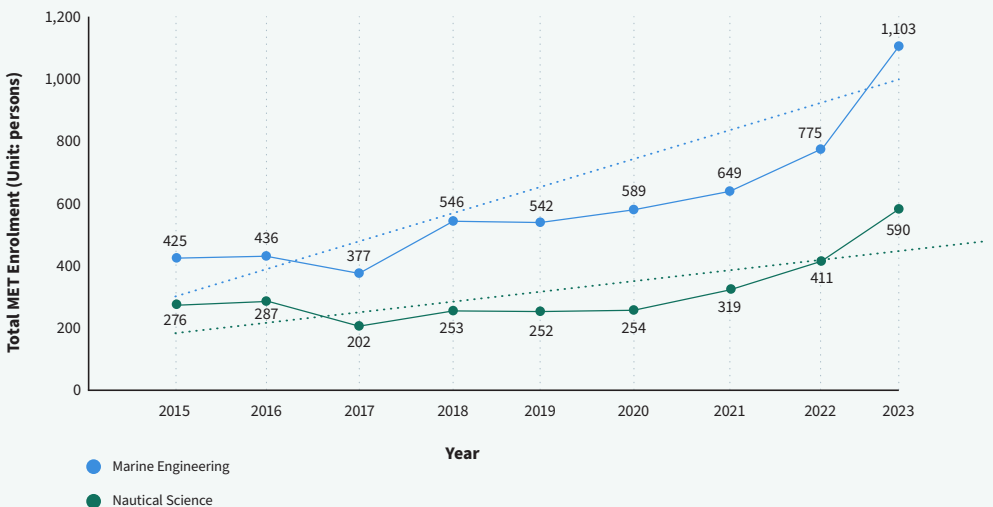
Enrolment disparities:

Tanzania and South Africa have consistently recorded higher enrolment figures while Namibia, Kenya, Ghana and even Nigeria with its large population have reported lower enrolment figures, signalling untapped potential and the need for greater investment in MET infrastructure and enhanced outreach.

Total MET enrolment in African countries using the six selected institutions (2015–2024)

Under-enrolled programmes: Variations in enrolment across programmes emphasise the need to address gaps in promoting under-enrolled programmes like nautical science, to ensure all jobs needed for national and international shipping are filled.

Enrolment trends in seagoing MET programmes in the selected institutions in Africa



Challenges in course completion:

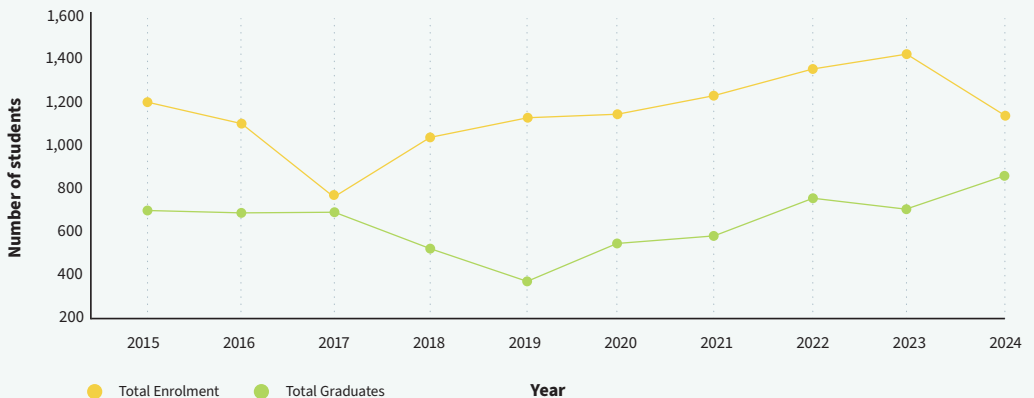
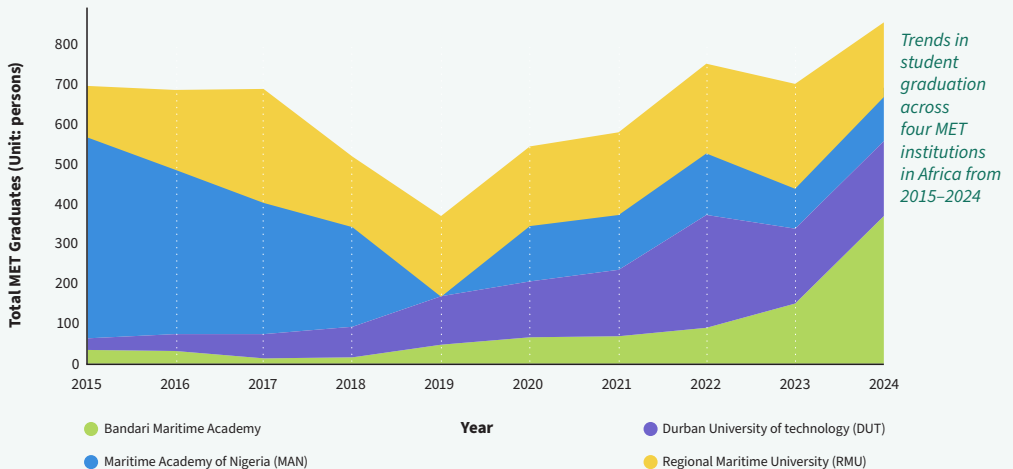
Despite the steady rise in student enrolment, graduation has not increased proportionally. Barriers to completion include high training costs and inadequate training equipment while the rapid evolution of vessel technology and a lack of clarity on decarbonisation trajectories further complicate training for a sustainable African maritime future.

Challenges at the MET institutional level

- Inadequate funding
- Access to sea time placements
- Shortage and/or retention of qualified staff
- Inadequate training equipment
- Low uptake of maritime courses by female students

Challenges faced by African seafarers

- Unemployment
- Lack of infrastructure
- Image of African seafarers
- Limited resources e.g., lack of access to vessels
- High cost of training



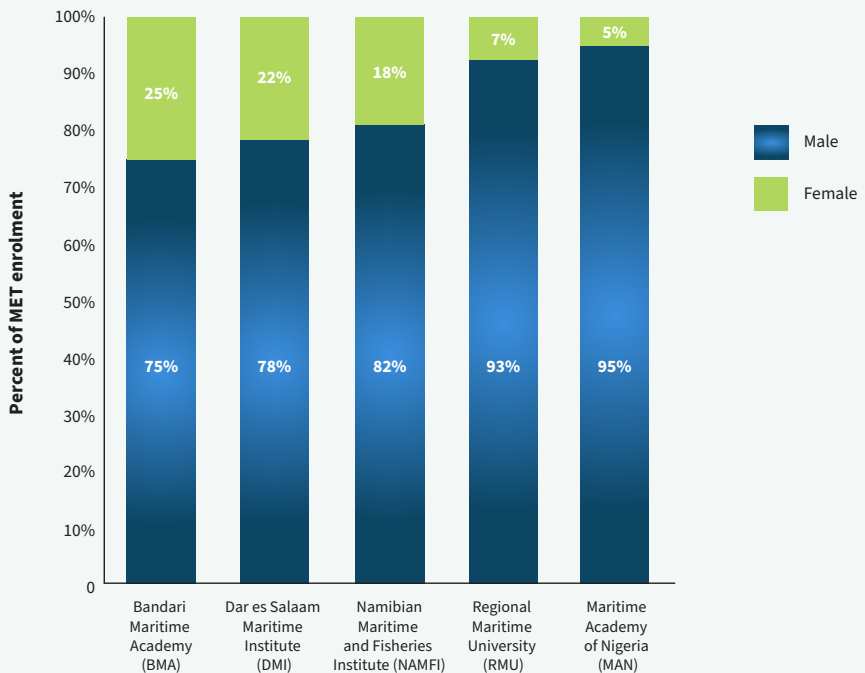
Comparison of overall enrolment and graduation trends in the six MET institutions (2015–2024)



Limited sea time opportunities:

Limited access to practical training at sea hinders students' ability to meet the necessary qualifications for graduation. This issue, alongside financial challenges, inadequate infrastructure and misalignment of curricula with industry needs, further exacerbates the difficulty students face in completing their studies.

Lack of diversity: Women comprise 23 percent of enrolments in the African MET institutions studied but only approximately 4 percent of the total seafarer population in the selected African countries, illustrating a marked need for targeted help for women with graduating and securing employment.



Proportion of female student enrolment across five MET institutions in African countries

Standards barriers: The IMO’s White List (which identifies 131 countries effectively implementing STCW standards) includes only 24 African countries, reflecting gaps in adherence to global standards. IMO White List inclusion and achieving European Maritime Safety Agency (EMSA) recognition confirms compliance with international standards for maritime safety, training and certification, ensuring seafarers certificates are accepted worldwide which significantly expands employment opportunities.

Countries recognised by the IMO	Countries recognised by EMSA
1. Algeria	1. Algeria
2. Cape Verde	2. Cape Verde
3. Comoros	3. Egypt
4. Côte d’Ivoire	4. Ethiopia
5. Egypt	5. Ghana
6. Eritrea	6. Madagascar
7. Ethiopia	7. Morocco
8. Ghana	8. Senegal
9. Kenya	9. South Africa
10. Liberia	10. Tunisia
11. Libya	
12. Madagascar	
13. Malawi	
14. Mauritania	
15. Mauritius	
16. Morocco	
17. Mozambique	
18. Nigeria	
19. Senegal	
20. Seychelles	
21. South Africa	
22. Togo	
23. Tunisia	
24. United Republic of Tanzania	

The recognised African countries by the IMO and EMSA

Counties recognised by the IMO



Geographical distribution of African countries recognised by the IMO

Countries recognised by EMSA



Geographical distribution of African countries recognised by EMSA

Strategic recommendations

Some progress can be seen. There are promising initiatives among African MET institutions designed to increase enrolment and graduation, including partnerships with industry players, hands-on opportunities, financial support and scholarships, gender inclusion programmes, and active engagement with schools to promote maritime careers.

Several international organisations have also taken proactive steps to champion gender equality and foster diversity within the maritime industry, including the Just Transition Maritime Taskforce, Hafnia DEI Culture Lab vessels, increased visibility of women by the Women's International Shipping & Trading Association (WISTA), and a global onboard training programme by the International Maritime Organization and the Republic of Korea. More integrated efforts between governments, MET institutions, industry stakeholders and international organisations are clearly required to create a more resilient and inclusive maritime workforce.

(Photo: WMU)



1. Recommendations for governments and maritime administrations in Africa:

- Establish and design national seafarer development programmes and initiatives to attract, train and retain seafarers.
- Create centres of excellence to serve as hubs for skill development as part of regional collaboration.
- Regularly monitor the number of workers needed against those available to make sure there are enough workers in the future.
- Partner with global stakeholders to expand opportunities for hands-on training and increase access to sea training berths.
- Implement retention strategies such as gender diversity policies and career advancement frameworks.
- Inspire the next generation by promoting maritime careers through awareness campaigns.



2. Recommendations for MET institutions in Africa:

- Invest in cutting-edge training technologies such as simulator-based training.
- Collaborate with global institutions to align training with international standards.
- Localise curricula by addressing international, regional and domestic demands through tailored programmes.
- Enhance the global credibility of African MET programmes through accreditation and recognition.
- Put gender policies into action to get more women involved.

3. Recommendations for global and regional industry stakeholders:

- Work with governments and MET institutions to align training with real-world demands, including industry-led training partnerships.
- Provide financial support, scholarships, sponsorships and incentives for aspiring seafarers.
- Develop mentorship programmes to guide young recruits in their career progression.
- Actively promote diversity and inclusion by employing more Africans and women, in seafaring roles.
- Collaborate with African countries to increase availability of sea training berths.



4. Recommendations for developed maritime countries and international organisations:

- Support the development of training facilities in Africa by offering technical assistance.
- Invest in and fund modern training infrastructure in countries with high maritime potential.
- Use exchange programmes to share knowledge and improve skills.
- Assist governments in creating legal and institutional frameworks for seafarer sustainability through capacity building.
- Provide sea time opportunities and practical experience for African seafarers.



5. Recommendations for all:

To achieve sustainable progress in increasing qualified seafarers globally, all stakeholders must prioritise:

- **Collaboration:** Work together with different sectors to use resources better and make a bigger impact.
- **Innovation and technology:** Use digital tools such as simulators to modernise training.
- **Equity:** Include diversity and inclusion policies in every operation to ensure gender equality.
- **Long-term planning:** Establish long-term strategies focused on workforce development, retention and building sustainability for the future.

Maritime students at World Maritime University



Conclusion

This summary report highlights a unique opportunity to ensure the sustainable supply of seafarers to crew ships through both increasing the number of women seafarers and tapping into a young and talented workforce in Africa.

The study sheds light on the complex challenges and opportunities involved in fostering a maritime workforce across Africa. Despite persistent barriers, the progress made by the MET institutions and industry stakeholders demonstrates the potential for transformative change. Modernised curricula and strong partnerships between MET institutions, industry stakeholders and governments would fully leverage Africa's maritime potential in equipping future seafarers with skills needed for a competitive global labour market. By prioritising skills development, promoting inclusivity and implementing strategic policy interventions, Africa can close the workforce gap and establish itself as a key contributor to the global maritime industry, driving sustainable growth and equity across the sector.

The study also highlights a critical gap in gender representation more widely, revealing that women remain significantly underrepresented in both MET institutions (as students) and seafaring roles. It shows a great deal of potential in African MET to increase seafarer numbers in the future. Despite progress in a few institutions, the majority of the studied institutions and seafaring positions have yet to fully embrace their potential for equality and inclusivity. The findings point to the urgent need for systemic change, starting with policies and good practices that promote gender diversity at every level, from enrolment in MET institutions to recruitment and career advancement opportunities at sea. Building an inclusive maritime workforce is critical in addressing workforce shortages and ensuring sustainable growth.

The opportunity for Africa to fully realise its potential as a leading contributor to the global maritime workforce demands bold action and sustained investment which could secure the industry's long-term sustainability, stability and growth and continuing the seamless and safe movement of goods across oceans into the future.

Scan to view the full deep dive report on seafarer sustainability.



“There is an urgent need to attract fresh talent into the industry and attracting young girls from an early age must become a strategic priority if we are to ensure our industry’s resilience and adaptability. Actively engaging them through education, outreach, coaching, mentorship and partnerships, we can build a resilient and diverse workforce for the future of the maritime industry. Africa’s high population of talented young, bright people, presents a huge potential for a significant female talent pool for the maritime industry. Governments, shipping companies, crewing managers and training providers must collaborate to encourage and develop diverse talent across our sector.”

Nancy Karigithu

Principal Secretary, State Department for Shipping and Maritime in the Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works, Kenya.

“African and female seafarers still face systematic challenges, yet there is a looming global seafarer shortage. It is time to attract, train and retain agile African and female seafarers through equity, for sustainable development while still maintaining a competitive edge. This report demonstrates that it is no longer business as usual in the maritime sector. Specific consideration of a global set of standards through policy and regulation can upscale the absorption of African and female seafarers. Cooperation and collaboration between government and shipping lines through partnership agreements is essential, especially with the current industry development trends.”

Lydia Ngugi

Head of the Maritime Technology Cooperation Centre for Africa (MTCC Africa) in Mombasa, Kenya.

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