

Arab Academy for Science, Technology & Maritime Transport



Arab Academy
for Science, Technology & Maritime Transport



Report 2022 / 2023

SDG 12

Our Aim in 2022 -2023

AASTMT seeks to fulfil SDG 12 by reducing waste, advocating for sustainable resource usage, and incorporating environmentally responsible practices into its operations and educational framework.

THE Impact Ranking Scores 2021-2022



SDG 12

RESPONSIBLE CONSUMPTION AND PRODUCTION



Key Milestones in 2022-2023

M.Sc. in Renewable Energy and Environmental Engineering

AASTMT offers comprehensive courses in waste management through its specialized modules on renewable energy resources and environmental management studies. The Renewable Energy Resource module covers sustainable energy sources such as solar, wind, wave, tidal, and geothermal, alongside pollutant reduction technologies for conventional power plants and methods for carbon capture and storage. This module also emphasizes international environmental legislation and protocols, fostering awareness about global pollutant emission standards. Complementing this, the Environmental Management Studies module delves into solid waste management, focusing on both mechanical and biological treatments and the design of solid waste treatment plants. Additionally, the module addresses urban and industrial wastewater treatment and includes essential air quality control practices, with an emphasis on air pollutant measurement, sampling, and flue gas treatment. Together, these courses equip students with vital skills for managing waste sustainably and responsibly.

[M.Sc. in Renewable Energy and Environmental Engineering](#) on AASTMT webpage

Specialized Training course: Oil Spill Response (IMO Level I)

In order to increase environmental awareness and provide participants with the necessary skills for environmental protection and crisis management, the Environment Protection and Crisis Management Centre at AASTMT's Alexandria Abu Kir campus offers a thorough paid training program called Environment Protection and Crisis Management. A number of specialised courses are offered in this program, including Oil Spill Response (IMO Level I), which addresses important subjects like the handling of oily wastes in the maritime industry, including disposal, storage, and transportation. The training offers useful insights into managing hazardous waste, minimising environmental impact, and encouraging sustainable production practices in maritime environments by covering important topics like waste disposal and sustainable waste management. This program demonstrates AASTMT's dedication to promoting environmental awareness and equipping people to act effectively in emergency situations, all while advancing a sustainable future.

[Program Details](#) on AASTMT webpage

[Specialized Training Courses](#) on AASTMT webpage

Undergraduate Courses:

Industrial Wastewater Treatment

Industrial Water Waste Management is an undergraduate course offered in the 7th term of study by the Chemical and Petrochemical Engineering department at the College of Engineering and Technology, AASTMT. Its goal is to equip students with the knowledge and abilities necessary to handle and treat industrial water waste efficiently. In order to lessen the environmental impact of industrial processes, this course covers sustainable production, waste management strategies, and fundamental waste disposal practices. Students gain practical knowledge of cutting-edge techniques for reducing hazardous waste, recycling and

reusing wastewater, and improving sustainability in industrial environments. AASTMT plays a vital role in encouraging ecologically conscious practices and fostering cleaner, more

[Program Description](#) on AASTMT webpage

[Course Information](#) on AASTMT webpage

Sustainable Development Course (URN1602)

The Arab Academy for Science, Technology, and Maritime Transport (AASTMT) provides an undergraduate course on Sustainable Development as part of the Computer Science bachelor's degree program at the College of Computing and Information Technology. This course offers students an in-depth comprehension of sustainability and its essential significance in the domain of ICT. It examines subjects including green ICT, resource conservation, renewable resources, and design for extreme affordability, providing students with problem-solving methodologies and systems-thinking competencies to tackle intricate social and environmental issues. The course emphasises the sustainable design of ICT solutions while assessing their technical, economic, and social impacts, thereby directly aligning with (SDG 12:). It advocates essential principles of SDG 12, encompassing resource efficiency, waste minimisation, and sustainable practices in production and consumption processes. Moreover, students will acquire the ability to utilise science and innovation to address human needs while safeguarding the planet's life-support systems, thereby cultivating their social and environmental responsibility as prospective ICT professionals. This course facilitates knowledge transfer to developing regions, equipping students to contribute effectively to global sustainable development initiatives.

[Sustainable Development Undergraduate Course](#) on the AASTMT website

Management of Medical and Biohazardous Waste Disposal

The AASTMT complies rigorously with Egyptian Law No. 202 of 2020, which regulates the handling of medical and biohazardous waste, encompassing chemical and biological waste. AASTMT acknowledges the significance of appropriate waste disposal to safeguard public health and the environment. The medical and biohazardous waste produced on its campuses is governed by a detailed procedure termed the Management of Medical and Biohazardous Waste Disposal, which guarantees compliance with designated handling and disposal protocols for the different categories of this waste. To ensure compliance and efficiency, waste is picked up every three days by Nahdet Misr Company, a certified waste management service provider. This methodical approach demonstrates AASTMT's dedication to sustainable and legally compliant waste management practices.





[Medical Waste Disposal Procedure at the AASTMT](#) on the AASTMT webpage

Prevention of Tourism Marine Litter (TouMaLi)

The "TouMaLi" project, funded by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), aims to address the critical issue of marine pollution in North Africa, where plastic constitutes approximately 85% of floating marine litter and up to 95% of surface litter. Much of this waste originates from the tourism sector, a key contributor to local economies but also a significant source of marine waste. The Arab Academy for Science, Technology, and Maritime Transport is among the project's key partners, working to promote circular economy solutions in Morocco, Tunisia, and Egypt. Led by the University of Rostock with support from a consortium of academic, business, and policy stakeholders, TouMaLi focuses on reducing marine litter through measures like baseline litter assessments, strategic waste management development, and awareness campaigns. These efforts aim to establish lasting impacts by 2025, empowering local communities and tourism facilities to adopt sustainable practices and minimize waste inflow into the Mediterranean Sea.



<https://toumali.org/en/partners>

InovFarmer.MED: Improving Mediterranean supply chain through innovative agro-food business models to strengthen small-scale farmers competitiveness, using prickly pear and fig as case study.

The **InovFarmer.MED** project, funded by **PRIMA** (Partnership for Research and Innovation in the Mediterranean Area), seeks to advance the Mediterranean agro-food supply chain with innovative and sustainable business models to address various sector challenges. With the **Arab Academy for Science, Technology, and Maritime Transport** as a partner, the project focuses on figs and prickly pear value chains across Portugal, Algeria, Egypt, and Morocco, enhancing smallholder livelihoods through digital and strategic solutions. Key challenges include increasing food production via training in eco-friendly practices that safeguard quality, promoting the adoption of agroecological tools, and evaluating the impact of adaptive changes in production, processing, and sales with evidence-based monitoring. Additionally, **InovFarmer.MED** aims to boost smallholders' income through co-created, resilient business models, improve market access with new channels that respond to logistical restrictions, and reduce food loss by optimizing the use of transformed products and by-products. These efforts support job creation, stable incomes, and regional economic growth, enhancing resilience and sustainability across the Mediterranean agro-food sector.



<https://mel.cqiar.org/projects/1733>

Mobilizing new Areas of Investments and Together Aiming to increase Quality of Life for All (MAIA-TAQA)

The **MAIA-TAQA** project, funded by the **European Union** through the ENI CBC MED program, aims to advance resource efficiency (RE) services across Southern Mediterranean countries to address environmental pressures through sustainable innovation. A key partner, the **Arab Academy for Science, Technology, and Maritime Transport**, collaborates in this initiative to establish demonstrators across three pilot locations where innovative RE solutions—such as micro-grids, photovoltaic systems, energy storage, solar thermal technology, and water sanitation—will be tested and refined. The project contributes significantly to **SDG 12: Responsible Consumption and Production** by promoting efficient resource use, reducing waste, and developing a support ecosystem for sustainable innovation.

MAIA-TAQA addresses challenges that hinder RE service uptake, including limited skills, information, regulation, and funding, through targeted solutions like capacity-building programs, an innovation desk, regulatory guidelines, and financial vouchers. Additionally, it facilitates business-to-business events to connect stakeholders. By supporting SMEs, particularly in sectors like environmental services, utilities, and construction, MAIA-TAQA empowers these businesses to adopt sustainable practices and contribute to a more resource-efficient economy. This project supports SDG 12's vision by driving responsible production methods that align with environmental sustainability.



<https://www.enicbcmed.eu/projects/maia-taqa>
<https://www.enicbcmed.eu/deliverable/maia-taqa-final-report>

German-Egyptian SME Training and Exchange Programme in Waste Management

The Arab Academy for Science, Technology, and Maritime Transport (AASTMT) is actively engaged in promoting sustainable waste management through its participation in the "German-Egyptian SME Training and Exchange Programme in Waste Management," funded by the German Development Cooperation. This initiative underscores AASTMT's commitment to addressing climate change and reducing pollution, especially as Egypt hosts the COP27 Climate Conference. The academy's research efforts in engineering and technology are integral to fostering innovative solutions and enhancing environmental stewardship in the region.

[German-Egyptian SME Training and Exchange Programme in Waste Management](#) on facebook

AASTMT Participation in the Meetings of the Follow-Up Team Concerned with The International Environmental Agreements of Chemicals and Hazardous Waste at The Technical Secretariat of the Council of Arab Ministers Responsible for the Environment

The AASTMT actively participated in the meetings of the follow-up team focused on international environmental agreements related to chemicals and hazardous waste at the Technical Secretariat of the Council of Arab Ministers Responsible for the Environment. This involvement underscores AASTMT's commitment to SDG12 by promoting initiatives that enhance waste management practices. A key focus of these discussions was training participants to conduct long-term monitoring of beach litter, which is essential for identifying pollution sources and developing effective prevention strategies. The AASTMT's collaboration within the TouMali project emphasizes the importance of recycling, increasing recycling rates, and minimizing landfill waste, thus contributing significantly to environmental sustainability and marine ecosystem protection.



[AASTMT Participation in the Meetings of the Follow-Up Team Concerned with The International Environmental Agreements of Chemicals and Hazardous Waste at The Technical Secretariat of the Council of Arab Ministers Responsible for the Environment on AASTMT webpage](#)

AASTMT Campus Smart Recycling System to turn Food Organic Wastes & Recyclables into Economic Value Products

The Arab Academy for Science, Technology, and Maritime Transport (AASTMT) has successfully implemented a sustainable, self-sufficient recycling system on its campus, aimed at transforming organic food waste and recyclable materials into valuable products that contribute to reducing campus operating expenses. The system specifically targets organic food waste, plastic tableware, and aluminum cans, converting these waste streams into economically beneficial outputs. Through this project, AASTMT produces a portion of its disposable plastic tableware on-site using a plastic injection machine located at the Integrated Service Center (ISC). Additionally, the project lowers costs for campus fertilizers and provides raw aluminum materials for students' graduation projects. To achieve these goals, AASTMT

has developed and integrated several recycling units, including a portable compost unit to create organic fertilizer, molds for the plastic injection machine, a unit for washing, drying, and disinfecting plastic tableware, an aluminum can crusher to compact cans before melting, and an electrical furnace for producing aluminum bars. The project continues to operate on campus, showcasing AASTMT's commitment to sustainable practices and efficient waste management.



Cans Crusher Unit

[AASTMT Campus Smart Recycling System to turn Food Organic Wastes & Recyclables into Economic Value Products on YouTube](#)

[AASTMT Campus Smart Recycling System to turn Food Organic Wastes & Recyclables into Economic Value Products on AASTMT webpage](#)

[AASTMT Campus Smart Recycling System to turn Food Organic Wastes & Recyclables into Economic Value Products on AASTMT webpage](#)

1st International TouMaLi Conference: Contribution of Sound Waste Management Systems to Sustainable Tourism and the Protection of Marine Ecosystems

The Arab Academy for Science, Technology, and Maritime Transport held a conference on October 24-25, 2022, in Alexandria, Egypt, focusing on effective waste management systems and their significant contributions to sustainable tourism and marine ecosystem protection. This event gathered national and international experts to discuss the vital link between sound waste management and environmental conservation, particularly in regions heavily reliant on tourism. Through sharing best practices and innovative solutions, the conference aimed to foster collaboration across various sectors, emphasizing the importance of sustainable practices in protecting marine resources and enhancing the resilience of the tourism industry.

The conference welcomed Dr. Yasmine Fouad, Egypt's Minister of Environment, who emphasized TouMaLi's importance in combating marine waste pollution—especially plastics—through cross-border cooperation. AASTMT's role as a pivotal partner in the project, alongside other collaborators such as Rostock University and environmental organizations across the Mediterranean, showcased its commitment to SDG 12, which promotes responsible consumption and production. Through this event, AASTMT underscored its dedication to fostering eco-friendly practices in tourism and beyond, highlighting innovative solutions for reducing marine waste and its impact on climate.



Evidence:

[1st International TouMaLi Conference: Contribution of Sound Waste Management Systems to Sustainable Tourism and the Protection of Marine Ecosystems](#) on AASTMT webpage

[1st International TouMaLi Conference: Contribution of Sound Waste Management Systems to Sustainable Tourism and the Protection of Marine Ecosystems](#) on facebook

[1st International TouMaLi Conference: Contribution of Sound Waste Management Systems to Sustainable Tourism and the Protection of Marine Ecosystems](#) on facebook

IEEE YESIST13- Competition – Global

The YESIST12 competition's preliminary phase was reorganised by the Arab Academy for Science, Technology, and Maritime Transport (AASTMT) for the second consecutive year. Additionally, the AASTMT was pleased to host the final phase in Egypt for the first time. Over 70 projects from young innovators around the world were submitted for the event, which featured a number of themes, some of which focused on recycling innovations, waste management, and sustainable production. Participation in the event increased dramatically this year compared to the previous year. This accomplishment demonstrates AASTMT's dedication to developing solutions that tackle global issues like food preservation, hazardous waste management, and waste disposal while encouraging environmentally friendly behaviours and sustainable regional development.



[IEEE YESIST13- Competition – Global on YouTube](#)
[IEEE YESIST13- Competition – Global on facebook](#)
[IEEE YESIST13- Competition – Global on AASTMT webpage](#)

Turning Waste into Sustainable Solutions: AASTMT’s Focus on Vermicomposting

Part of its continuous dedication to sustainable waste management and recycling techniques, the Arab Academy for Science, Technology, and Maritime Transport (AASTMT) is aggressively investigating vermicomposting. By improving soil quality, increasing drainage, and lowering soil erosion, vermicomposting—a green method—transforms organic waste into nutrient-rich compost so supporting sustainable development. Apart from improving food preservation and crop yields, this natural composting technique is quite important in reducing methane and CO₂ emissions from organic waste. In line with sustainable development objectives, AASTMT keeps using vermicomposting over its campuses to generate fertilisers for agricultural areas, so supporting environmentally friendly waste disposal and environmentally conscious practices.

The Aquaculture Research Centre (ARC) of AASTMT on the main campus supervises this two-path recycling system. Waste is gathered and placed in earthworm composting pens in the first path, where it is transformed into vermicompost—then applied as organic fertiliser for landscaping. With some of the worms used in the fish culture operations of the ARC, the worms generated by this process also grow in number. The second route treats the waste to create soluble fertilisers and bio-gas. For several ARC operations, this bio-gas provides a substitute energy source that emphasises AASTMT's creative approach to waste management and sustainable energy. By means of continuous vermicomposting programs, AASTMT keeps encouraging environmentally friendly behaviours and transforms waste into valuable resources for landscaping and agricultural operations over its campuses.



[Turning Waste into Sustainable Solutions: AASTMT's Focus on Vermicomposting](#) on AASTMT webpage

Towards a Greener Future: AASTMT's Commitment to Responsible Consumption and Carbon Emissions Reduction

The Arab Academy for Science, Technology, and Maritime Transport's commitment to sustainable production and responsible waste management is demonstrated in the AASTMT Climate Action Plan 2022/2023, which furthers the organization's alignment with Sustainable Development Goal 12 (SDG 12) for responsible production and consumption. The plan's main goal is to reduce carbon emissions by 50% by 2040 by integrating sustainable practices into every part of the organisation. Expanding renewable energy installations like solar panels, switching to an electric car fleet to reduce emissions, and implementing cutting-edge energy efficiency technologies like LED lighting, smart energy management systems, and optimised HVAC systems throughout campus buildings are some of AASTMT's strategies. These programs encourage recycling, waste management, and resource sustainability in addition to lowering carbon footprints. AASTMT sets a high standard for Egypt's national climate and energy goals by promoting a culture of sustainability and shared responsibility in addition to advancing its own environmental goals.

Evidence:

[Towards a Greener Future: AASTMT's Commitment to Responsible Consumption and Carbon Emissions Reduction](#) on AASTMT webpage

[Towards a Greener Future: AASTMT's Commitment to Responsible Consumption and Carbon Emissions Reduction](#) on AASTMT webpage

Community Engagement

Enhancing Waste Management Practices: Aiming for Sustainable Solutions in Greater Alexandria Hotels

Following the recent TouMaLi International Conference, a dedicated project team from the University of Rostock and BlackForest Solutions visited 20 hotels in Greater Alexandria that are part of the pilot project. During this visit, they collected and reviewed data regarding the general conditions and waste management practices in these establishments. The Arab Academy for Science, Technology, and Maritime Transport (AASTMT), as a key partner in the TouMaLi project, plays a crucial role in this initiative by facilitating collaboration among various stakeholders to develop tailored waste management concepts for the hotels. The

overarching goal is to enhance the waste management infrastructure, establish effective waste sorting at the source, and ultimately increase recycling rates while minimizing landfill contributions. Through these efforts, AASTMT is significantly contributing to the improvement of sustainable waste practices in the region.

<https://toumali.org/en/site-visit-alexandria>



Enhancing Waste Management Practices: Aiming for Sustainable Solutions in Greater Alexandria Hotels on facebook

The AASTMT's Role in Celebrating World Environment Day and Finding Solutions to Plastic Pollution

Under the support of the Prime Minister and as part of the celebrations for World Environment Day 2023, the Arab Academy for Science, Technology, and Maritime Transport (AASTMT) played a significant role in the event held at the Bibliotheca Alexandrina. The Minister of Environment, Dr. Yasmin Fouad, highlighted AASTMT's collaboration in launching the first competition for the cleanest beach in Alexandria, which emphasizes the importance of engaging youth in environmental initiatives. This effort aligns with Sustainable Development Goal (SDG) 12, focusing on responsible consumption and production. By promoting sustainable waste management practices and reducing plastic pollution, AASTMT contributes to ensuring sustainable practices within local communities.

The event centered around the theme "Finding Solutions to Plastic Pollution," showcasing various projects aimed at reducing plastic waste and promoting sustainability. AASTMT's participation underscores its commitment to fostering environmental stewardship and educating future generations about the importance of protecting marine ecosystems. By integrating sustainability into educational practices, the Arab Academy actively supports SDG 12, helping to cultivate a culture of responsible consumption among students and the broader community.



[The AASTMT's Role in Celebrating World Environment Day and Finding Solutions to Plastic Pollution on facebook](#)
[The AASTMT's Role in Celebrating World Environment Day and Finding Solutions to Plastic Pollution on facebook](#)

AASTMT Leads Training Initiative for Enhanced Waste Management in Egypt in collaboration with the Ministry of Environment

The Arab Academy for Science, Technology, and Maritime Transport (AASTMT) played a pivotal role in a recent initiative aimed at enhancing waste management systems in Egypt, as highlighted in the Ministry of Environment's weekly report. AASTMT collaborated with the Ministry of Environment to conduct a two-day training program focused on improving the skills and competencies of personnel involved in the integrated SDG 12, which emphasizes responsible consumption and production patterns, by equipping local officials with the knowledge needed to implement effective waste management practices. The training not only aims to enhance operational efficiency but also to foster a culture of sustainability, contributing to environmental protection and the sustainable management of resources within the community.

[AASTMT Leads Training Initiative for Enhanced Waste Management in Egypt in collaboration with the Ministry of Environment on facebook](#)

AASTMT Collaboration with Relevant Ministries to build and Implement the Infrastructure of Egypt's New Waste Management System

The Arab Academy for Science, Technology, and Maritime Transport (AASTMT) has played a vital role in advancing Egypt's waste management system from 2019 to 2023. AASTMT has collaborated with relevant ministries to build and implement the infrastructure of Egypt's new waste management system. This partnership included training and qualifying personnel across various Egyptian governorates in the operation, management, and monitoring of waste management processes—spanning collection, transportation, treatment, and safe disposal. AASTMT has also significantly contributed to introducing global waste management systems and advanced technologies in Egypt, working closely with decision-makers to shape national

strategies for optimal waste management across diverse waste types. This initiative not only aligns with AASTMT's commitment to environmental sustainability but also supports Egypt's goals for sustainable development by promoting local recycling industries and reducing reliance on imports. AASTMT's expertise has extended to the design and launch of 23 secure landfill sites, including a major new facility in Bir Al-Abed, Sinai, set to serve 100,000 residents, alongside three additional sites in Arish, Al-Tur, and Sharm El-Sheikh.

In a significant initiative towards sustainable waste management, the Arab Academy for Science, Technology, and Maritime Transport (AASTMT) has partnered with Egypt's Ministry of Environment to implement a new waste management system. Under the guidance of Dr. Yasmine Fouad, the Minister of Environment, AASTMT is supervising the operation of a new landfill cell in the city of Badr, which aims to enhance the safe disposal of waste and reduce air pollution and greenhouse gas emissions contributing to climate change. Additionally, AASTMT played a crucial role in conducting a two-day training program for waste management personnel in the Sharqia governorate, equipping them with the necessary skills and knowledge to effectively manage waste systems. This collaborative effort not only addresses local waste management challenges but also aligns with the United Nations SDG 12, promoting responsible consumption and production patterns by enhancing the capacity and efficiency of waste management practice.



[AASTMT Collaboration with Relevant Ministries to build and Implement the Infrastructure of Egypt's New Waste Management System on facebook](#)

[AASTMT Collaboration with Relevant Ministries to build and Implement the Infrastructure of Egypt's New Waste Management System on facebook](#)

[AASTMT Collaboration with Relevant Ministries to build and Implement the Infrastructure of Egypt's New Waste Management System on Dostor newspaper](#)

[AASTMT Collaboration with Relevant Ministries to build and Implement the Infrastructure of Egypt's New Waste Management System on El Ommal newspaper](#)

[AASTMT Collaboration with Relevant Ministries to build and Implement the Infrastructure of Egypt's New Waste Management System on AASTMT webpage](#)

AASTMT's Leadership in Sustainable Waste Management: Removal of Waste and Transferring it to Sanitary Landfill

The Arab Academy for Science, Technology, and Maritime Transport (AASTMT) recently collaborated with Egypt's Ministry of Local Development to support the safe disposal and management of historical waste accumulations in Beheira Governorate. As part of the initiative to promote sustainable waste management aligned with **UN SDG 12**, AASTMT experts, including Dr. Abdel Moneim Sand and Dr. Tarek Eid, provided essential expertise in waste handling and environmental safety. The project involves the removal of over 200,000 tons of waste from Idku to the newly constructed sanitary landfill in Badr City, a crucial step

in improving public health, protecting local ecosystems, and enhancing sustainable tourism. This effort also includes training local staff on landfill management and sustainable practices, supported by the ministry's Waste Management Unit and other stakeholders.



[AASTMT's Leadership in Sustainable Waste Management: Removal of Waste and Transferring it to Sanitary Landfill on facebook](#)

AASTMT's Leadership in Strengthening Environmental and Sustainable Development Partnerships

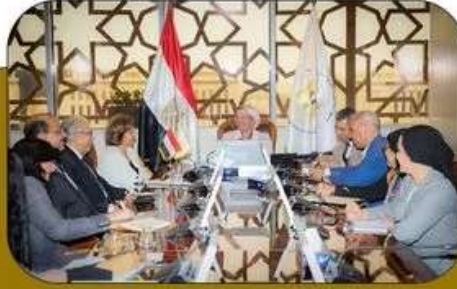
On August 23, 2023, the Arab Academy for Science, Technology, and Maritime Transport (AASTMT), under the leadership of Dr. Ismail Abdel Ghaffar, welcomed a delegation from the Arab Union for Sustainable Development and the Environment at the Academy's Abu Qir campus. The meeting underscored AASTMT's commitment to sustainable economic and social development across the Arab region. During the visit, the two parties explored collaborative avenues for research and training focused on environmental and sustainable development issues. The discussions included joint planning for the Union's upcoming 8th annual conference on sustainable development and environmental protection, held under the patronage of Ahmed Aboul Gheit, Secretary-General of the Arab League. In recognition of AASTMT's regional leadership in promoting environmental initiatives, the delegation honored Dr. Abdel Ghaffar for his impactful contributions. The visit also included tours of the Academy's Planetarium, Integrated Simulation Complex, Maritime Safety Institute, and main library, showcasing AASTMT's commitment to sustainable development through advanced educational facilities.



[AASTMT's Leadership in Strengthening Environmental and Sustainable Development Partnerships](#) on AASTMT webpage

AASTMT Partners with Ministry of Environment for Climate Action and Waste Management Training Program in Qalyubia

Working with the Ministry of Environment, the Arab Academy for Science, Technology, and Maritime Transport (AASTMT) has started a municipal solid waste management training program in Qalyubia. Under the Waste Management Regulatory Authority, this project seeks to provide local experts with knowledge in recycling, composting, and sustainable waste disposal so enabling climate action and minimising environmental damage. Through encouraging sustainable development and increasing knowledge of environmentally friendly methods



وزير البيئة تعقد إجتماعًا مع
الدكتورة نادية مكرم عبيد الرئيس
التنفيذي لمركز البيئة والتنمية للإقليم
العربي وأوروبا (سيدياري) ، لإعداد
ومناقشة الملامح الرئيسية لتقرير
حالة البيئة في مصر لعام ٢٠٢٢ والذي
يتم إعداده من قبل الوزارة بالتعاون
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من ٧ الى ١٣ مايو ٢٠٢٣

[AASTMT Partners with Ministry of Environment for Climate Action and Waste Management Training Program in Qalyubia on AASTMT webpage](#)

Events

Go Green Initiative

The Arab Academy for Science, Technology, and Maritime Transport (AASTMT) successfully organized the "GO GREEN" initiative on **November 29, 2022**, at its main campus in Alexandria. This event, which was in partnership with Brightskies, a leading company in the automotive sector, focused on eco-friendly electric and autonomous vehicles. Under the guidance of key faculty members, including Dr. Sherin Youssef and Dr. Ali Ismail, the event featured workshops and discussions that aimed to educate students on sustainable practices in the automotive industry. The conference attracted over **400 students**, showcasing innovative projects such as "Eco-Friendly Smart Electrical Vehicles" by final-year Computer Engineering students. AASTMT's proactive role in this initiative highlights its commitment to connecting students with industry practices and promoting environmental consciousness, particularly in alignment with Egypt's hosting of COP 27 and the Academy's 50th anniversary celebration. The collaboration with industry experts and the hands-on learning opportunities provided during the event further solidified AASTMT's dedication to nurturing future leaders in sustainable technology.



[Go Green Initiative on facebook](#)
[Go Green Initiative on facebook](#)

5 Fundamental ways to Building Smart and Sustainable Ports

The AASTMT plays a pivotal role in addressing the challenge of emissions reduction in the shipping sector, which currently accounts for about 3% of global CO₂ emissions. By implementing innovative technologies such as Vessel Fuel Optimization Systems, Route Optimization Systems, and Predictive Maintenance, the AASTMT contributes significantly to achieving the greenhouse gas (GHG) reduction objectives outlined by the International Maritime Organization (IMO). Furthermore, the Academy advocates for smart port development by promoting the use of advanced information and communication technologies, which enhance operational efficiency and sustainability within port authorities. Through its commitment to fostering collaboration among stakeholders, including terminal operators and local governments, AASTMT is actively involved in the broader efforts to implement the 17 SDGs, particularly SDG 12, which emphasizes responsible consumption and production. By prioritizing sustainability and smart technologies, the AASTMT is not only enhancing the operational capacities of the shipping sector but also ensuring a cleaner, safer maritime environment for future generations.



[5 Fundamental ways to Building Smart and Sustainable Ports](#) on AASTMT webpage

Towards a Green Sustainable Future initiative School Visit to Schools

As part of the "Towards a Green Sustainable Future" initiative, a group of professors from the Arab Academy for Science, Technology, and Maritime Transport (AASTMT) visited Riada, EAS, and HIS Schools to promote awareness of the 17 Sustainable Development Goals (SDGs). This initiative aims to engage younger generations in discussions about sustainability, environmental stewardship, and social responsibility. During the visit, the professors conducted interactive sessions and workshops, encouraging students to understand the importance of each SDG and how their actions can contribute to a greener future. This initiative reflects AASTMT's commitment to education and community engagement in achieving the SDGs, fostering a culture of sustainability among future leaders. Through such

outreach efforts, AASTMT not only educates students but also empowers them to take actionable steps toward creating a sustainable world.



[Towards a Green Sustainable Future initiative School Visit to Schools on AASTMT webpage](#)
[Towards a Green Sustainable Future initiative School Visit to Schools on AASTMT webpage](#)
[Towards a Green Sustainable Future initiative School Visit to Schools on AASTMT webpage](#)

AASTMT's Role in the German-African-Mediterranean Marine Litter Prevention Efforts

Reflecting its commitment to global environmental and sustainability issues, the Arab Academy for Science, Technology, and Maritime Transport (AASTMT) actively participated in the Climate Summit held in Sharm El Sheikh on **Wednesday, November 16**. Professor Alaa Abdelbary, AASTMT Vice President and faculty member at the College of Engineering and Technology, delivered a keynote lecture titled "**German African Mediterranean Cooperation Toward Prevention of Marine Litter**". His presentation, part of the session on "**Raising African Coordination and Awareness on Waste to Reduce Impact on Natural Ecosystems,**" was the sole case study chosen to represent African cooperation in this area. Moderated by the Environment Ministers of Egypt, Gabon, and Senegal, this session showcased AASTMT's leading role in fostering cross-continental collaboration to protect marine ecosystems from pollution.



AASTMT's Role in the German-African-Mediterranean Marine Litter Prevention Efforts on facebook
<https://toumali.org/en/presentation-toumali-joint-statement-cop27>

Organizing Beach Litter Monitoring Workshop

In October 2022, the Arab Academy for Science, Technology, and Maritime Transport (AASTMT) played a vital role in the TouMali project by facilitating a workshop focused on beach litter monitoring in Alexandria, Egypt. Following an online workshop attended by employees from the Waste Management Regulatory Authority (WMRA), the participants engaged in hands-on activities on November 12, 2022, where they conducted exemplary surveys to assess beach litter. Utilizing two methodologies—the 100 m method and the Sand Rake method—participants effectively captured both macro (> 25 mm) and meso-litter particles (5-25 mm), providing a comprehensive overview of beach pollution. The collected litter was then analyzed and categorized, equipping the participants with the necessary skills for long-term monitoring of beach litter. This initiative aims to identify pollution sources and develop measures to reduce marine litter, ultimately contributing to enhanced recycling rates and minimizing landfill use. The AASTMT's involvement underscores its commitment to environmental sustainability and community education within the framework of the TouMali project.



Evidence: <https://toumali.org/en/workshop-beach-litter-monitoring-iow-and-wmra>

AASTMT Advances Sustainable Development in Education through Environmental Awareness and Technological Initiatives

On **December 6, 2022**, the International School at the **Arab Academy for Science, Technology, and Maritime Transport (AASTMT)** hosted an official visit from Dr. Araby Abouzeid, Director of the Directorate of Education, alongside senior educational officials, to reinforce community engagement, technological advancement, and training aligned with **SDG 12**. This collaboration, driven by AASTMT's commitment to social and educational responsibility, emphasized environmental conservation and sustainable consumption practices. Abouzeid praised the AASTMT's "Go Green" initiative, which integrates environmental awareness into the school curriculum through seminars, art exhibitions, and informative displays to educate students on pollution risks, water conservation, and climate change. This initiative underscores AASTMT's dedication to sustainable practices within the education sector, encouraging students to actively participate in safeguarding the environment through informed action.

This event, endorsed by Alexandria's Governor and the Ministry of Education, highlights AASTMT's influential role in advancing **SDG** goals of sustainable production and responsible consumption through educational outreach and awareness initiatives in Egypt.



[AASTMT Advances Sustainable Development in Education through Environmental Awareness and Technological Initiatives on AASTMT webpage](#)

IEEE Student Branch Organization of a Conference Titled "Sustainable Steam Systems Unleashed: Feeding a Greener Future with Oxygen"

The AASTMT played a pivotal role in the IEEE-organized conference titled "Sustainable Steam Systems Unleashed: Feeding a Greener Future with Oxygen," held on May 28, 2023. Under the auspices of the President of the Academy and the Dean of the College of Engineering and Technology, AASTMT's involvement emphasized its commitment to sustainable development and responsible consumption, aligning with SDG 12. The event brought together distinguished

speakers, guests, and volunteers dedicated to fostering a greener future. Collaborating with various departments, including the Electrical & Control Engineering, Mechanical Engineering, and Marine Engineering departments, as well as industry partner Spirax Sarco, AASTMT demonstrated its leadership in advocating for innovative steam systems that enhance efficiency and sustainability. The academy’s commitment to education and collaboration reinforces its role in promoting environmentally responsible practices and creating pathways for future advancements in sustainability.



[IEEE Student Branch Orgazation of a Conference Titled “Sustainable Steam Systems Unleashed: Feeding a Greener Future with Oxygen on AASTMT webpage](#)

Workshop organized by AASTMT Students for Using Plastic Waste for Various Plastic Arts

The Arab Academy for Science, Technology, and Maritime Transport (AASTMT) recently organized a workshop focused on transforming plastic waste into plastic art. This initiative highlights the significant role of plastic arts as a sensory means of understanding the environment, which complements scientific methods. Through hands-on drawing lessons and handicrafts, students gain skills in precision, organization, and systematic thinking, while learning to apply these skills in various fields. The workshop, led by specialized trainers, is part of AASTMT’s broader cultural and social activities that aim to instill aesthetic values and foster appreciation for art among students. By the end of each semester, the students’ artworks are exhibited, allowing them to showcase their creativity and contribution to sustainability.



[Workshop organized by AASTMT Students for Using Plastic Waste for Various Plastic Arts on AASTMT webpage](#)
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AASTMT organized a Workshop for Waste Management

The Arab Academy for Science, Technology, and Maritime Transport (AASTMT), in collaboration with the Ministry of Environment and the Alexandria Governorate, organized a workshop on waste management. This workshop was part of the activities under the TouMAli project, in which AASTMT is a key partner. The event aimed to raise awareness and promote effective waste management practices, aligning with the goals of sustainable development and environmental protection. The workshop brought together experts, policymakers, and community members to discuss strategies for reducing waste and fostering a cleaner environment in Alexandria and beyond.

[*AASTMT organized a Workshop for Waste Management on facebook*](#)
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Tilestic: Pioneering Sustainable Plastic Recycling for a Greener Egypt

The Entrepreneur Center at the Arab Academy for Science, Technology, and Maritime Transport (AASTMT) proudly supported the founding of Tilestic, now recognized as one of the leading companies in the Middle East and Africa in plastic waste recycling. Known for its innovative and creative approach, Tilestic excels in transforming plastic waste into high-quality raw materials for safe plastic product manufacturing. The company continuously develops pioneering products that maximize the economic value of recycled plastics while contributing to environmental preservation. This commitment to innovation has earned Tilestic numerous awards and honors across various platforms, reflecting both its impact and AASTMT's role in fostering sustainable entrepreneurship.

[*Tilestic: Pioneering Sustainable Plastic Recycling for a Greener Egypt on AASTMT webpage*](#)
[*Tilestic: Pioneering Sustainable Plastic Recycling for a Greener Egypt on facebook*](#)

Upcoming Goals

Waste Management Center

A Waste Management Center on an Educational Campus Functions as a specialized facility for the collection, sorting, and processing of diverse waste kinds produced by the institution. It features distinct bins or compartments for several waste categories, including plastics, paper, glass, metal, and organic materials. The center frequently incorporates composting units for food and garden refuse, converting organic waste into compost for landscaping or campus gardens. The facility may collaborate with local recycling companies to guarantee that sorted recyclables are processed correctly and do not wind up in landfills. Educational institutions may utilize the center as a practical learning environment, enabling students to comprehend sustainable waste management techniques, the recycling process, and the significance of waste reduction. The expected date of finishing the center by the end of 2028.

Curriculum Integration

Integrate SDG 12 into the curriculum: Design projects and assignments that examine sustainable consumption and production, such as assessing individual consumption patterns or investigating sustainable products. In addition, Establish student-led organizations

dedicated to sustainability, coordinating initiatives such as zero-waste challenges, recycling campaigns, or sustainability fairs.

Monitoring and Reporting Systems

Monitoring and Documenting Waste: Quantify the waste generated on campus monthly, producing reports to pinpoint areas for enhancement. Moreover, Sustainable Procurement Reporting: Document sustainable purchasing initiatives and monitor the proportion of environmentally friendly products utilized by the organization.

Cooperative Alliances

Challenges in Sustainable Development: Collaborate with educational institutions or non-profit groups to establish challenges or competitions aimed at innovative solutions for waste reduction, such the reuse of plastic garbage or the creation of applications to monitor personal consumption.