



SWARM

Collaboration | Sustainability | Education

NEWSLETTER

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On behalf of the **SWARM** consortium, I am delighted to welcome you to the first edition of the **SWARM Newsletter**. SWARM (Sustainable Plastic Waste and Recycling Management Capacity Building) is funded under the **ERASMUS-EDU-2024-CBHE initiative** and seeks to unite African and European institutions to modernize education, advance sustainability, and strengthen capacity in plastic waste and recycling management.

This biannual newsletter will keep you informed about our latest milestones, upcoming activities, and key developments across the SWARM network. In this inaugural issue, we provide an overview of the progress made so far in building stronger collaborations among higher education institutions in Nigeria, South Africa, and Europe, as well as a snapshot of the initiatives already underway to improve sustainable waste management education and practices.

Beyond project updates, this newsletter serves as a platform to highlight the innovative work of our partners, share inspiring stories from the SWARM community, and spotlight opportunities for students, researchers, and practitioners to engage with our activities.

Finally, I warmly encourage you to stay connected with us through our website, social media channels, and forthcoming events. Together, we can contribute to building resilient institutions, fostering innovation, and promoting environmental stewardship across regions.

Happy reading!

Prof. Andrew Amenaghawon
WP5 Lead, University of Benin



ABOUT THE PROJECT

The SWARM project is an Erasmus+ initiative designed to transform how higher education institutions in Nigeria, South Africa, and Europe address the challenge of plastic waste. At its core, SWARM focuses on modernizing curricula, building capacity, and promoting innovative recycling practices that support the transition toward a circular economy. The project will establish SWARM Hubs, develop open educational resources, and foster inter-regional collaboration to ensure long-term impact.

OUR FOCUS AREAS:



EDUCATION

Modernizing higher education and training programs to equip students and staff with cutting-edge knowledge and practical skills.



SUSTAINABILITY

Promoting responsible plastic waste management, recycling, and resource recovery practices



COLLABORATION

Strengthening partnership across Africa and Europe to share expertise, foster innovation, and build resilient institutions.

Together, these actions position SWARM as a model for sustainable waste management education and practice, enhancing employability, supporting green innovation, and contributing to global sustainability goals.

WHY SWARM IS NECESSARY

Plastic waste has become one of the world's most pressing environmental challenges. Globally, more than 400 million tonnes of plastic are produced annually, yet only a fraction is recycled. In Africa, rapid urbanization, limited infrastructure, and inadequate public awareness exacerbate the problem, leading to widespread mismanagement of waste and significant environmental and health risks. Nigeria and South Africa, two of the continent's largest economies, are among the highest generators of plastic waste, with recycling rates far below global averages.

Higher Education Institutions (HEIs) are uniquely positioned to drive change by generating knowledge, training skilled professionals, and fostering innovations that can transform waste into valuable resources. However, many HEIs face outdated curricula, limited research capacity, and insufficient exposure to modern waste management practices. This gap hampers their ability to contribute effectively to the circular economy and to provide students with the skills demanded in today's sustainability-driven world.

The SWARM project directly addresses these challenges by equipping universities with modern tools, building academic and professional capacity, and fostering collaboration between Africa and Europe. By creating a unified approach to sustainable plastic waste management, SWARM not only strengthens institutions but also empowers communities to protect the environment, boost green innovation, and enhance economic opportunities.



IN THIS ISSUE

Consortium and Partners

The success of the SWARM project is anchored in its strong and diverse consortium of academic and research institutions spanning Africa and Europe. This consortium brings together unique expertise, complementary strengths, and a shared commitment to advancing sustainable education and plastic waste management. By combining knowledge from multiple regions and disciplines, the consortium ensures that the project achieves its objectives through innovation, collaboration, and capacity building.

The SWARM consortium includes:



National Technical University of Athens, Greece

Providing leadership in project management and expertise in engineering education and sustainability.



University of Johannesburg, South Africa

Driving the creation of SWARM Hubs and Integrating learning ecosystems across Africa.



University of Mpumalanga, South Africa

Supporting capacity building through community-based approaches and educational innovation



University of Fort Hare, South Africa

Enhancing research and teaching capacity in waste management and environmental sciences



University of Benin, Nigeria

Leading dissemination and exploitation efforts while contributing expertise in engineering and applied sciences.



Igbinedion University, Okada, Nigeria

Contributing to the development of sustainable waste management curricula and community engagement.



University of Nigeria, Nigeria

Expanding research capacity and supporting the integration of circular economy practices in higher education.



Aalborg University, Denmark

Sharing European best practices in capacity building, innovation, and university-industry collaboration.



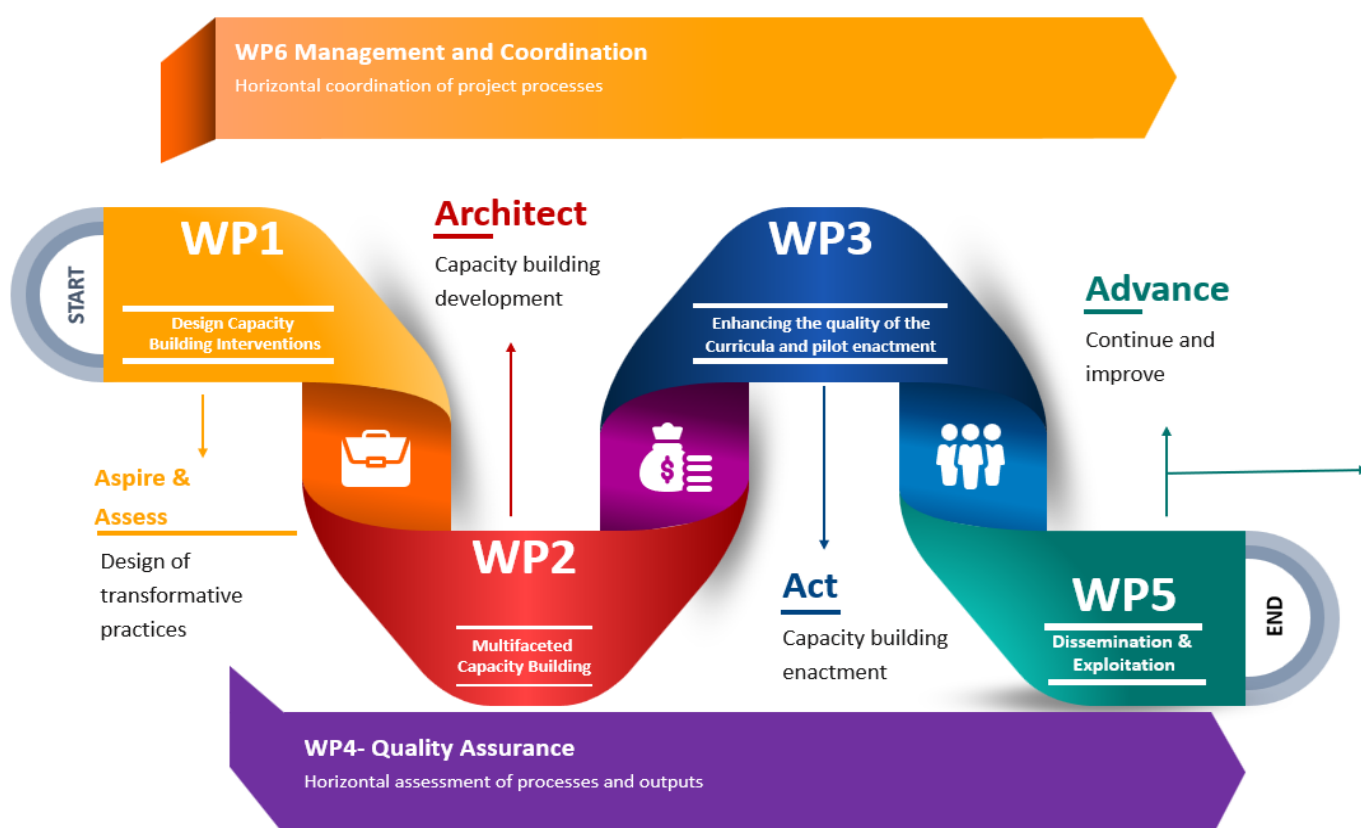
ReadLab P.C., Greece

Providing quality assurance evaluation, and digital tools for project monitoring and knowledge exchange.

This global partnership embodies the spirit of Erasmus+ by fostering cross-regional collaboration, mutual learning, and long-term institutional strengthening. Together, the partners ensure that SWARM is not only impactful during its implementation phase but also sustainable beyond the project's lifetime.

Project Structure

The SWARM project is structured around six interlinked Work Packages (WPs) designed to deliver targeted outputs and ensure the long-term impact of the initiative as illustrated in the Figure below. Each Work Package builds on the others, combining research, capacity building, infrastructure development, dissemination, and monitoring into a coherent framework. Together, they address the project's core objectives: strengthening institutional capacity, fostering sustainable waste management practices, and promoting international collaboration between African and European Higher Education Institutions (HEIs).



Below is an overview of the Work Packages and their primary outputs:

WP1: Design Capacity Building Interventions

This Work Package establishes benchmarks of best practices from European HEIs, conducts detailed gap analyses in partner institutions, and develops tailored intervention strategies for integrating innovative technologies and fostering industry collaboration. It will be led by Aalborg University.



WP2: Multifaceted Capacity Building

This Work Package organizes knowledge transfer through study visits to European universities, develops practical toolkits for academic staff, delivers “train the trainer” workshops, and enriches academic curricula with sustainable waste management content. It will be led by the National Technical University of Athens.

WP3: SWARM Hub and Learning Ecosystem Integration

This Work Package establishes both physical SWARM hubs and digital collaboration platforms, creating interactive environments for teaching, learning, and hands-on training in plastic waste recycling and sustainability. It will be led by the University of Johannesburg.

WP4: Quality Assurance

This Work Package implements a comprehensive Quality Assurance Plan, conducts regular monitoring and external evaluations, and ensures continuous improvement and adherence to high standards across all activities. It will be led by ReadLab P.C.

WP5: Dissemination and Exploitation

This Work Package designs and implements dissemination strategies, develops a SWARM ambassador program to enhance reach and impact, and engages diverse stakeholders across Africa and Europe to maximize visibility. It will be led by the University of Benin.

WP6: Management and Monitoring

This Work Package coordinates overall project management and administration, facilitates communication across the consortium, and conducts monthly online meetings alongside periodic face-to-face gatherings to ensure alignment and accountability. It will be led by the National Technical University of Athens.

Through these six Work Packages, SWARM ensures that its objectives are met systematically, with measurable outputs that contribute to sustainable plastic waste management education and practice across Africa and Europe.

SWARM Kick-off Meeting

The SWARM Project officially launched with its Kick-off Meeting hosted at the University of Johannesburg on May 5–7, 2025. The three-day event gathered all partners from Africa and Europe, setting the stage for an ambitious collaboration to advance sustainable plastic waste and recycling management in higher education.

Setting the Stage

The event opened with a courtesy call to Vice Chancellor Prof. Letlhokwa Mpedi, followed by a warm welcome from Prof. Daniel Mashao, Executive Dean of the Faculty of Engineering and the Built Environment. Both highlighted SWARM's potential to create lasting educational and environmental impact.

Work Package Presentations

Each Work Package leader introduced their goals, timelines, and expected outputs. Presentations covered capacity building, digital hubs, dissemination, quality assurance, and management. These sessions ensured partners were aligned and clear on their responsibilities. Key highlights included:

- **Coordination and capacity building:** Prof. Maria Loizidou (NTUA) shared insights from European best practices.
- **Systemic challenges:** Profs. Brian Vejrum Wæhrens and Jesper de Claville Christiansen (Aalborg University) examined waste management gaps in partner regions.
- **Dissemination strategies:** Prof. Andrew Amenaghawon (University of Benin) outlined plans for community engagement and visibility.

Partner Spotlights

Institutions showcased their strengths, challenges, and ongoing initiatives. Notable presentations included:

- Prof. Isioma Tongo (UNIBEN): Curriculum strategies for recycling education.
- Prof. Patrick Mukumba (UFH): Innovative teaching tools for sustainability.
- Dr. Nelson Madonsela (UJ): Curriculum development for waste management.
- Odysseas Vlachonikolos (ReadLab): Quality assurance systems.
- Paul Amaechi Ako (UNN): Policy and infrastructure challenges in Nigeria and South Africa.

A Practical Perspective for a Strong Foundation

Day two centered on capacity building, with presentations covering syllabus development, pedagogical approaches, and innovative practices across partner universities. Sessions also featured discussions on existing initiatives, gaps in academic content, and opportunities for embedding sustainability into higher education. The meeting concluded with a site visit on the third day, to local recycling and waste management facilities in Johannesburg, providing participants with hands-on insights into local practices and community initiatives.

The Kick-off Meeting successfully established a shared vision, clarified project structures, and fostered strong connections among partners. It set the tone for a collaborative journey toward reshaping sustainability education across Africa and Europe.

Upcoming Activities

The SWARM project is entering an exciting new phase, with several major initiatives planned to accelerate knowledge exchange, stakeholder engagement, and capacity building across partner institutions.

Study Visits to European Universities

Partners will embark on study visits to NTUA in Athens and Aalborg University in Denmark, providing a unique opportunity to learn from European best practices in sustainable waste management and curriculum development. These visits will foster knowledge transfer and inspire innovative approaches in African institutions.

SWARM Hubs Establishment

Work is advancing on the creation and operationalization of SWARM Hubs at partner universities. These hubs will serve as collaborative spaces for research, training, and community engagement, combining both physical infrastructure and digital platforms.

Stakeholder Engagement and Webinars

The project will intensify its outreach through stakeholder dissemination events and ambassador-led webinars. These platforms will strengthen ties with industry, policymakers, and civil society, amplifying awareness and encouraging dialogue around sustainable waste management.

PARTNERS



[VISIT OUR WEBSITE](#)

FOLLOW SWARM ON SOCIAL MEDIA

Follow our progress and participate in dialogues on sustainable plastic waste management through our social media channels. Together, we are empowering tomorrow's leaders to transform plastic waste challenges into sustainable solutions, driving innovation and building a circular economy across Africa.



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