

UNIQUE AND SUSTAINABLE SYSTEM FOR PRODUCING GARMENTS WITHOUT WATER DISCHARGES

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LIFE ANHIDRA, the project based on a closed-loop system for treating wastewater and re-using water from textile finishing

Last September 2024 ANHIDRA reached its second birthday. 2 years ago, a new project started involving three partners from Spain and Portugal. Being co-funded by the European Union (EU) through the European Climate, Infrastructure and Environment Executive Agency (CINEA) and its LIFE Programme, LIFE ANHIDRA is developing and validating **an innovative, efficient, and effective solution to water regeneration and reuse of water 'in situ' in textile finishing process**. The project is coordinated by the Spanish company JEANOLOGIA S.L. (Paterna, València), being partnered by the Spanish researching and innovation center ASOCIACIÓN DE INVESTIGACIÓN PARA LA INDUSTRIA TEXTIL – AITEX (Alcoi, Alacant) and the Portuguese company PIZARRO S.A. (Brito – Guimarães, Braga).

The context

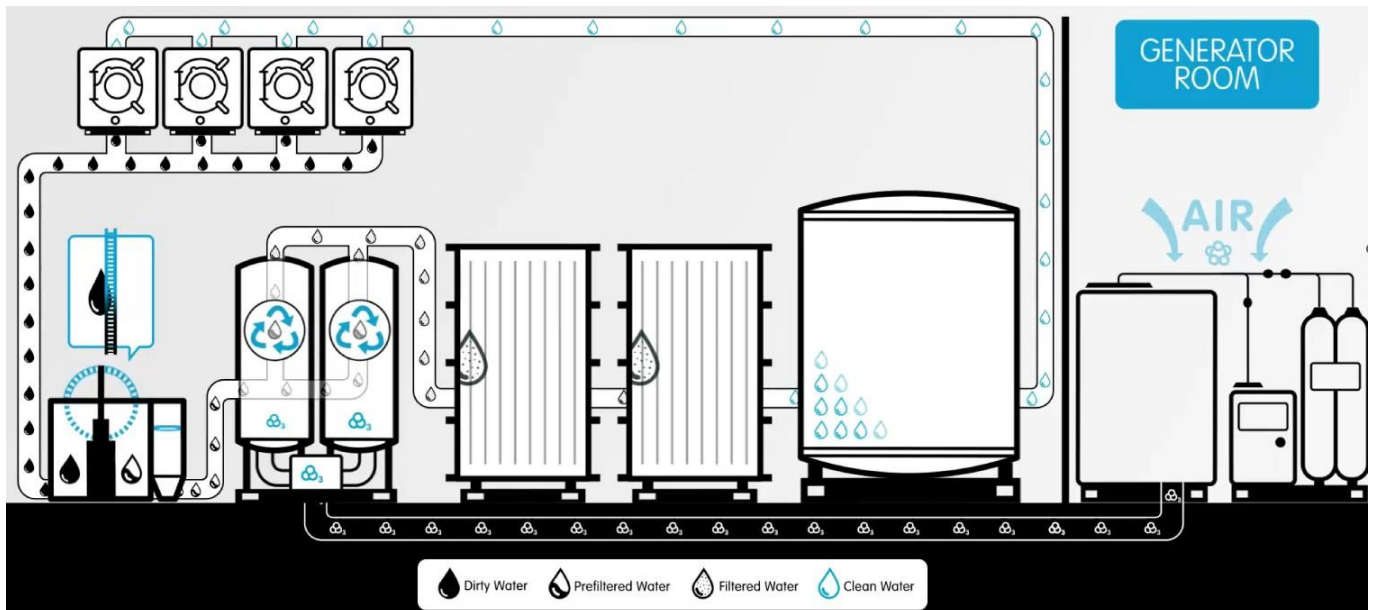
Water scarcity is one of the most serious negative effects of climate change. Many European areas and water bodies on the continent are at risk of failing to meet the aim of the EU Water Framework Directive to achieve good status, related to the quality and quantity of available water. Furthermore, different industrial processes using water as the main resource, as well as industrial wastewater discharges (e.g., ceramics, textile finishing, metallurgy, food, paper) continually put pressure on the status of water bodies and the environment in general.

Textile manufacturing is one of the industries worldwide, also at EU level, which are heavily water-dependent, especially on those processes in direct relation with dyeing, printing, finishing, and washing activities. It is an intensive water consumption industry requiring 93 billion of m³ per year (4% of the total water consumption in the world, and enough to meet the needs of five million people).

The LIFE ANHIDRA concept

Based on a closed-loop modular system (ozone, high-performance filtration, etc.) ANHIDRA will be able to provide:

- **Water reuse and savings of 21,000 m³ during 60 operation days**, in industrial washing machines. **In one industrial facility** is expected to reach **savings of 123,400 m³/year**.
- **Reduction of water consumption up to 92%, and wastewater generation up to 98% avoiding massive discharges of emerging pollutants, microfibres and pathogens** to the environment.
- **Reduction of the power consumption up to 15%**.
- **The implementation of 36 facilities 3 years after the project and at least 100 systems in 5 years**, quantifying the **potential savings of water up to 12.34 million m³/year (worldwide)**.
- **Several routes for valorisation of the fiber fragments released from garments during the washing/finishing processes, and collected by the system**.



The LIFE ANHIDRA concept.

How the industry is facing water management. Wastewater is now a source of valuable resources

On June 17th, 2024, we released the webinar “**Demonstration of water management in the industry by EU-funded and LIFE projects**”, a partner event part of the **EU Green Week 2024**, which this year had the water resilience as the main theme. It was also aligned with the **EU #WaterWiseEU campaign**, for encompassing many water-related aspects, but above all, it's about how we can be smarter with water, whether that's in our daily lives or on a much larger scale. This includes how the EU can ensure our water security and what measures we are taking to adapt to our ever-changing climate in relation to water.

Our webinar brought together up to 10 top EU-funded projects (LIFE ANHIDRA, REWAFT, LIFE RECYCLO, LIFE CASCADE, LIFE FOUNTAIN, INTEGRANO, LIFE ZERO WASTE WATER, ULTIMATE, SYMSITES and LIFE WASTE2COAG) which, being divided in 3 sessions (closed loops, remediation of pollutants and symbiosis & valorization of waste streams), provided a broad view about how to manage water, close the loop, take profit from wastes and use them as a raw material in several industrial sectors:

- Textile and cosmetic companies, as well as industrial districts.
- Laundries and water-intensive domestic activities.
- Agricultural and greenhouses.
- Metal manufacturing and hard-surfaces finishing industries.
- Design and manufacturing of water filtration and purification systems.



If you didn't have the choice to attend the webinar, or you want to review it, just visit the **LIFE ANHIDRA** Youtube channel clicking here: <https://www.youtube.com/watch?v=Nr9nihSDJN8>



LIFE anhidra



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