



Newsletter nº2

JUNE 2018

www.lifealchemy.eu/en

**With the contribution of the LIFE Programme of the
European Union**

LIFE16 ENV/ES/000437



ACTIONS COMPLETED

CHARACTERIZATION OF THE RAW WATER THAT FEED THE DWTPS

The **physico-chemical and radiological characterization** of the raw water that feed the DWTPs where the pilot plants are going to be installed (in the province of Almería (**Alboloduy, Benizalón and Tahal**) and Estonia (**Viimsi parish**)) was carried out. These results are the basis to optimize the operation conditions of the pilot plants.

Regarding the radioactive parameters analyzed, a **complete analysis** including the measurement of the gross alfa and beta activities, radon 222 and indicative dose, as well as other more specific radionuclides like Po-210, U-234, 235, 238, Ra-226, 228 y Pb-210, was carried out.



SELECTION OF THE FILLER MATERIAL FOR THE PILOT DWTPS: ALMERÍA

CIESOL proceeded to the construction of a lab-scaled pilot plant. The plant will allow checking the granular materials available on the market to achieve the removal of the radionuclides contained in the water according to different strategies.

After the selection of the filter materials that will be checked in the project, the *first tests of the pilot plant* using zeolites coated with manganese dioxide as filtration material to treat the water from the well of Benizalón will be completed. These tests will provide information about the efficiency of this material and the best operation conditions with regard to its scaling-up to real scale pilot plants.



ACTIONS COMPLETED

OPTIMIZATION OF THE TREATMENT AND RECOVERING OF THE FUNCTIONAL PROPERTIES OF THE FILTER MATERIAL IN THE PILOT PLANT FROM ESTONIA



Lab scale studies with the hydrous manganese oxide (HMO) process were carried out to remove iron, manganese and radionuclides from water, and several different combinations of filter materials like dolomite, anthracite, zeolite, sand and gravel were tested.

The regeneration conditions of the different filters were optimized and a few treatment schemes were recommended to be applied to the pilot plant.

DATABASE OF EUROPEAN DWTPS THAT TREAT WATER CONTAINING NATURAL RADIOACTIVITY

A direct link to the **database of DWTPs** that treat water containing natural radioactivity in **Europe** was created in the project's website. This database was created by the LIFE ALCHEMIA team and compiles the data concerning the radioactive parameters analyzed in each one of these DWTPs.

It is necessary to **request the access** to LIFE ALCHEMIA team through a brief survey.

[More information in the project's website.](#)



ACTIONS COMPLETED

FIRST MONITORING MEETING

LIFE Alchemia project's consortium travelled to Valladolid on last 22th February, namely to the coordination partner's facilities, CARTIF, to hold the first meeting with the external monitor from NEEMO, Borja Domínguez.



In this first meeting, the partners presented the advances of the project, the finished actions, and the next actions to be carried out.

[More information in the project's website](#)

VISIT OF DIPUTACIÓN DE ALMERÍA AUTHORITIES TO CIESOL

The vicepresident of Diputación de Almería, Javier Aureliano, together with three regional deputies, visited CIESOL's facilities.

During the day, they had the chance to learn the research lines developed by CIESOL, as well as observe and analyze the running of the lab-sized plant built to check the granular materials that will be used throughout the development of the project.

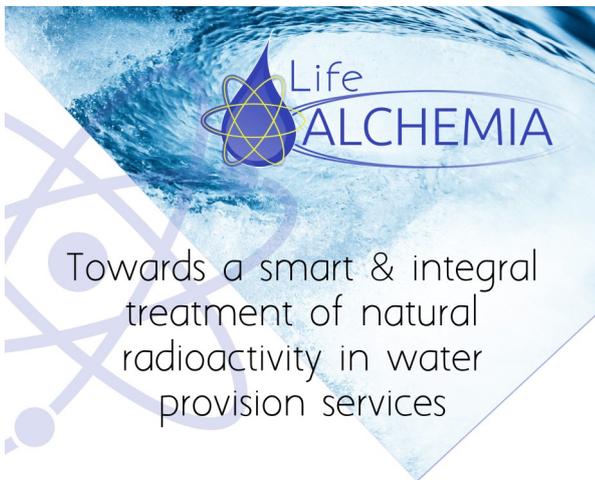


[More information in the project's website](#)



DISSEMINATION MATERIAL

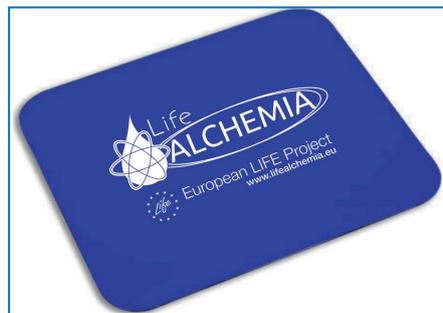
The dissemination material available for the LIFE Alchemia consortium is especially focused on being distributed among the entrepreneurs and students during the meetings, events or educational centres to be attended. The material was thought to be useful for the dissemination activities, besides being useful and functional.



Partners



www.lifealchemia.eu



XII SPANISH MEETING OF WATER TREATMENT - META 2018



Our Partners from Diputación de Almería and CIESOL presented the advances of the Project in the XIII Spanish Meeting of Water Treatment, organized by the Spanish Board of Water Treatment, which was attended by several researchers and professionals from the water field.

[*More information in the project's website*](#)

LIFE ALCHEMIA ON RADIO AND TELEVISION

Our Partners from Diputación de Almería, Javier Martínez and Isabel Rodríguez, and José Luis Casas from CIESOL, participated in the program “Almería en la Onda ” by Onda Cero radio.

You can listen the interview [here](#).



Juri Bolobajev, as a representative of the Technological University of Tallinn, was interviewed by ETV channel in order to present the advances of the project and contribute to its dissemination.

You can listen the interview (Russian language) [here](#).



ACTIONS COMPLETED - DISSEMINATION

LIFE ALCHEMIA IN THE PRESS MEDIA

Many communication media have informed about the last advances and actions carried out by the project's partnership. Some of the news that have appeared not only in general press but also in press specialized in the water field are shown below:

TTÜ teadlased töötavad joogivee kvaliteedi parandamise kallal

TEHNOLOOGIA 15.27.02.2018 (Lüüendatud 15.45.07.2018) [Lühendatud link](#) 13 1 0

Europa Liidu teadusprojekti Alchemia eesmärgiks on kulu- ja energiatõhusa tehnoloogia väljaarendamine joogivee loodusliku radioaktiivsuse vähendamiseks

TALLINN, 7. veebruar — Sputnik. Tehnoloogiad arendavad Tallinna Tehnikaülikooli (TTÜ) keskkonnatehnoloogia teaduslabori teadlased Anna Goi ja Juri Bolobajev, teatab ITÜ.

Mitmel pool Põhja-Eestis kasutatakse joogivee tootmiseks põhjavett, mille looduslik radioaktiivsus on 2-6 korda kõrgem tasemest, mis on kehtestatud sotsiaalministri määrusega. Tuginedes Terviseameti andmetele on Põhja-Eestis sellise põhjavee tarbijaid 190 000.

Joogivee radioaktiivsuse vähendamise tehnoloogia

keskkonnatehnika.ee/joogivee-radioaktiivsuse-vaendamine/

February 27, 2018

Tallinna Tehnikaülikooli (TTÜ) keskkonnatehnoloogia teaduslabori teadlased Anna Goi ja Juri Bolobajev arendavad tehnoloogiat joogivee radioaktiivsuse vähendamiseks. Tööd tehakse Euroopa Liidu teadusprojekti ALCHEMIA raames.

europapress / andalucía / sabores almeria

La Unión Europea observa los resultados científicos del Proyecto 'Life + Alchemia'

El proyecto En esta ocasión, el proyecto Life-Alchemia, el cual se centra en el desarrollo de una tecnología para la depuración de aguas subterráneas, ha sido observado por la Unión Europea. El proyecto, que se lleva a cabo en Almería, España, tiene como objetivo mejorar la calidad de las aguas subterráneas destinadas al consumo humano. El proyecto es uno de los socios que están colaborando con esta iniciativa.

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Ciudades

El sector hídrico, muy atento a los progresos de 'Life+Alchemia'

Ciencia El proyecto de potabilización brilló en el Congreso Español de Tratamiento de Aguas de León

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NEXT ACTIONS

- **DESIGN AND BUILDING** the pilot plants: the redaction stage of the technical projects to build the pilot plants has already been finished and their building is going to be begun during the next months.
- **UPDATE** and widening of the Spanish and European **DATABASES** of DWTPs that treat water with natural radioactivity.
- **NETWORKING** actions through PARTENALIA web, and with other projects from the LIFE (essentially) and H2020 Programmes.
- Attendance to the following **EVENTS**:

4th International Congress Water, Waste and Energy Management.

18th-20th July 2018, Madrid. (<http://waterwaste18.com/>)

X Water Symposium in Andalucia (SIAGA 2018)

24th-27th October 2018, Huelva (Spain)

1st ENA Workshop and 9th EAN_{NORM} Workshop

19th-23th November 2018, Katowice (Polonia)

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[CENTRO TECNOLÓGICO] **CARTIF**



DIPUTACIÓN DE ALMERÍA



TALLINN UNIVERSITY OF TECHNOLOGY



UNIVERSIDAD DE ALMERÍA



CIESOL
SOLAR ENERGY RESEARCH CENTER
JOINT CENTER UAL - PSA CIEMAT



VIIMSI VESI



UNIVERSITY OF TARTU

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