ULTIMATE: indUstry water-utiLiTy symblosis for a sMarter wATer society

Risultati

Informazioni relative al progetto

ULTIMATE

ID dell'accordo di sovvenzione: 869318

Sito web del progetto [↗]

[X] [in] [▶] [R⁶] [Z]

DOI
10.3030/869318 [↗]

Progetto chiuso

Data della firma CE
21 Aprile 2020

Data di avvio
1 Giugno 2020

Finanziato da
SOCIETAL CHALLENGES - Climate action, Environment, Resource Efficiency and Raw Materials

Costo totale
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Contributo UE
€ 13 527 116,27

Coordinato da
KWR WATER BV
Netherlands

Data di completamento
31 Ottobre 2024

CORDIS fornisce collegamenti ai risultati finali pubblici e alle pubblicazioni dei progetti ORIZZONTE.

I link ai risultati e alle pubblicazioni dei progetti del 7° PQ, così come i link ad alcuni tipi di risultati specifici come dataset e software, sono recuperati dinamicamente da .OpenAIRE [↗].

Risultati finali

[Protocol and tools for business-to-business co-creation ↗](#)

This Deliverable comes from Task 32 and involves SubTask 321 and Subtask 32 and will provide the protocol and tools for businesstobusiness cocreation We will explain the process used to collect cocreation best practices from partners and build a method repository of cocreation formats and tools for ULTIMATE The outcome will be make ULTIMATE able to form a cocreation model for the ULTIMATE places To be used in Task 33

[Results and insights from co-creation exercises in ULTIMATE CS ↗](#)

This Deliverable comes from Task 33 and will provide results from testing out cocreation methodologies and the cocreation model from D34 for the ULTIMATE places to ensure project outcomes are driven by user needs

[Place by design playbook (updated) ↗](#)

This deliverable is an updated version of D18 and comes from Task 31 and provides a citizen participation playbook with instructions protocols and guidelines for designing and implementing the immersive experience The outcome will be a play book for stakeholder engagement to be implemented in Task 32 and 33 This will make it possible to design and implement the stakeholder engagement for the Use Case Studies CS2 NL CS4 GR CS9 DK The playbook will be used in D36

[Scientific quality assurance plan ↗](#)

The deliverable provides the scientific quality assurance plan for ULTIMATE which will detail the processes for project internal scientific quality assurance The deliverable will also provide procedures for handling foreseeable difficulties in a WP to achieve objectives or deliverables Need for harmonisation of activities between and across WPs Obstacles and barriers causing delays in progress in particular if this is likely to affect other WPs that need the output of another WP as a starting point Need for reallocation of tasks and resources within or among the WPs if needed Security or privacy issues raised as part of the DMP design and implementation Weak performance of a partnerThis deliverable is linked to T72

[Criteria for linking existing LLs to the Case studies ↗](#)

This Deliverable comes from Task 34 our Living Lab engagement and will identify existing Living Labs LL in the regions of the ULTIMATE cases by using the existing Water Europe LL inventory and provide the criteria derived from our WSISLL typology to work with them towards upgrading their status to WSISLLS The outcome will be used to to the extent possible colocate our engagement spaces in Task 33 with the WSISLLS to increase outreach and impact

[Report on editorial, video and visual content and highlights](link) ↗

This deliverable provides a summary of the most important communication & dissemination activities in ULTIMATE in the period M01-M24. It will cover content generated, coverage/outreach and distribution achieved by the project and partners at events, in print and online. This deliverable is linked to the dissemination tasks 6.2, 6.3, 6.4, 6.5, 6.6 and 6.7. This deliverable is an update of D6.2.

[Place by design playbook](link) ↗

This deliverable comes from Task 31 and provides a citizen participation playbook with instructions protocols and guidelines for designing and implementing the immersive experience The outcome will be a play book for stakeholder engagement to be implemented in Task 32 and 33 This will make it possible to design and implement the stakeholder engagement for the Use Case Studies CS2 NL CS4 GR CS9 DK The playbook will be used in D36

[Report on connecting and collaborating with EU policy and industrial vision](link) ↗

Details of ULTIMATE activities and results to reach decision makers and transfer knowledge to accelerate industrial replication and uptake. This deliverable is linked to task 6.4

[Info-pack for internal communication (tools/procedures)](link) ↗

This deliverable consists of the tools to facilitate project internal communication containing amongst others templates eg deliverables powerpoint a collaboration platform for file sharing and facilitating interaction and knowledge exchange between partners instructions and manuals for using communication tools provided by ULITMATEThis deliverable is linked to Task 71

[Report on academic and scientific dissemination & events](link) ↗

ULTIMATE efforts to maximise uptake and insights among the scientific and academic community, including open access publications and papers. This deliverable is linked to task 6.7

[White paper on societal expectations and challenges around WSIS, and potential societal impacts of WSIS adoption](link) ↗

This deliverable will include an indepth outline of societal expectations and challenges around WSIS and CE and describes whether the adoption of WSIS can benefit the societal legitimisation of CE and the wider relationship between industries and society The deliverable is an outcome of Task 41 contributing to the wider normalisation of a sustainable CE in a watersmart society

[Ethical Principles & guidelines for RRI update](link) ↗

This deliverable consists of guidelines procedures and criteria for i identification and recruitment of research participants ii obtaining informed consent for the

participation of humans in project activities and iii managing any ethical risks associated with their participation It will include templates for the informed consentassent forms and information sheets in language and terms intelligible to the participantsThis deliverable is linked to Task 77 EthicsThis deliverable builds upon D75 and will be updated in M48 D711

[WSIS-Living Labs: Gap analysis and recommendations](#) ↗

This Deliverable comes from Task 34 and will identify the critical factors for successful WSIS LLs that can fully utilize their capacities in building a symbiosis between water service providers and industries To do so we will use the CoPs built around the cases in Subtask 321 and initiate a dialogue between them as problem owners and a wide crosssection of existing LL actors from D31 The outcome will be recommendations proposing a new type of WSISLL including an open innovation environment best suited for symbiosis with industry

[Ethical Principles & Guidelines for Responsible Research & Innovation](#) ↗

This deliverable consists of guidelines procedures and criteria for i identification and recruitment of research participants ii obtaining informed consent for the participation of humans in project activities and iii managing any ethical risks associated with their participation It will include templates for the informed consentassent forms and information sheets in language and terms intelligible to the participantsThis deliverable is linked to Task 77 EthicsThis deliverable will be updated in M30 D710 and M48 D711

[Report on water sector and industry outreach in Europe and beyond](#) ↗

Connecting European water innovations to markets and regions worldwide details of ULTIMATE engagement with multipliers, events and industries. This deliverable is linked to task 6.5

[New approaches and best practices for water recycling in symbiosis cluster](#) ↗

This deliverable includes the results from all activities within T1.2. It provides insight in the water management and reuse performance of innovative schemes and technologies in WSIS. The main results of this deliverable will be presented in the TEB (D1.7).

[New approaches and best practices for closing materials cycles within symbiosis cluster](#) ↗

This deliverable will include the results from all activities within T1.4. It will provide details on the performance of technologies and strategies to valorisation of materials from wastewater streams in symbioses of water utilities and industry. The main results of this deliverable will be presented in the TEB (D1.7).

[Risk Management Plan updated (2nd)](#) ↗

This deliverable consists of a risk management plan. It will detail the critical risks for the implementation of the project, and provide processes and contingency

plans to detect the materialising of any risk as early as possible and propose mitigation measures.This deliverable is linked to Task 7.6 - Knowledge and Information management.This deliverable builds on deliverable 7.8.

[Policy brief (2-3 pager) resuming key insights and actionable initiatives for these audiences - a project mid-point](#) ↗

Two short policy briefs resuming key insights and actionable initiatives for these audiences will be produced by WE a project midpoint and to capitalize on final takeaways at the end of the project This deliverable is linked to task 62

[Results and insights from co-creation exercises in ULTIMATE CS-updated](#) ↗

This deliverable will be an updated version of deliverable D3.5 that includes the results and insights from the continued interactions in WP3, specifically Task 3.3

[Risk Management Plan](#) ↗

This deliverable consists of a risk management plan It will detail the critical risks for the implementation of the project and provide processes and contingency plans to detect the materialising of any risk as early as possible and propose mitigation measuresThe risk management plan will be updated in M30 D78 and M48 D79This deliverable is linked to task 76 Risk Management

[Interim report on editorial, video and visual content highlights](#) ↗

This deliverable provides a summary of the most important communication dissemination activities in ULTIMATE in the period M01M24 It will cover content generated coverageoutreach and distribution achieved by the project and partners at events in print and online This deliverable is linked to the dissemination tasks 62 63 64 65 66 and 67 This deliverable will be updated in M48 D63

[HMS simulation and modelling for WSIS - A best practice guideline](#) ↗

This deliverable is directly related with the Task 2.3 and specifically on subtask 2.2.1 that is aimed at investigating WSIS scenarios and the subsequent simulations to determine process redesign opportunities. Under this framework, this deliverable focuses on the Best Practice Guidelines on using HMS to investigate WSIS scenarios within the wider technological, socio-economic and environmental system.

[Policy brief (2-3 pager) resuming key insights and actionable initiatives for these audiences - capitalize on final takeaways](#) ↗

Two short policy briefs resuming key insights and actionable initiatives for these audiences will be produced by WE a project mid-point and to capitalize on final takeaways at the end of the project. This deliverable is linked to task 6.2

[ULTIMATE Plan for exploitation during project lifetime](#) ↗

D53 will provide a draft list of results as of M12 with their ownership and the expected exploitation strategy by individual partners This Deliverable will report the analysis of all the potential outputs of the project at M12 that would have the best chance of commercialization The analysis will be based on market assessment and the technical analysis of the results D53 will display the initial startup concepts investigated in the first year and their relevance This Deliverable is link to the T53

Risk Management Plan updated 🔗

This deliverable consists of a risk management plan It will detail the critical risks for the implementation of the project and provide processes and contingency plans to detect the materialising of any risk as early as possible and propose mitigation measuresThis deliverable is linked to Task 76 Knowledge and Information managementThis deliverable builds on deliverable 74 and will be updated in M48 D79

New approaches and best practices for closing the energy cycle within symbiosis cluster 🔗

This deliverable includes the results from all activities within T1.3. It provides performance details of technologies and strategies for energy and heat recovery intrinsically in symbioses of water utilities and industry. The main results of this deliverable will be presented in the TEB (D1.7).

Overall exploitation strategy 🔗

D5.9 would be a lighter version of D5.8 explaining the overall exploitation strategy for Public access. All sensitive and confidential information (numbers, business models, market targets) will be removed to set up a general view of the Plan for exploitation beyond project lifetime. This would leave to general public an ambitious plan and long-term vision of the project with economic prospect for ULTIMATE. This Deliverable will be released at M52 and is linked to the T5.3.

Assessment of baseline conditions for all case studies 🔗

This deliverable will include the current status of all case studies for each of the cycles to be addressed It serves as case study description before the implementation of the technologies and strategies considered in the project This deliverable refers to T12T14This deliverable will provide input for the microbial risk assessment which will include virusrelated risks such as eg Covid19 that will be performed under subtask 221

Start-up and intermediate results of plant operation from all case studies 🔗

This deliverable includes a detailed description of the final design and realization of all pilot plants in ULTIMATE together with the results from the commissioning startup phase as well as intermediate results of normal plant operation It will report on the status of pilot activities identify challenges and how they have been addressed by the consortium This report will provide valuable feedback on the

pilot system design and startup for similar activities in the future Based on the intermediate results the planned research activities in WP1 until the end of the project will be adapted if necessary D19 is linked to the subtasks dealing with investigations in pilot plants such as 121 122 124129 131135 141143 145147 This deliverable serves as an intermediate evaluation of the pilot plant activities and has a preparative function for the successful achievement of D13 D14 and D15

[Overview of regulatory barriers and opportunities for upscaling of water-smart industrial symbiosis at the ULTIMATE cases](#) ↗

This deliverable will provide an overview of barriers and opportunities in current policy and regulation framework for WSIS applications at the ULTIMATE cases, including its upscaling and transferring to other geographic areas. The deliverable is an outcome of Task 4.2, contributing to future prospects to overcome WSIS governance challenges.

[Lessons-learned from synergy workshops](#) ↗

Outcomes of external workshops and related insights to strategies for successful implementation of water smart industrial symbioses are summarised in a report This deliverable refers to T15 and contributes to D17 In addition T15 is linked to T56 and thus D18 might also contribute to D56 An updated version of this deliverable will be produced in M48 D110

[Lessons learned from synergy workshops (updated)](#) ↗

Outcomes of external workshops and related insights to strategies for successful implementation of water smart industrial symbioses are summarised in a report. This deliverable refers to T1.5 and contributes to D1.7. In addition, T1.5 is linked to T5.6 and thus. This is an updated version of deliverable D1.8.

[Report on customisable WSIS contracts and financing Schemes](#) ↗

D54 based on T54 will present alternative contractual clauses and financing schemes adapted to waterbased industrial synergies based on the concept of chemical leasing The deliverable takes advantage of the classification of industrial ecosystems based on the ontological approaches WP2 and reports on feedbacks collected from selected ULTIMATE cases WP1

[Innovative solutions to governance challenges and innovation support for water-smart industrial symbiosis.](#) ↗

This deliverable will describe solutions to governance challenges and innovation support for WSIS at the ULTIMATE cases. It will include suggestions for adaptations to current regulations and proposals for new mechanisms compatible with existing regulatory frameworks. The deliverable is an outcome of Task 4.3, providing input to regulators and industry associations for adopting WSIS in national and European governance and policy frameworks for industries.

Ethical Principles & guidelines for RRI update 2nd ↗

This deliverable consists of guidelines (procedures and criteria) for (i) identification and recruitment of research participants; (ii) obtaining informed consent for the participation of humans in project activities; and (iii) managing any ethical risks associated with their participation. It will include templates for the informed consent/assent forms and information sheets (in language and terms intelligible to the participants).This deliverable is linked to Task 7.7 - EthicsThis deliverable builds upon D7.10

Dissemination, Communication & Collaboration Master Plan ↗

A framework for communication collaboration and dissemination that empowers all partners to engage with multiple audiences in confidence Ready for M3 it will be updated twice in the project lifetime to refine content messages and analyse effectiveness it is a framework for communication and dissemination that empowers all partners to engage with multiple audiences in confidence It will outline ULTIMATE content formats and high impact PESO distribution model A dynamic website delivered in M4 will act as a digital anchor for all project content giving visitors an easy to navigate yet indepth access to knowledge and content generated The site will integrate with the projects most important outreach channels on social media twitter YouTube and LinkedIn launched M2 These will be managed and mined for maximum impact using market leading software and analytics The website will also be a digital home for all interviews news blogs video and other content including publicly available deliverables A call to action postcard and roll up posters will give print materials to accompany the website launch and support all partners in their external communication This deliverable is the outcome of task 61 and task 66

Demonstrators, pilots, prototypes (2)   ⌄

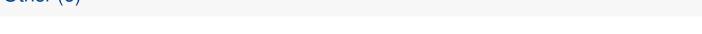## Validated and analyzed immersive narratives for citizens ↗

This Deliverable comes from Task 3.3 and provides the final XR visualizations tested on the specific target group of visitors (from CEOs to regulators, from children to adults) for the Use Case Studies CS2 (NL), CS4 (GR), CS9 (DK)The XR visualizations will be used to assess the immersive narratives based on their learning value. The outcome will demonstrate the increased stakeholder engagement both for business-to-business and for the public.

Operational demo cases ↗

This deliverable will provide evidence that the demo cases are operational. Evidence will be shown via e. g. plans of the final design of the pilot plants, pictures, audio-visual material, press releases, successful commissioning of the plants, etc. It is linked to the subtasks dealing with investigations in pilot plants

such as 1.2.1, 1.2.2, 1.2.4-1.2.9, 1.3.1-1.3.5, 1.4.1-1.4.3, 1.4.5-1.4.7. This deliverable serves as a prerequisite to make sure that the first results for D1.9 will be produced in time. Furthermore, some of the materials collected in this scope will be reused in the TEB (D1.7).This deliverable will provide input for the microbial risk assessment which will include virus-related risks such as e.g. Covid-19 that will be performed under subtask 2.2.1

Other (6)   ⌄

A KPI Tool for WSIS performance assessment ↗

This deliverable focuses on the work performed under Task 2.4. This deliverable is aimed at presenting the online tool for the assessment of performance of alternative water-based industrial symbiosis schemes (in simulation and post-implementation modes).

Technology Evidence Base concept and integration ↗

This deliverable is a data base summarising the results of the various solutions developed and demonstrated in ULTIMATE for circular water services The first step is to integrate the different concepts of symbioses and the ULTIMATE technologies into the existing NextGen TEB This deliverable refers to T12T14 and serves as the basis for D17

Technology Evidence Base final version ↗

This deliverable is the final version of the TEB and builds on the D1.6. The TEB will be hosted and promoted via an online marketplace. Target groups are municipalities, operator and consulting companies, which will be able to use the Technology Evidence Base within decisions making processes for water smart symbiosis. D1.7 summarises and presents the main results of D1.4-D1.6. Furthermore, it includes the main outcomes of D1.8

An interactive online tool for visualizing HMS analysis and decision co-creation ↗

This task mainly focuses to the Task 2.3 and specifically on the task 2.2.2 and 2.2.3 that are focused on the digital twin for industries for process redesign and optimization. In this regard, this deliverable will present the online tool for demonstrating the HMS modelling results with high LOD to support co-design of CE strategies for multiple interest groups.

A Marketplace for Water, Energy, Materials in a WSIS ↗

D5.5 will consist of a marketplace centralising information on water-smart industrial synergies for energy, water and material resources.

[Regional, national, industrial leadership and hubs for circularity - key actions of ULTIMATE demo cases](#) ⬈

Activities at local demonstration cases in communication, dissemination and stakeholder relations, such as workshops, site visits and living labs. Results from the activities as defined in Task 6.3 will be summarised in this deliverable.

Open Research Data Pilot (4) ⌄

[Data management Plan updated (2nd)](#) ⬈

The deliverable update provides a Data Management Plan (DMP) in compliance with the Guidelines on FAIR Data Management in Horizon 2020 (26 July 2016). This deliverable will evolve during the lifetime of the project and represent the status of the project reflections on data management. Updates of the DMP are thus planned in project-month 12, 30 and 48. The DMP will detail the data that will be collected/generated, whether the data will be shared and made open or preserved. In general, the intention is to make data sets as open as possible for external parties to reuse.This deliverable is linked to Task 7.4 - Knowledge and Information management, and builds on deliverable 7.6

[An online tool for semantic-driven WSIS](#) ⬈

This deliverable corresponds to the Task 21 The deliverable focuses on the online tool based on ontologies allowing industries to register and explore opportunities associated with industrywater processes and identify promising symbiotic schemes to be further explored Based on this the related outcomes are the ontology for the WSIS and the data exploration tool

[Data Management Plan updated](#) ⬈

This deliverable update provides a Data Management Plan DMP in compliance with the Guidelines on FAIR Data Management in Horizon 2020 26 July 2016 This deliverable will evolve during the lifetime of the project and represent the status of the project reflections on data management The DMP will detail the data that will be collectedgenerated whether the data will be shared and made open or preserved In general the intention is to make data sets as open as possible for external parties to reuseThis deliverable is linked to Task 74 Knowledge and Information management and builds on Deliverable 73

[Data Management Plan](#) ⬈

The deliverable provides a Data Management Plan DMP in compliance with the Guidelines on FAIR Data Management in Horizon 2020 26 July 2016 This deliverable will evolve during the lifetime of the project and represent the status of the project reflections on data management Updates of the DMP are thus planned in projectmonth 36 and 48 The DMP will detail the data that will be

collectedgenerated whether the data will be shared and made open or preserved In general the intention is to make data sets as open as possible for external parties to reuseThis deliverable is linked to Task 74 Knowledge and Information managementThe risk management plan will be updated in M30 D76 and M48 D77

Pubblicazioni

Other (39) ⌄

Turning wastewater into a resource
Autori: ESCI
Pubblicato in: 2020
Editore: CORDIS

EU greenlights large demo projects on waste water mining and smart water
Autori: KWR Water, University of Delft
Pubblicato in: Dutch Water Sector, 2020
Editore: Dutch Water Sector

Viewpoints: Our Ambitions For Finding The ULTIMATE Water Symbiosis
Autori: KWR
Pubblicato in: Water Online, 2020
Editore: Water Onlline

Four lessons from creating a Dutch circular face scrub
Autori: KWR
Pubblicato in: 2020
Editore: KWR

Naar een volledig hergebruik van afvalwater
Autori: KWR
Pubblicato in: 2020
Editore: KWR

Turning Wastewater into a Resource – A new European initiative aims to create a "Water-Smart Industrial Symbiosis"
Autori: Water Europe
Pubblicato in: 2020
Editore: Water Europe Website

4 Lessons From A Dutch Utility Circular Collaboration
Autori: KWR
Pubblicato in: Water Online, 2020
Editore: Water Online

Gerard van den Berg: ''The term wastewater is a barrier for a lot of initiatives''
Autori: ESCI, KWR
Pubblicato in: Amsterdam International Water Web, 2021
Editore: Amsterdam International Water Week

Circular economy solutions to water scarcity: Promoting sustainability via industrial symbiosis
Autori: ESCI
Pubblicato in: Smart Water Magazine, 2023
Editore: Smart Water Magazine

[Lleida, en un projecte europeu per recuperar recursos com l'aigua en processos industrials](#) ↗
Autori: AQUALIA
Pubblicato in: Segre Castellano, Numero 27, 2022
Editore: Segre Castellano
DOI: 10.5281/zenodo.8363732

Reutilización de agua depurada. Garantía de recursos hídricos de calidad para la industria
Autori: Aqualia
Pubblicato in: AQUALIA, 2023
Editore: AQUALIA

The female euroscientist: views from western Europe
Autori: ESCI
Pubblicato in: Euroscientist, 2023
Editore: Euroscientist

CPTM joins ULTIMATE project
Autori: CPTM
Pubblicato in: Website CPTM, 2020
Editore: CPTM

Agua depurada, vía para abastecer a la industria ante el cambio climático
Autori: Aqualia
Pubblicato in: LA NUEVA ESPAÑA, 2023
Editore: LA NUEVA ESPAÑA

Towards Water Smart Industrial Symbiosis Systems
Autori: KWR
Pubblicato in: Smart Water Magazine, 2019, Pagina/e 57-57

Editore: iAgua

La soluzione alla crisi idrica passa dal riciclo
Autori: ESCI
Pubblicato in: Recover Magazine, 2022
Editore: Recover Magazine

Press release on ULTIMATE's participation in Water Projects Europe
Autori: Water Europe
Pubblicato in: 2020
Editore: Water Europe

Soluciones de economía circular exponenmodelo de negocio para el uso sostenible del agua
Autori: ESCI
Pubblicato in: Alpha Galileo, 2021
Editore: Alpha Galileo

New network to help unite Europe's young water professionals
Autori: KWR
Pubblicato in: Smart Water & Waste World, 2021
Editore: Smart Water & Waste World

Reutilización de agua depurada. Garantía de recursos hídricos de calidad para la industria
Autori: Aqualia
Pubblicato in: INDUSTRIAMBIENTE, 2023
Editore: INDUSTRIAMBIENTE

Materials recovered from leftover fruit juice could make saving water pay
Autori: ESCI
Pubblicato in: 2021
Editore: ESCI

Four lessons from creating a Dutch circular face scrub
Autori: KWR
Pubblicato in: Smart Water MAgazine, Numero 61, 2021
Editore: iAqua

Accelerating the ULTIMATE & NextGen Water Circular Economy solutions
Autori: KWR
Pubblicato in: 2020
Editore: KWR

Towards Water Smart Industrial Symbiosis Systems

Autori: KWR
Pubblicato in: Smart Water Magazine, Numero 43, 2021
Editore: iAqua

Community of Practice ULTIMATE - Oviedo
Autori: Aqualia
Pubblicato in: RTVE, 2023
Editore: RTVE

ULTIMATE indUstry water-utiLiTy symbIosis for a sMarter wATer society
Autori: WRE Team
Pubblicato in: Water Reuse Europe, 2020
Editore: Water Reuse Europe

EASME side-event 'Building a Water-Smart Economy and Society'
Autori: Water Europe
Pubblicato in: 2020
Editore: Water Europe

International water research networks offer solutions for water stress
Autori: ESCI
Pubblicato in: Smart Water Magazine, 2022
Editore: Smart Water Magazine

Water Knowledge Europe 2021 concluded
Autori: Water Europe
Pubblicato in: 2021
Editore: Water Europe

Press release on ULTIMATE's participation in Water Knowledge Europe 2021 Summer Edition
Autori: Water Europe
Pubblicato in: 2021
Editore: Water Europe

Reutilización de agua depurada. Garantía de recursos hídricos de calidad para la industria
Autori: Aqualia
Pubblicato in: IAGUA, 2023
Editore: IAGUA

Press release on ULTIMATE's participation in Water Knowledge Europe 2021 Spring Edition
Autori: Water Europe
Pubblicato in: 2021
Editore: Water Europe

CWS and CSAM H2020 project success - ULTIMATE
Autori: University Exeter
Pubblicato in: 2020
Editore: University Exeter

Lleida, en un projecte europeu per recuperar recursos com l'aigua en processos industrials
Autori: Aqualia
Pubblicato in: SEGRE, 2023
Editore: SEGRE

El Principado proyecta que la depuradora de Villapérez dé agua a la industria de Gijón y Avilés
Autori: Aqualia
Pubblicato in: EL COMERCIO, 2023
Editore: EL COMERCIO

Why water is key to unlocking a circular economy across Europe
Autori: KWR
Pubblicato in: WaterWorld, Numero 50, 2020
Editore: Endeavor Business Media

Press release/announcement on ULTIMATE's participation in Water Knowledge Europe 2021 Summer Edition
Autori: Water Europe
Pubblicato in: 2021
Editore: Water Europe

Exeter joins new European initiative to turn wastewater into valuable resource
Autori: University Exeter
Pubblicato in: 2020
Editore: University Exeter

Water circular economy solutions
Autori: KWR
Pubblicato in: Smart Water Magazine, 2020, Pagina/e 62-65
Editore: KWR

Peer reviewed articles (17)

Resource Recovery and the Sherwood Plot [↗]
Autori: Georgios Karakatsanis and Christos Makropoulos
Pubblicato in: Entropy, Numero 2023, 25(1), 4, 2023, ISSN 1099-4300

Polyphenol extraction from industrial water by-products: a case study of the ULTIMATE project in the fruit processing industry ⤴

Seawater intrusion and infiltration modelling coupled to digital tools to avoid high saline concentrations in reclaimed water: application in coastal central Italy ⤴

Methane production from anaerobic pre-treatment of municipal wastewater combined with olive mill wastewater: A demonstration study ⤴

Chemical Leasing (Ch.L.) and the Sherwood Plot ⤴

Membrane-Based Processes to Obtain High-Quality Water From Brewery Wastewater ⤴

[Targeted Bio-Based Volatile Fatty Acid Production from Waste Streams through Anaerobic Fermentation: Link between Process Parameters and Operating Scale](#) ↗

Autori: Cecilia Bruni, Alessia Foglia, Anna Laura Eusebi, Nicola Frison, Çağrı Akyol, Francesco Fatone

Pubblicato in: ACS Sustainable Chemistry & Engineering, Numero 9, 2023, Pagina/e 9970-9987, ISSN 2168-0485

Editore: American Chemical Society

DOI: 10.1021/acssuschemeng.1c02195

[Towards the development of an online platform for an industry metabolic pathway](#) ↗

Autori: Mehdi Khoury, Barry Evans, Tavishi Guleria, Joep Van Der Broeke, Lydia Vamvakeridou-Lyroudia, Otto Chen, Navonil Mustafee, Albert Chen, Solobodan Djordjevic, Dragan Savic

Pubblicato in: Water Science & Technology, Numero 91, 2025, ISSN 0273-1223

Editore: International Water Association Publishing

DOI: 10.2166/wst.2025.020

[Supporting decision-making for industrial symbioses using a hybrid modelling approach and its application to wastewater treatment](#) ↗

Autori: Otto Chen, Nav Mustafee, Barry Evans, Mehdi Khoury, Lydia Vamvakeridou-Lyroudia, Albert S. Chen, Slobodan Djordjević, Dragan Savić

Pubblicato in: Water Science & Technology, 2025, ISSN 0273-1223

Editore: International Water Association Publishing

DOI: 10.2166/wst.2025.022

[Targeted Bio-Based Volatile Fatty Acid Production from Waste Streams through Anaerobic Fermentation: Link between Process Parameters and Operating Scale](#) ↗

Autori: Cecilia Bruni; Alessia Foglia; Anna Laura Eusebi; Nicola Frison; Çağrı Akyol; Francesco Fatone

Pubblicato in: ACS Sustainable Chem. Eng, Numero 1, 2021, Pagina/e 9970–9987, ISSN 2168-0485

Editore: American Chemical Society

DOI: 10.1021/acssuschemeng.1c02195

[Toward circular greenhouse wastewater reuse: advancements in cation exchange membranes for selective Na+/K+ separation using electrodialysis systems](#) ↗

Autori: Tavishi Guleria, Joep van den Broeke, Romane Adam, Leonardo Gutierrez, Timon Rijnaarts, Kim Verbeken, Nathalie De Geyter, Xin Tian, Emile Cornelissen

Pubblicato in: Water Science & Technology, Numero 90, 2024, Pagina/e 2485-2499, ISSN 0273-1223

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[New business models for the circular economy of water: A hybrid simulation study of a mobile rental wastewater treatment service](#) ↗

Autori: Otto Chen, Navonil Mustafee, Barry Evans, Mehdi Khoury, Lydia Vamvakeridou-Lyroudia, Albert S. Chen, Slobodan Djordjević, Dragan Savić

["Conductive adsorbents enhance phenol removal from wastewater by direct interspecies electron transfer ""DIET""-based anaerobic biodegradation process"](#) ↗

Autori: Stav Shimshoni, Katie Baransi-Karkaby, Keren Yanuka-Golub, Hassan Azaizeh, Mahdi Hassanin, Isam Sabbah

[Catchment-wide validated assessment of combined sewer overflows (CSOs) in a mediterranean coastal area and possible disinfection methods to mitigate microbial contamination](#) ↗

Autori: Paolo Crocetti, Anna Laura Eusebi, Cecilia Bruni, Enrico Marinelli, Giovanna Darvini, Claudio Bernardo Carini, Cristiana Bollettini, Virginia Recanati, Çağrı Akyol, Francesco Fatone

[Stakeholder engagement to increase the impact of water technology case studies](#) ↗

Autori: A. Perkis, W. A. Mansilla, R. Glotzbach, S. Munaretto, A. Rubini, I. Gervasio, A. Argo, D. Venkataswamy Gowda

[Water reuse and resource recovery from greenhouse wastewater by capacitive electrodialysis at pilot scale](#) ↗

Autori: Tavishi Guleria, Joep van den Broeke, Ides Platteau, Timon Rijnaarts, Abdulsalam Alhadidi, Leonardo Gutierrez, Emile Cornelissen

[Modelling and set-point definition for the development of a joint control system of two interconnected wastewater treatment plants and its application in practice](#) ↗

Autori: Jan Tobias Schütz, Anne Kleyböcker, Sille Bendix Larsen, Malene Kristensen, Christian Remy, Ulf Miehe

Non-peer reviewed articles (5) ⌄

Four lessons from creating a Dutch circular face scrub

Autori: KWR

Water Challenges for the 21st Century

Autori: KWR

Why water is key to unlocking a circular economy across Europe

Autori: KWR

Why water is key to unlocking a circular economy between utilities & industries

Autori: KWR

[Matchmaking for industrial symbiosis: a digital tool for the identification, quantification and optimisation of symbiotic potential in industrial ecosystems](#) ↗

Autori: Christos Makropoulos, Nikolaos-Alexandros Kritikos, Christodoulos Pantazis

Thesis and dissertations (1)

Augmented Reality with Image Tracking using Unity Game Development
Autori: Vandenhove, Jasper Haug
Pubblicato in: Numero 8, 2023
Editore: NTNU

Set di dati

Set di dati mediante OpenAIRE (17)

Supplementary information to ULTIMATE Deliverable D1.3 New approaches and best practices for water recycling in symbiosis cluster
Autori: Guleria, Tavishi
Pubblicato in: Zenodo

Dataset Supporting Deliverable 1.4 - New approaches and best practices for closing the energy cycle within symbiosis clusters
Autori: van den Broeke, Joep
Pubblicato in: Zenodo

Experimental data underlying doi.org/10.1016/j.desal.2024.117669
Autori: Guleria, Tavishi
Pubblicato in: Zenodo

ULTIMATE Poster
Autori: Kristine Jung
Pubblicato in: Zenodo

Supplementary information to New business models for the circular economy of water: A hybrid simulation study of a mobile rental wastewater treatment service
Autori: van den Broeke, Joep
Pubblicato in: Zenodo

SUPPLEMENTARY MATERIAL to Towards the development of an online platform for an industry metabolic pathway
Autori: van den Broeke, Joep
Pubblicato in: Zenodo

[Supplementary information to - Stakeholder engagement to increase impact of water technology case studies](#) ⧉
Autori: van den Broeke, Joep
Pubblicato in: Zenodo

[Supplementary Information - Towards circular greenhouse wastewater reuse: Advancements in cation exchange membranes for selective Na+/K+ separation using electrodialysis systems](#) ⧉
Autori: Guleria, Tavishi; van den Broeke, Joep; Cornelissen, Emile
Pubblicato in: Zenodo

[Immersive Media Experience - documentation](#) ⧉
Autori: Andrew, Perkis; Mansilla, Wendy Ann; Juhasz, David
Pubblicato in: Zenodo

[Water quality measurements - Supplementary Information Modelling and set-point definition for the development of a joint control system of two interconnected wastewater treatment plants and its application in practice](#) ⧉
Autori: Kleyböcker, Anne
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Altri prodotti di ricerca tramite OpenAire (5) OpenAIRE ⌄

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Autori: Bloemendal, Martin; Beernink, Stijn
Pubblicato in: Zenodo

[An online tool for semantic-driven WSIS](#) ⧉
Autori: Corchero, Aitor
Pubblicato in: Zenodo

[Lleida, en un projecte europeu per recuperar recursos com l'aigua en processos industrials](#) ⧉
Autori: AQUALIA
Pubblicato in: Zenodo

[La depuradora de Lleida, una de les més eficients del país, compromesa amb els Objectius de Desenvulupament Sosteible (ODS)](#) ⧉

Autori: AQUALIA
Pubblicato in: Zenodo

[ULTIMATE - Data Management Plan](#) ↗
Autori: Van Den Broeke, Joep
Pubblicato in: Zenodo

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