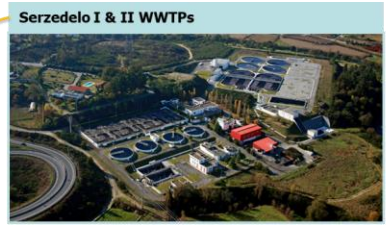

Demonstration WWTPs

Beneficiaries

LABORATÓRIO NACIONAL DE ENGENHARIA CIVIL

TRATAVE

Coordinating beneficiary
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UNIVERSIDADE CATÓLICA PORTUGUESA
PORTO

Grant Agreement 101114188
LIFE22-ENV-PT-LIFE Fitting

Total budget: 1,100,493.93 EUR
EC Co-funding: 660,296.36 EUR

LIFE FiTTing

Demonstration of an innovative **PLAN-DO toolbox** for a safer, resource efficient and **fit-for-purpose** wastewater treatment

July 2023 – June 2025

lifefitting.lnec.pt

Drivers/challenges

1. Reduce CEC discharge
2. Enhance AMR reduction
3. Promote WWTP operation towards receiving water quality-based effluent limits
4. Promote safer direct and indirect water reuse
5. Energy and chemicals' efficiency
6. Strategic asset management

PLAN-DO toolbox *New tools

DO

MONITORING OF WWTP & RECEIVING WATER BODY
MonitorTool *

WWTP PERFORMANCE ASSESSMENT & FORECASTING
PASTool
+ CEC ForecasTool *

WWTP IMPACT ON RECEIVING WATER QUALITY STATUS & INDIRECT WATER REUSE
Smart Discharge Tool *

PLAN

STRATEGIC PLANNING
PlanTool *

Develop & validate in **3 large WWTPs** an innovative **toolbox** (PLAN-DO, TRL 7, with 5 tools) for enabling a **safer & resource-efficient wastewater treatment**

Reduce the discharge of chemical and microbial **contaminants of emerging concern**

50+ pharmaceutical compounds, ARB/ARGs - antibiotic resistant bacteria/genes, toxicity, bulk parameters, Coliphages + regular parameters

Promote receiving water quality-based limits and **fit-for-purpose** treated water to better **cope with climate change**

Objectives

4 key actions

- **WWTPs'** demonstration campaigns

Wastewater Treatment Plant
3 case studies: SI, SII, L
Large WWTPs with strong industrial input

- **Effluent receiving waters'** monitoring campaigns

Receiving Water Body
3 Streams: Selho, Ave, Vizela

- **PLAN-DO Tools**, guidelines and best practices

Specific objectives

LIFE Fitting

3 Large WWTPs with strong industrial input

Technological

SO 1. Promote a smart discharge-driven operation, monitoring & strategic planning of WWTPs towards regulated and emerging contaminants

Environmental

SO 2. Increase water bodies protection towards the regulated contaminants (organic matter and nutrients)

SO 3. Reduce CEC discharge and increase water bodies protection

SO 4. Enhance AMR reduction and increase water bodies protection

SO 5. Promote circular economy
- **Enable safer water reuse (EU 2020/471)**
- **Recover critical nutrients**

SO 6. Be energy efficient

SO 7. Be chemicals efficient

SO 8. Contribute to water services decarbonization

Legend:
AMR – Antimicrobial Resistance;
CEC – contaminants of emerging concern

Other WWTPs

Expected results

PLAN-DO toolbox with 5 tools

Portfolio of operational **measures** and **strategies**

Guide of best practices