

Mitigation of environmental impact caused by **DWOR textile finishing chemicals** studying their nontoxic alternatives



Coordinating
partner:



Beneficiary
partners:



POR-FESR 2014-2020

MIDWOR-LIFE is a project co-funded by the European Community under the LIFE+ Financial Instrument within the axe Environment Policy and Governance and under the Grant Agreement n. LIFE14 ENV/ES/000670

Pointex – Polo di Innovazione Tessile
Progetto cofinanziato dall'Unione Europea, dal Ministero dell'Economia e delle Finanze e dalla Regione Piemonte



Città Studi
BIELLA

Città Studi Biella is an “integrated structure”
created in order to respond to the local territory’s needs



Vocational Education
and University

Services for Research
and Innovation

Business Consulting
and Services for the
private sector

Congress Centre
Technical Library
University Residence



Audits and
detection on
company needs

**Brokerage
&
Partner Search**

**Technology
Transfer**

100 members:
89 companies,
4 research centers, 7 associations

Research & Innovation
18 Projects
33 Feasibility studies
9 Projects/Studies on the market
8 M€ co-funding

**Tutoring
&
Coaching**

**Innovation
Days**

Dissemination

Access to funding
- EU
- National
- Regional funding

Networking



MIDWOR

Mitigation of environmental impact caused by **DWOR textile finishing chemicals** studying their nontoxic alternatives

Partners





Partner Description

Agrupació d'Empreses Innovadores Tèxtils (AEI TÈXTILS) is a non-profit association, which has the aim to join all Catalan companies and organizations related directly or indirectly to the technical textiles sector and which form a specialized productive area with competitive advantages.

Role in MIDWOR-LIFE - Coordinator

- Study for the selection of textiles, DWORs and alternatives
- Survey needs and requirements regarding the use of DWORs and alternatives in the Spanish textile industry
- Recruitment of companies for pilot demonstration and stakeholders for technical workshops
- Organization of technical workshops in Spain
- Coordinate Communication and Dissemination activities
- Networking with other projects
- Project Coordination





Partner Description

LEITAT is a Technological Centre specialized in production technologies. LEITAT develops R&D activities in the areas of materials sciences, environment, surface treatments, biotechnologies and renewable energies with deep knowledge and experience in technological transfers to several industrial sectors.

Role in MIDWOR-LIFE

- Selection of textiles, DWORs and alternatives
- Coordinate and develop the pre-screening of the environmental impact of the different durable water and oil repellents selected for study
- Coordinate and develop demonstration of DWORs and alternative material processing
- Support the organization of technical workshops
- Coordinate and develop policy recommendations
- Support the development of the webtool
- Monitoring the project impacts on the environment and the cost-efficient replicability or transferability of the project
- Communication and Dissemination activities
- Networking with other projects





CETIM
Centro Tecnológico de
Investigación Multisectorial

Partner Description

CETIM is a private non-profit Technology Centre located in A Coruña, Spain, which has been created in 2011 from the collaboration between several industrial firms. CETIM is recognized by the Spanish Government as a Centre of Support for Technological Innovation, in addition to its acknowledgement as Foundation of Galician Interest for Regional Government.

Role in MIDWOR-LIFE

- Pre-screening of the environmental impact of the different durable water and oil repellents selected for study
- Analysis of the best available technologies validated in the demonstration stage, using its experience in water treatment and Life Cycle Assessment.
- Support the organization of technical workshops
- Communication and Dissemination actions
- Networking with other projects





Partner Description

The Institute of Advanced Chemistry of Catalonia (IQAC) was created in 2007 within the frame of the Spanish National Research Council (CSIC), which is the largest public institution dedicated to research in Spain and the third largest in Europe.

The IQAC belongs to the Chemical Science and Technology Area, and the main research lines of the Groups involved in the project concerns with textile fibres and fibrous materials, ecological alternatives for textile processing, active principle encapsulation and its application on textiles, and evaluation of its biofunctionality considering the preparation process and efficiency.

Role in MIDWOR-LIFE

- Coordination and development of a Roadmap
- Development of a webtool
- Policy recommendations
- Communication and Dissemination activities
- Networking with other projects





Partner Description

Cluster CLUTEX associates the companies and institutions operating in technical textiles fields. Some of its members are focused on textile finishing. In this area lot of chemical substances is used, some of them could be danger for environment. Participation of this project and preparation of substitutions for danger substances could bring for some of our members new market opportunities and it could increase the competitiveness of European textile finishing companies.

Role in MIDWOR-LIFE

- Survey needs and requirements regarding the use of DWORs and alternatives in the Czech textile industry
- Recruitment of companies for pilot demonstration and stakeholders for technical workshops
- Coordination of the technical workshops and organization of technical workshops in Czech Republic
- Monitoring the socio-economic impact of the project on local economy and population
- Communication and dissemination activities
- Networking with other projects





Partner Description

PO.IN.TEX is the Innovation Textile Cluster in Piemonte (Italy). Po.in.tex is active since 2009, and has now 100 affiliates of which 89 industries (87% SMEs, 13% Large Enterprises) and 4 Research Organizations.

The coordinator of Po.in.tex is Città Studi, a private company founded 25 years ago by the local industrial association in order to increase the scientific and technological development of the Biellese industry.

Role in MIDWOR-LIFE

- Survey needs and requirements regarding the use of DWORs and alternatives in the Italian textile industry
- Recruitment of companies for pilot demonstration and stakeholders for technical workshops
- Organization of technical workshops in Italy
- Coordinate the monitoring the socio-economic impact of the project on local economy and population
- Communication and dissemination activities
- Networking with other projects





Let's make a more sustainable world

Persistent and bioaccumulative chemicals represent a high-risk to all the ecosystem and to humans



The project studies how the **environmental impact of DWORs** can be mitigated by using non-toxic alternatives

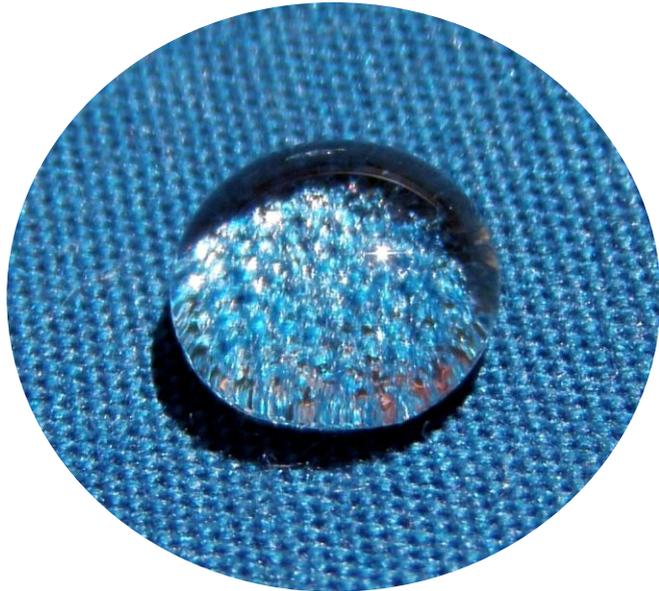


Photo by: [Brocken Inaglory](#)

The main challenge is at comparative performance levels, for this reason the project will extract information from:

- LCA,
- risk assessment,
- technical characterization test under EU standards, etc.

to be shared with main stakeholders (policy makers and textile manufacturers)



Aims and objectives

Aims:

- To evaluate the **environmental impact** of DWORs and their alternatives
- To evaluate the risks posed to human and environmental **health**
- To compare the **technical performance** between current and alternative DWORs

THE MAIN OBJETIVE IS TO REDUCE OF THE EMISSION AND EXPOSITION TO TOXIC COMPOUNDS DERIVED FROM THE USE OF DWORS.



Project steps





Preparatory actions

● Selection of DWORs

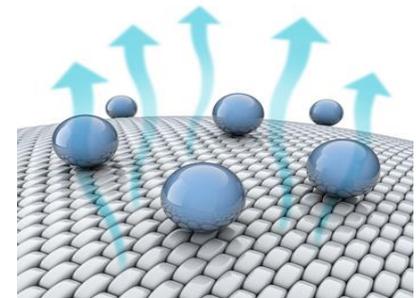
With the participation of industrial SME several DWOR and alternatives will be selected for pre-screening of functionality and environmental impact.

Selection of:

- 5 textiles
- 2 current DWORs and 7 alternatives

● Screening of functionality/environmental impact of DWOR

Technical performance and environmental impact of the current DWORs and of their alternatives



Selection of textiles and finishing, demonstration of alt DWOR and workshops, risk assessment, LCA & roadmap



Implementation actions

Industrial demonstration

Material processing will be tested using the selected DWORs under pre-industrial and industrial conditions involving manufacturing SMEs through workshops and on-site pilots



Analysis of environmental impact

The Life Cycle Assessment (LCA) It will determine the environmental impact of using conventional and alternative DWOR finishing products.

Selection of textiles and finishing, demonstration of alt DWOR and workshops, risk assessment, LCA & roadmap



Impact monitoring

● Risk assesment

The use of chemicals entails several types of risks to humans and to the environment. The project will analyze several scenarios to make an assessment report.

● Monitoring

Using indicators and proven methodologies the project will monitor the impact of the project in the environment, on local economy and population, and the cost-efficiency.

● Recommendations

With the results and data gathered several recommendations will be made (BREF, REACH and other voluntary schemes)



Policy recommendations, impact monitoring on environmental, socio-economic and cost efficient replicability

>20% reduction
of tonnage use of toxic compounds

20-30% reduction
of hazardous emissions due to use of DWORs

100%

Commitment to success and
to environmental sustainability!





Thanks!

Any questions ?

You can contact us at

- www.midwor-life.eu
- info@midwor-life.eu



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