



## LIFETAN - Eco friendly tanning cycle



### FINAL REPORT

### ANNEX PUBLIC AWARENESS AND DISSEMINATION OF RESULTS











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## 1. INTRODUCTION

This report contains the results related to the LIFETAN dissemination activities carried out within the project, from 1<sup>st</sup> October 2015 till 31<sup>st</sup> December 2017. In Table 1.1 is reported the Gantt diagram of the actions that are detailed in this Annex.

Table 1.1 Gantt diagram of Public awareness and dissemination of results actions

ACTIONS	2015				2016				2017			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
D.1 Website creation				D								
D.2 Innovative technology for leather industrial natural tanning manual												D
D.3 Training courses and workshops in Italy and Spain												D
D.4 Diffusion material preparation												D
D.5 International conferences, events and fairs												D
D.6 Networking												D

ENEA, SSPT-PROMAS-TEMAF in particular, is the responsible for public awareness and dissemination of results of LIFETAN projects. Three different ENEA units with specific skills, were involved in order to assure an appropriate service for technical creation, update and maintenance of the website, and also for social network or for some diffusion material.

In the figure 1.1 the main dissemination network created within ENEA, including the connection with project beneficiaries, is reported.

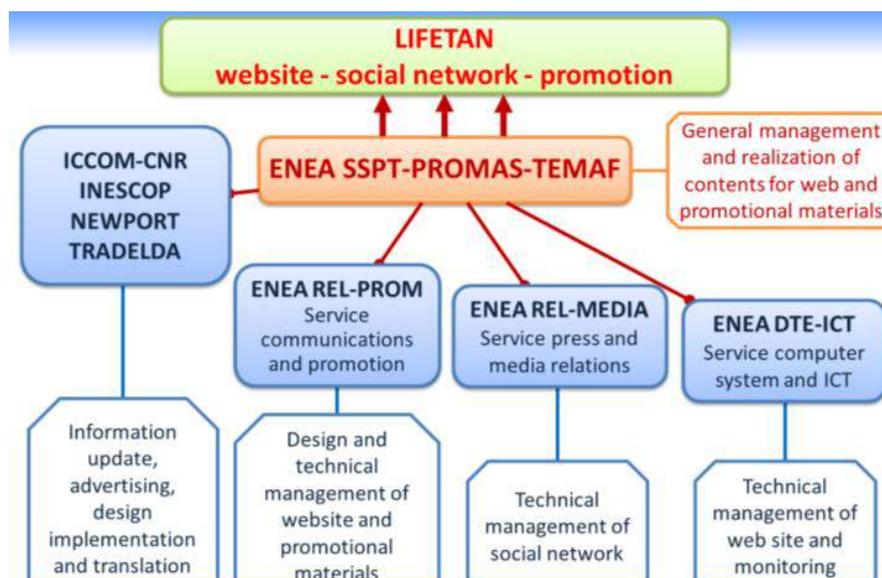


Figure 1.1 – ENEA network for public awareness and dissemination of LIFETAN results



## 2. ACTION D1 - WEBSITE CREATION

ENEA was the responsible of the creation of the LIFETAN web site, containing information about the LIFEWTAN project development and results. The web site created was clearly and visibly marked with Life logo. Moreover, the partners added information about the project to their corresponding corporate web sites and created a link to the web site created by ENEA.

A detailed description of the Action D1 activities carried out up 31 December 2015, is reported in the project document DELIVERABLE ACTION D.1 - LIFETAN WEBSITE.

Following a preliminary “static” version of the web site with the main characteristics and initiatives of the project, during December 2015 the web site [www.lifetan.eu](http://www.lifetan.eu) has been published and it is network-accessible.

### 2.1 LIFETAN website update

The website is periodically updated and contains, in its public or reserved areas, all the documents produced during the project’s activities according to the requirements foreseen in the Action D.1 of the LIFETAN project.

Following website updates was done also in agreement with the Project Adviser letter (EASME/B3/ml D(2016) 3858341; Brussels, 05/07/2016) sent after the first monitoring visit. The main LIFETAN website updates regarded:

- the addition of the phrase “With the contribution of the LIFE programme of the European Union” clearly visible in all page of the website;
- the creation of a new page named “Networking projects” was created and filled with links and information about the projects that formed the LIFETAN networking;
- a “private area” available only for beneficiaries of the project was created; the “private area” ensure a media for the mutual updating of results and information exchange for beneficiary;
- a specific page for Stakeholder, including the companies that have shown their interest in the demonstration of the new TAN technology;
- update of link page with new networking projects and special stakeholder;
- periodic update of the space “Focus on” in the home page that is used to put in evidence news, information or special subject related to LIFETAN project.

Beneficiaries contributed to the website update both with technical and dissemination materials, news about the diffusion actions as attendance to fairs, congresses, stakeholder involved etc. Moreover, INESCOP has carried out the translation of Spanish contents.

Since its creation, a link to the official project website ([www.lifetan.eu](http://www.lifetan.eu)) has been available on website of project beneficiaries.

In Figure 2.1 was reported the site map of English version (same site map for Italian and Spanish versions), while the example of website pages is reported in following figures (Figg. 2.2-7)

**LIFETAN** Eco friendly tanning cycle

You are here: Home

### Site map

An overview of the available content on this site. Keep the pointer still over an item for a few seconds to get its description.

#### Project

- Objectives
- Actions
- Results

#### Project progress

- Definition of the toxic products in the tanning process
- Production of natural products
- 1st Laboratory Level
- 2nd Semi-Industrial level

#### Dissemination

- Event Bright Pisa, Area della Ricerca CNR
- FUTUR MODA ALICANTE
- ECOFIRA 2016
- Lineapelle Milano 2016
- Congresso Nazionale di Chimica Analitica, Società Chimica Italiana
- ADNATUR Final Event
- MOMAD Metr polis, Sal n Internacional de Textil, Calzado y Complementos
- LIFE- Networking Event
- Networking Conference Industrial Technologies 2016
- Workshop "Sostenibilidad en la industria del calzado"
- Analytical Spectroscopy Congress 2016
- 16th Week of Scientific and Technological Culture
- Networking meeting with LIFE Textile/leather project representatives, INESCOP, Eida
- SIMAC & Tanning Tech 2016
- Futurmoda Fair
- International Networking Event
- MOMAD Fair
- Lineapelle TanningTech Fair
- Workshop CircularER
- Switch-med Side Event

#### Beneficiaries

- ENEA
- ICCOM-CNR
- INESCOP
- NEWPORT
- TRADELDA

#### Networking projects

#### Stakeholder

#### News & Events

- Kick-off meeting for LIFETAN project
- Kick-off meeting for LIFE 14 projects
- Presentation of LIFETAN at 16th Week of Scientific and Technological Culture
- LIFETAN 6 month progress meeting
- Photogallery Lifetan 12 month progress meeting
- LIFETAN 12 month progress meeting
- Territorial Circular Bioeconomy
- LIFETAN Monitoring visit and 6 month progress meeting
- Workshop "Towards a sustainable footwear"
- CSI XL - Colloquium Spectroscopicum Internationale XL 2017
- "A question of... skin - How to make the tanning production line greener"
- XXVII Congresso Nazionale della Societ  Chimica Italiana 2017
- MOMAD Metr polis, Sal n Internacional de Textil, Calzado y Complementos
- LIFETAN 24 month progress meeting
- ECOMONDO 2017 - The green technology expo
- 3rd monitoring visit
- CONAMA 2017 - National congress of the environment
- ECOFIRA 2017 - International Fair of Environmental Solutions
- LIFETAN Training course
- LIFETAN workshop



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ENEA - Lungotevere Torloni di Roma, 76 - 00196 ROMA Italia - Italia IVA 03285801000 - Codice fiscale 01320740580

Figure 2.1 –Site map of LIFETAN website



# ANNEX DISSEMINATION

## Eco friendly tanning cycle



[NEA](#) [MAPA DEL SITIO](#) [CONTACTO](#) [ENLACE](#) Private Area  
English Italiano Español



### LIFETAN

Eco friendly tanning cycle  
With the contribution of the LIFE Programme of the European Union

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[Inicio](#) | [El proyecto](#) | [Avance del Proyecto](#) | [Beneficiarios](#) | [Networking projects](#) | [Noticias](#)



## LIFETAN

### Eco friendly tanning cycle



[sted está aquí: Inicio / Networking projects](#)

### Networking projects

PROJECT	TITLE	DURATION
	Demonstration of natural coagulant use advantages in physical & chemical treatments in industry and urban waste water	01-OCT-2013 to 30-SEP-2016
	Naturalised dyes replacing commercial colorants for environmentally friendly leather dyeing and water recycle	01-JAN-2014 to 30-JUN-2016
	Environmentally friendly natural products instead of chemical products in the degreasing phase of the tanning cycle	01-OCT-2014 to 30-SEP-2016
	Environmentally friendly Natural products instead of chloroparaffines in the fatting phase of the tanning cycle	01-JAN-2012 to 31-DEC-2013
	Recovery of tannery wastes for functional microencapsulated products	01-NOV-2013 to 31-OCT-2016
	Environmentally friendly oxazolidine-tanned leather	01-JAN-2010 to 30-JUN-2012
	Use of poultry dejection for the bating phase in the tanning cycle	01-JAN-2012 to 30-JUN-2014
	Promotion of best available techniques in the European footwear and tanning sectors	01-OCT-2013 to 30-SEP-2016

**CONTACTS:** Alice dall'Ara (Project coordinator) [alice.dallara@enea.it](mailto:alice.dallara@enea.it) - **Federica Bezzi** [federica.bezzi@enea.it](mailto:federica.bezzi@enea.it)

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INESCOP  
CENTRE FOR TECHNOLOGY  
AND INNOVATION



Newport  
CONCERIA



Tradelda, S.L.

ENEA - Lungotevere Thaon di Revel, 76 - 00198 ROMA Italia - Telefono (NA) 00458011000 - Codice Fiscale 01320740580

Figure 2.2 – LIFETAN webpage containing networking projects



# ANNEX DISSEMINATION

## Eco friendly tanning cycle



ENEA Site Map Contacts Link Private Area Federica Bazzani  
English Italiano Español

**LIFETAN**  
Eco friendly tanning cycle  
With the contribution of the LIFE Programme of the European Union

Home Project Project progress Beneficiaries Networking projects News & Events

**LIFETAN** Eco friendly tanning cycle

You are here: Home / PRIVATE

Contents View Translate Actions Add new... State Private

**PRIVATE**  
by antonella.andreini — last modified Jul 11, 2016 02:45 PM — History

- PROJECT DOCUMENTS
- KICK OFF MEETING
- MIDTERM REPORT
- DELIVERABLES
- 6th month PROGRESS MEETING
- FINAL REPORT
- OTHER DOCUMENTS
- 18th month PROGRESS MEETING
- 24th month PROGRESS MEETING

Share | Facebook Like | 0 | Twitter | 0 | 0

Manage portlets

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Figure 2.3 – LIFETAN website Private area



# ANNEX DISSEMINATION

## Eco friendly tanning cycle



ENEA Site Map Contacts Link Private Area [LOG IN](#)  
English Italiano Español

**LIFETAN** ■ Eco friendly tanning cycle  
LIFE14 ENV/IT/000443  
With the contribution of the LIFE Programme of the EU

Home Project Project progress Dissemination Beneficiaries Networking projects Stakeholder News & Events

You are here: Home / Stakeholder

**STAKEHOLDER**

The Antica Conceria del Chienti, now named JH-CTC, is a company specialised in the production of fine quality leather for the footwear and leathergoods. During the LIFE project PODEBA, JH-CTC has successfully performed bating tests with Podeba bating agent: high quality leather with a 50% reduction of sulphurs was produced.

JH-CTC has signed a statement of support to LIFETAN project in order to perform further replicability test.

Several companies have shown their interest in the demonstration of the new TAN technology:

<p><b>Italian companies:</b></p> <ul style="list-style-type: none"> <li>• Ghepardo (Tannery)</li> <li>• Carasco SpA (Tannery)</li> <li>• Volpi spa (Tannery)</li> <li>• Antica Conceria del Chienti (Tannery)</li> <li>• Colortex (Tannery laboratory center)</li> <li>• Mustang (shoe company)</li> <li>• Santa Maria (shoe company)</li> <li>• Giovanni (leather company)</li> <li>• Ruffo (garment producer)</li> <li>• Macip trend (garment producer)</li> </ul>	<p><b>Spanish companies:</b></p> <ul style="list-style-type: none"> <li>• Tenerías Omega, S.A. (Tannery)</li> <li>• División Anatómicos, S.L. (leather company)</li> <li>• DeChics, S.L. (leather company)</li> <li>• ACN (leather technical center)</li> <li>• Proyeccion (leather business center)</li> </ul>
--	---

CONTACTS: Alice dall'Ara (Project coordinator) [alice.dallara@enea.it](mailto:alice.dallara@enea.it) - Federica Bezzi [federica.bezzi@enea.it](mailto:federica.bezzi@enea.it)

Share | Like 0

Figure 2.4 –LIFETAN website page for Stakeholder



# ANNEX DISSEMINATION

## Eco friendly tanning cycle



ENEA Site Map Contacts Link Private Area English Italiano Español

**LIFETAN**  
Eco friendly tanning cycle  
With the contribution of the LIFE Programme of the European Union

Home Project Project progress Beneficiaries Networking projects Stakeholder News & Events

**LIFETAN** Eco friendly tanning cycle

You are here: Home / Link

### Link

- LIFE programme
- LIFETAN - Eco friendly tanning cycle in LIFE index

### Beneficiaries

ENEA - Italian National agency for new technologies, energy and sustainable economic development

TEMAF - ENEA Faenza Material Technologies Laboratory, Italy

INESCOP - Centre for Technology and Innovation, Spain

ICCOMCNR - Chemical Institute of organometallic compounds of CNR, Italy

TRADELDA, S.L., Spain

NEWPORT conceria, Italy

### Related projects

ADNATUR

BioNaD

ECODEFATTING

ECOFATTING

MICROTAN

PODEBA

OXATAN

SHOEBAT

### Special stakeholder

JH Conceria del Clienti

Share | f Like 0 | 0

**ENEA** **ICCOM** **INESCOP** **Newport CONCERIA** **Tradelda, S.L.**

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Figure 2.5 –LIFETAN website page for Link



# ANNEX DISSEMINATION

## Eco friendly tanning cycle



**FOCUS ON**



The journalist of Radio24 Maurizio Meis interviewed the project coordinator Alice Dall'Ara, researcher of ENEA, about the tannery process innovations reached with PODEBA project and about the forthcoming results of the in progress LIFETAN projects, both projects are co-funded by EU.

Progetto PODEBA: un nuovo processo, meno inquinante, per la concia delle pelli

Listen the interview (available only in Italian)

Figure 2.6 – Example of Focus ON update



ENE A  
European National Agency for New Technologies, Energy and Sustainable Economic Development

Research & Development Services International activities Publications ENEA News Jobs & Study Contacts

Laboratory of Materials Technologies Faenza

Research projects

 <p>LIFETAN - Eco-friendly tanning cycle (LIFETA DAVID.00040 LIFETA)</p>	<p>PARTNER</p> <ul style="list-style-type: none"> <li>• ENEA - Italia (coordinatore)</li> <li>• CNR-ICCOM - Italia</li> <li>• Inescoop - Spagna</li> <li>• Inescoop - Italia</li> <li>• Tradelda - Spagna</li> </ul>
---	--

www.enea.it/en/faenza-laboratories



INESCOPE  
MEDIO AMBIENTE

Proyectos de Investigación medioambiental

Proyecto LIFEKAS - Gestión de piel de ovino en un medio ambiente

Proyecto LIFEKAS - Gestión de piel de ovino en un medio ambiente

Proyecto LIFEKAS - Gestión de piel de ovino en un medio ambiente

www.inescop.es



Newport CONCIER

La conceria NEWPORT S.r.l. partecipa, in collaborazione a primari Poli Universitari e a principali centri di ricerca italiani (C.N.R. ICCOM - E.N.E.A.) e europei (INESCOP - ATEVAL - CCI - Spagna), ad importanti progetti di ricerca approvati dalla Comunità Europea nell'ambito del "Programma LIFE".

TEXTILEATHER

ECODEFATTING

LIFETAN

Il principale obiettivo ambientale, sociale ed economico del progetto LIFETAN è la sostituzione di prodotti tossici con prodotti naturali in tutto il ciclo di concia chimica e commerciale, al fine di stabilire un business significativo, ecosostenibile e conveniente per le aziende.



Tradelda, S.L.

PRENSA

El proyecto LIFETAN tiene como objetivo la demostración del uso de productos y tecnología alternativos de menor impacto ambiental en los etapas de desengrase, relleno, curado, engrase y serrado del proceso de concia de pieles, así como la integración de los resultados de proyectos LIFE anteriores (ECODEFATTING, PODEBA, OXATAN, ECORATTING y BENO).

Para más información consultar el link:

www.tradelda.com

www.concieranewport.it



ICCOM

LIFETAN

Titolo: Eco-friendly tanning cycle

Riferendo: Emilia Bramanti

Tipologia: Internazionale

Durata: 01/10/2015-30/09/2017

Website: http://www.lifetan.eu/en

Abstract: LIFETAN mira a dimostrare l'uso di prodotti naturali e tecnologie innovative per la macerazione, sgrassamento, sgrassato, tintura e taur di concia di tutto il processo di concia delle pelli, e si basa sulla integrazione dei risultati di successo di progetti LIFE precedenti (BENO, ECODEFATTING, PODEBA, ECODEFATTING e OXATAN). Il principale obiettivo ambientale, sociale ed economico del progetto LIFETAN è la sostituzione dei prodotti chimici commerciali con prodotti naturali (derivati biocostruttivi) e naturali (derivati biocostruttivi) nella diversa fase del ciclo di concia, al fine di stabilire un business significativo eco-sostenibile e conveniente per le aziende.

Partecipanti: ICCOM, Massimo Onor, Alessandro D'Ulivo, Manuela Gempini, Emanuela Pizzali, Serena Biagi, Marco Carlo Mascherpa

Partnership: ICCOM, CNR, ENEA, INESCOP, NEWPORT, TRADELDA

Finanziato da: Commissione Europea (LIFE-ENVIRONMENT/00040)

Finanziamento: € 975,506.00

Contributo ICC: € 504,967.00

Co-finanziamento: € 470,539.00

http://www.iccom.cnr.it/

Figure 2.7 – Link from website of beneficiaries to the LIFETAN project's website (www.lifetan.eu)



## 2.2 LIFETAN website access monitoring

The LIFETAN website is continuously monitored by means of the free system Google Analytics that permits the data collection and monitoring of the website; it is possible to elaborate statistical analysis choosing a specific reference period and selected parameters.

Moreover, other important indication could help to better understand the external interest about the LIFETAN project. For example, the identification of Country access permits to monitor the interest in the project by different country, European or non-European country.

In the next figure the monitored parameters of the LIFETAN website from January 2016 till December 2017 (Figg. 2.7-33).

A spam effect was clearly revealed in August and September 2016 by looking at the average session duration (Figg. 2.15-16). Starting from August 2016 (Figg. 2.17-33) the data were appropriately filtered with the exclusion of sessions with a length equal to or shorter than 1 second and the unknown languages.

The main parameters selected for website monitoring are summarized in Table 2.1.

Table 2.1 – Monitored parameters from January 2016 till December 2017

<b>Monitored parameters</b>	<b>End of the project</b>	<b>Foreseen</b>
No. of individuals	1.779	9.600
No. of unique visits	2.446	8.000
Average visit duration (minutes)	00:04:30	00:10:00
Number of download	Not available	500

The monitored parameters are lower than foreseen but other individuals are reached by means of social network and newsletters. The Official ENEA Facebook page (about 9.900 Like and 10.072 Follower), ENEA twitter (about 7.000 Like and 9.600 Follower) and INESCOP twitter (about 500 Like and 300 Follower) profiles were used for social network dissemination (Figg. 3.31-32); a specific Facebook pages of the project was not created. Details are reported in Chapter 3.4 of the present document.



# ANNEX DISSEMINATION

## Eco friendly tanning cycle

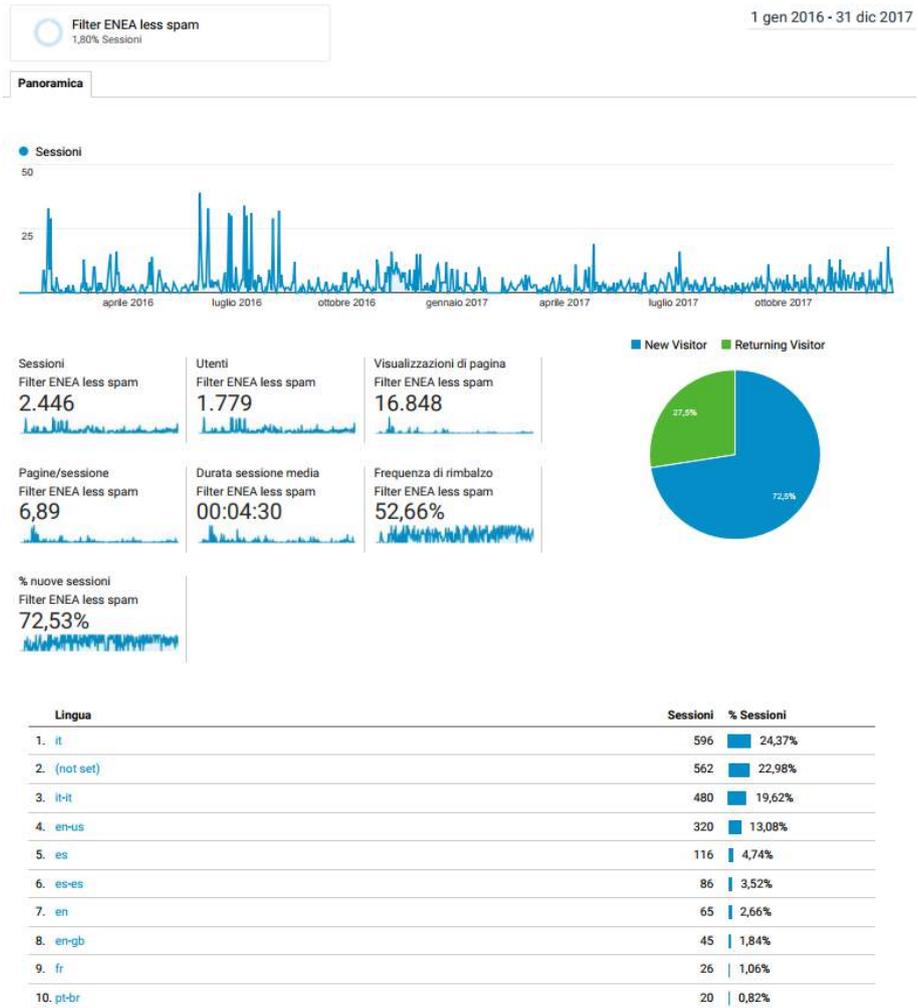


Figure 2.7 – LIFETAN website access monitoring data at the end of the project from January 2016 till December 2017 (applied filter)



Figure 2.8 – LIFETAN website access monitoring in January 2016



Figure 2.9 – LIFETAN website access monitoring in February 2016



Figure 2.10 – LIFETAN website access monitoring in March 2016



# ANNEX DISSEMINATION

## Eco friendly tanning cycle



Figure 2.11 – LIFETAN website access monitoring in April 2016

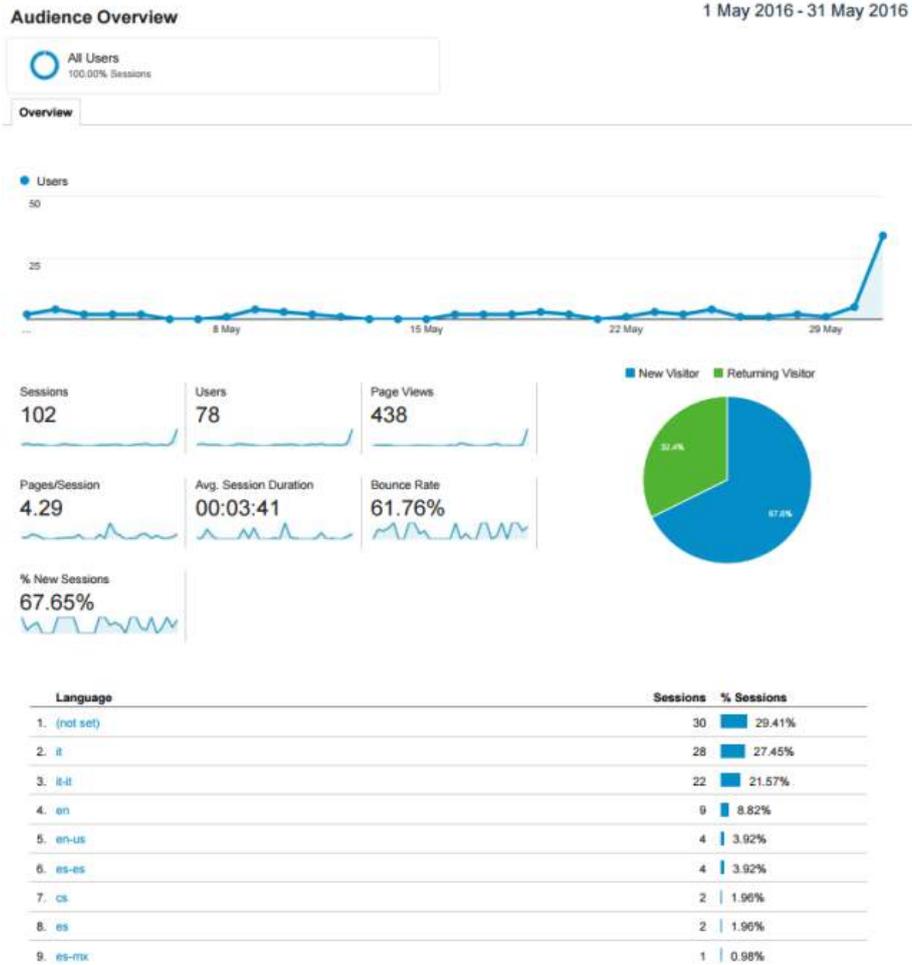


Figure 2.12 – LIFETAN website access monitoring in May 2016



# ANNEX DISSEMINATION

## Eco friendly tanning cycle



### Audience Overview

1 Jun 2016 - 30 Jun 2016

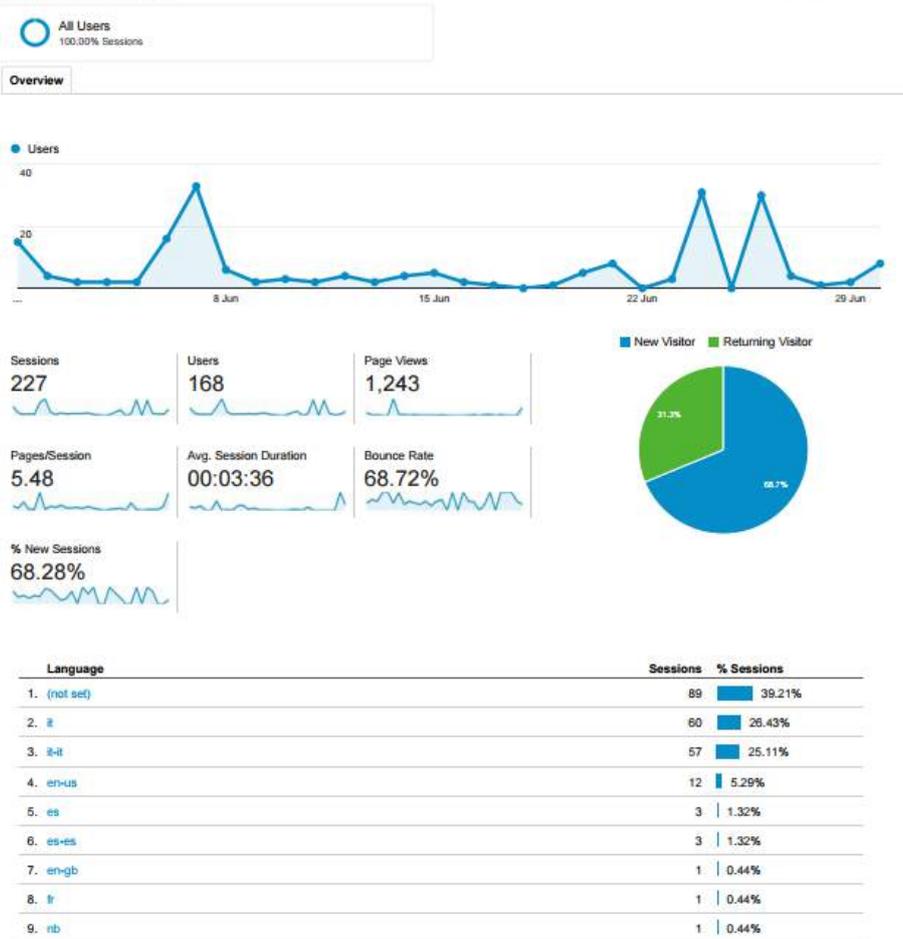


Figure 2.13 – LIFETAN website access monitoring in June 2016

### Audience Overview

1 Jul 2016 - 31 Jul 2016

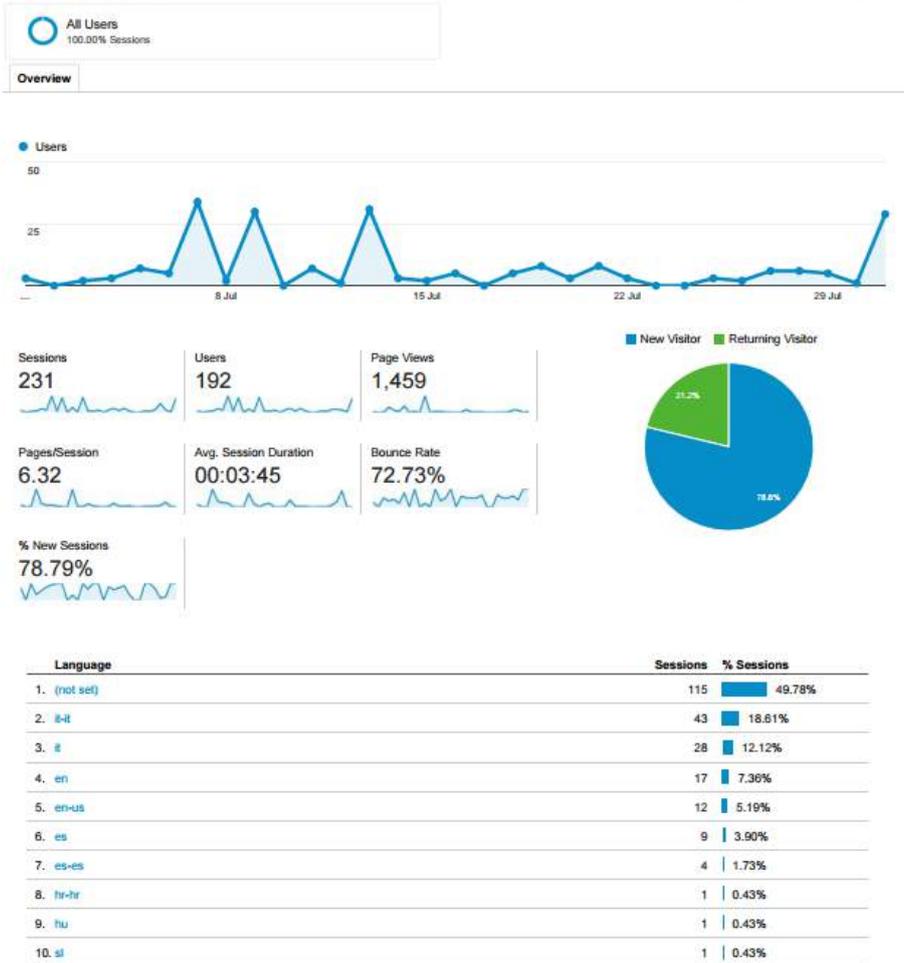


Figure 2.14 – LIFETAN website access monitoring in July 2016



# ANNEX DISSEMINATION

## Eco friendly tanning cycle

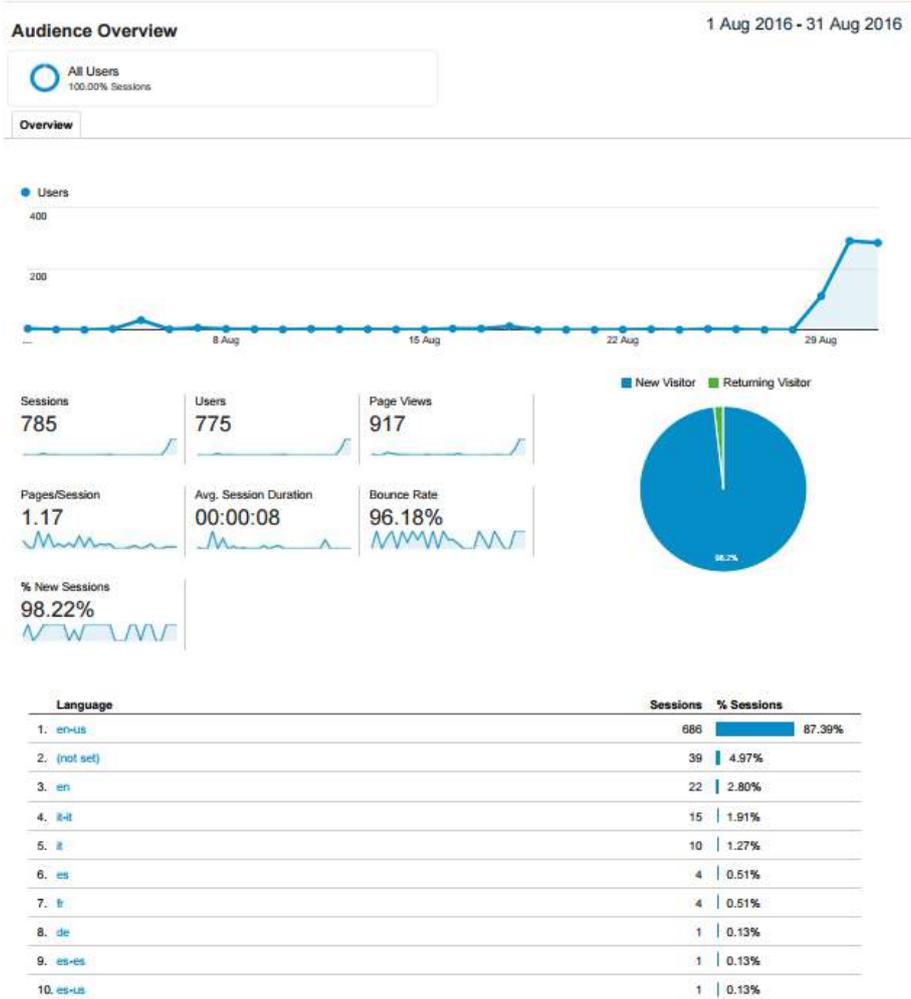


Figure 2.15 – LIFETAN website access monitoring in August 2016

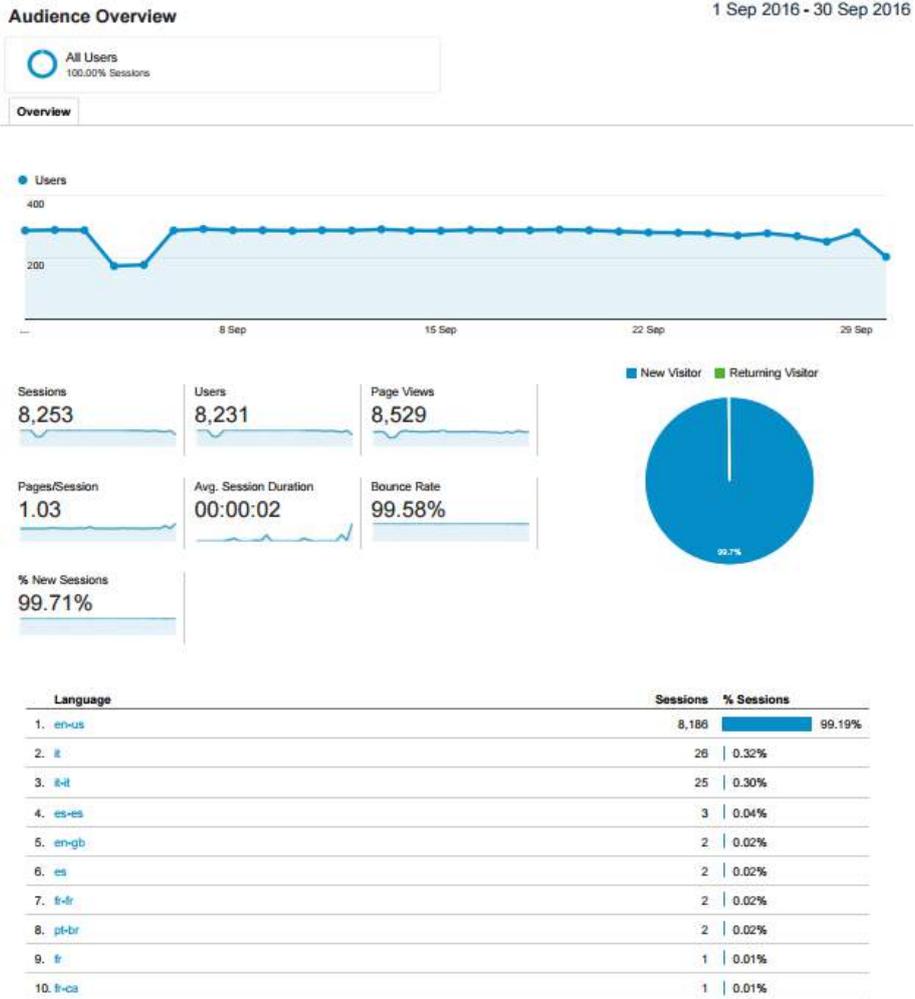


Figure 2.16 – LIFETAN website access monitoring in September 2016

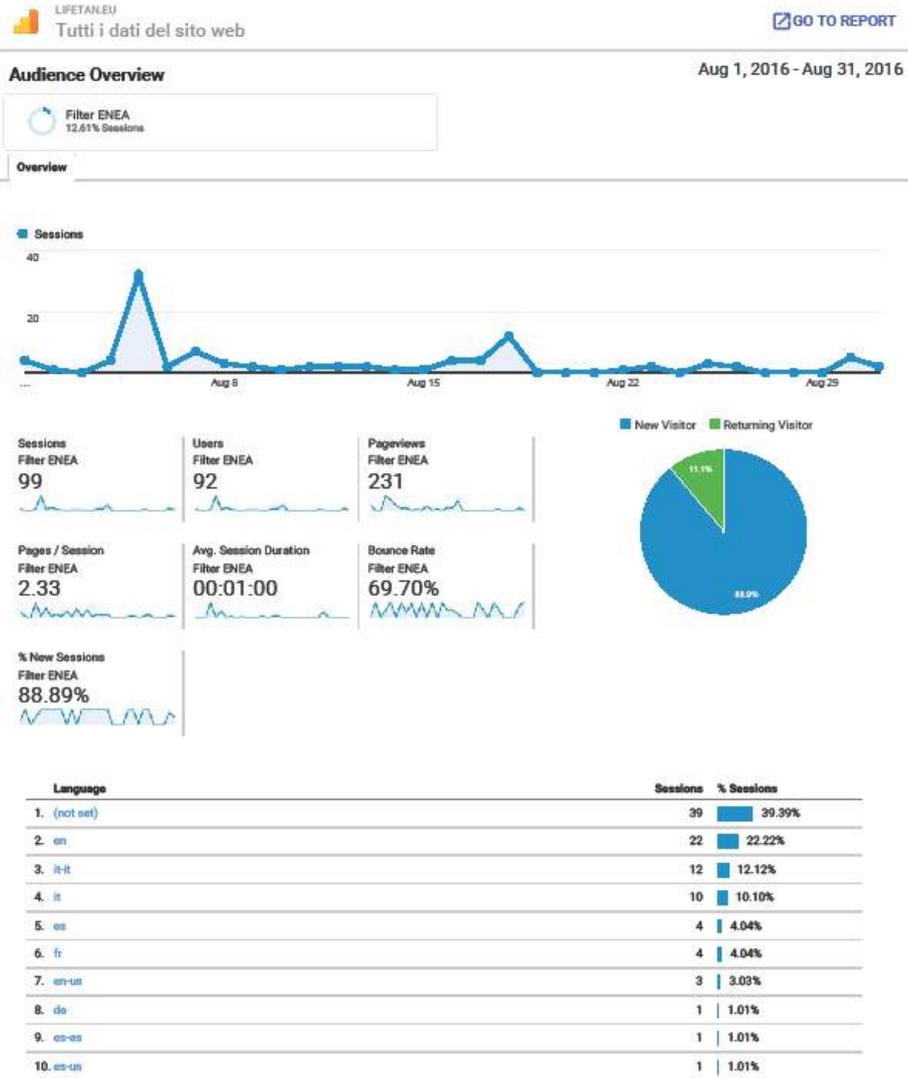


Figure 2.17 – LIFETAN website access monitoring in August 2016 (applied filter)

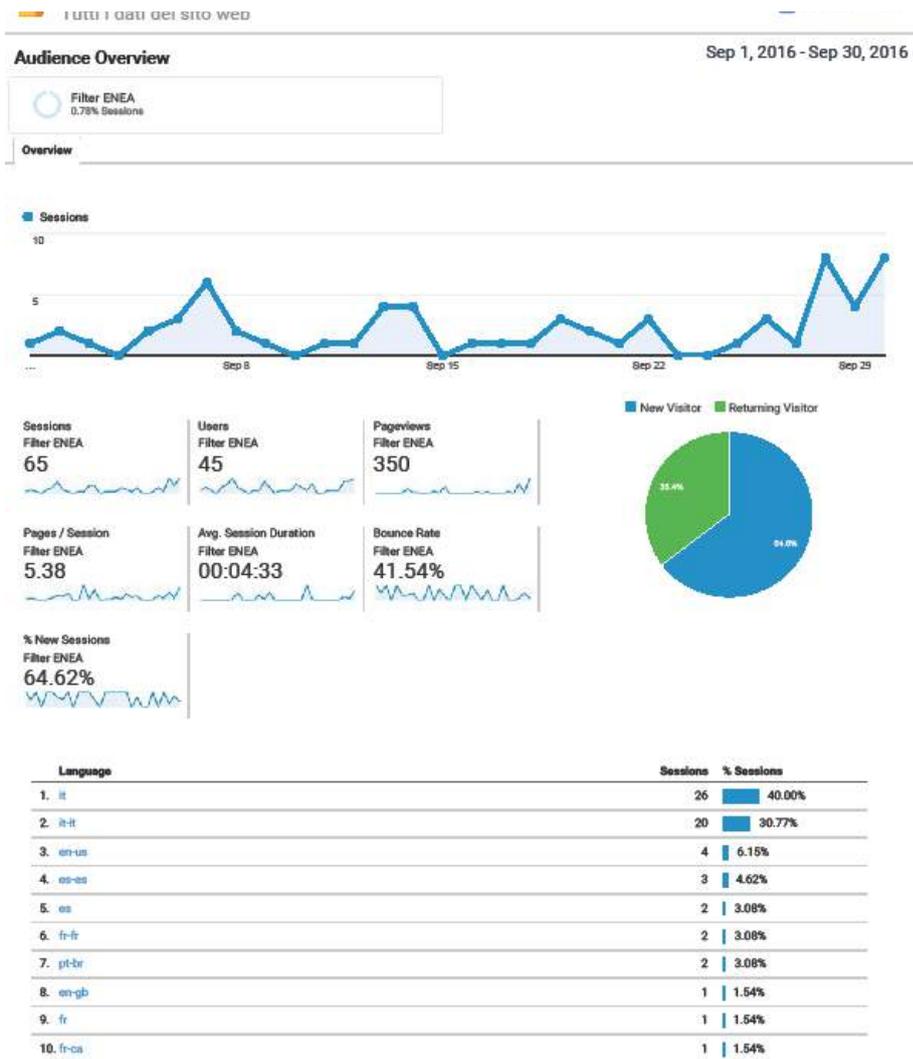


Figure 2.18– LIFETAN website access monitoring in September 2016 (applied filter)

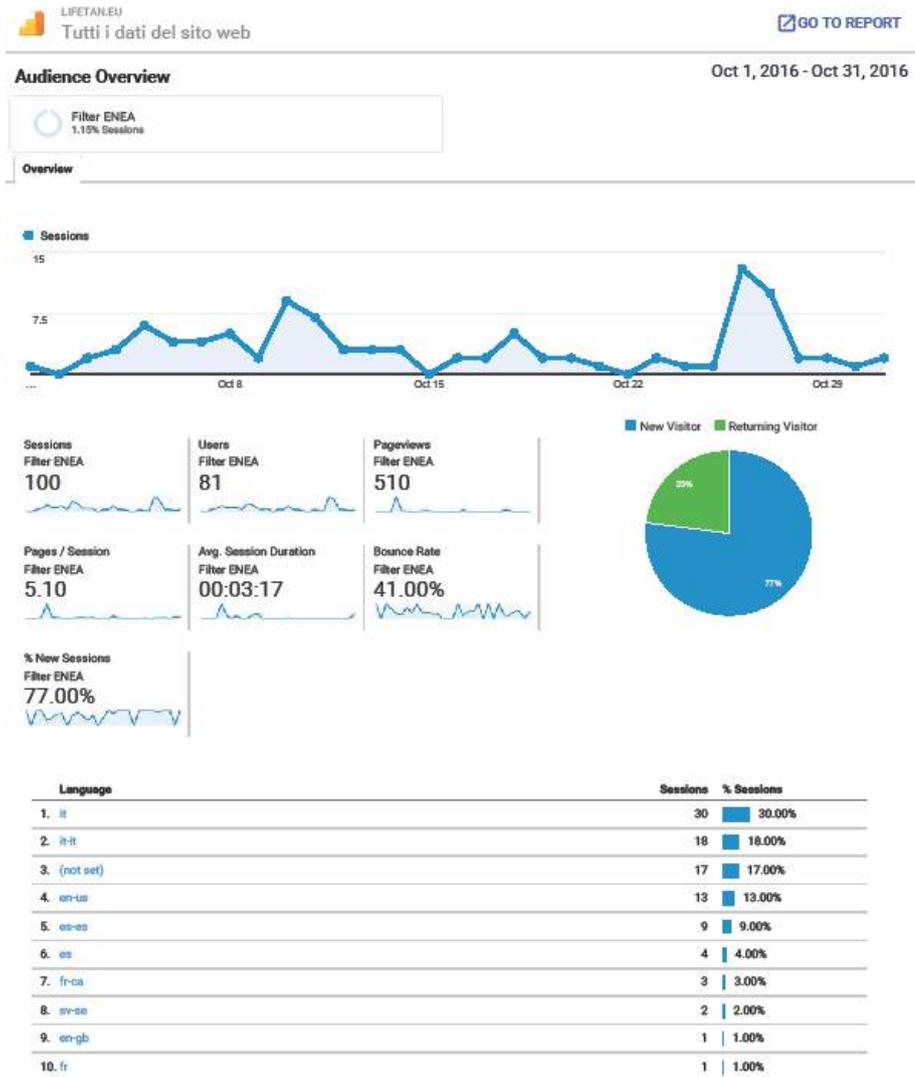


Figure 2.19 – LIFETAN website access monitoring in October 2016 (applied filter)



Figure 2.20 – LIFETAN website access monitoring in November 2016 (applied filter)



# ANNEX DISSEMINATION

## Eco friendly tanning cycle

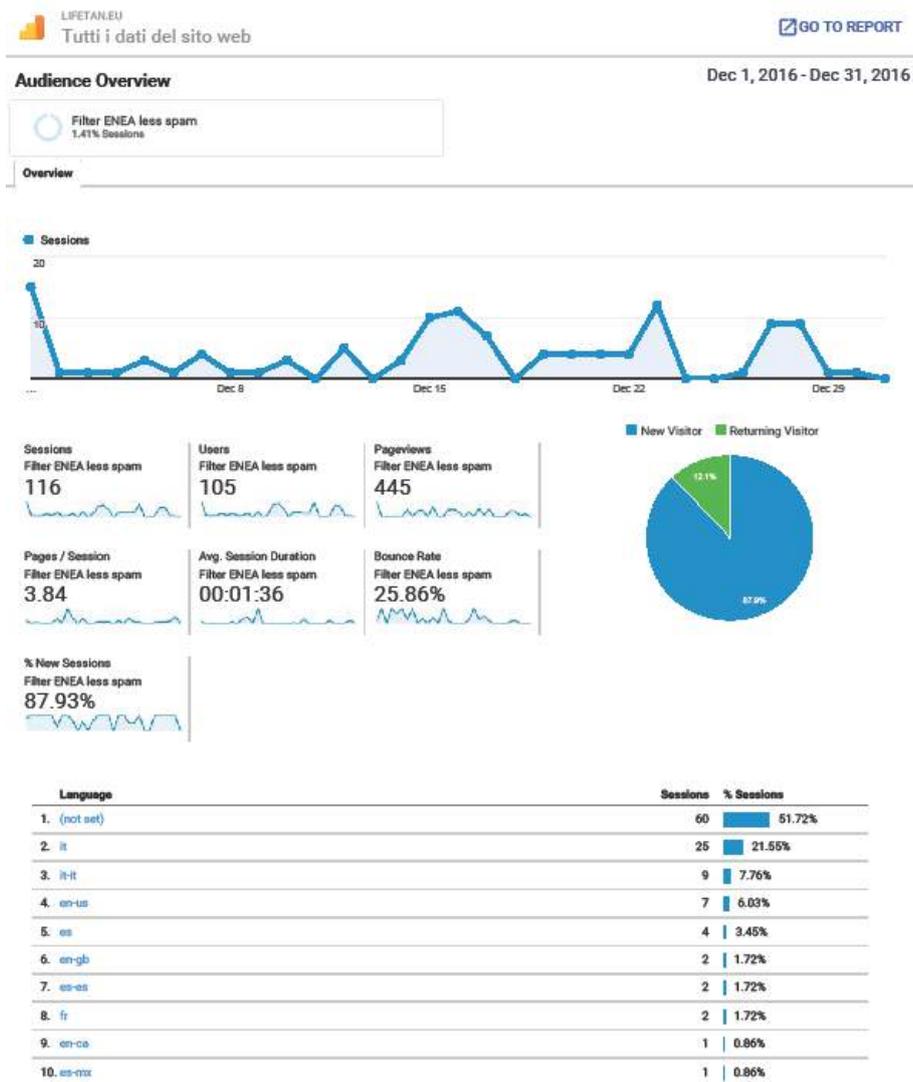


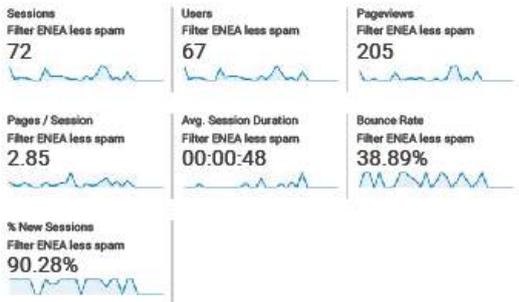
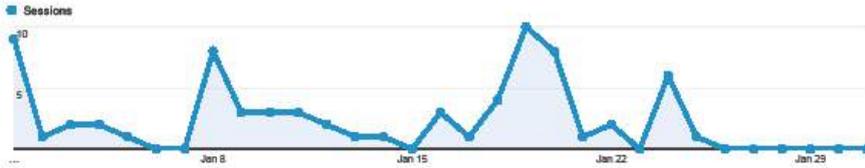
Figure 2.21 – LIFETAN website access monitoring in December 2016 (applied filter)

### Audience Overview

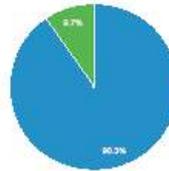
Jan 1, 2017 - Jan 31, 2017

Filter ENEA less spam  
1.01% Sessions

#### Overview



New Visitor Returning Visitor



Language	Sessions	% Sessions
1. (not set)	25	34.72%
2. it	14	19.44%
3. it-it	8	11.11%
4. es	6	8.33%
5. es-es	6	8.33%
6. en-us	5	6.94%
7. fr	3	4.17%
8. en	2	2.78%
9. fr-ca	1	1.39%
10. it	1	1.39%

Figure 2.22 – LIFETAN website access monitoring in January 2017 (applied filter)



# ANNEX DISSEMINATION

## Eco friendly tanning cycle

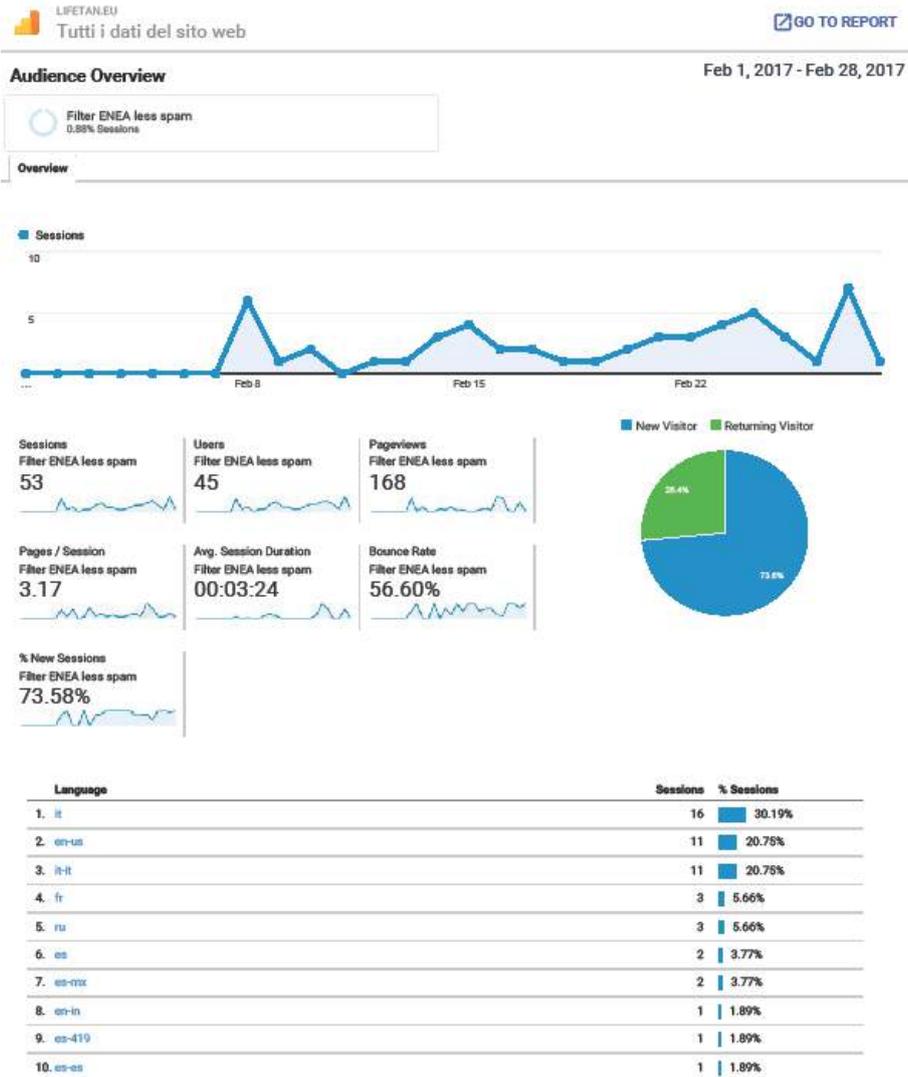


Figure 2.23 – LIFETAN website access monitoring in February 2017 (applied filter)



Figure 2.24 – LIFETAN website access monitoring in March 2017 (applied filter)

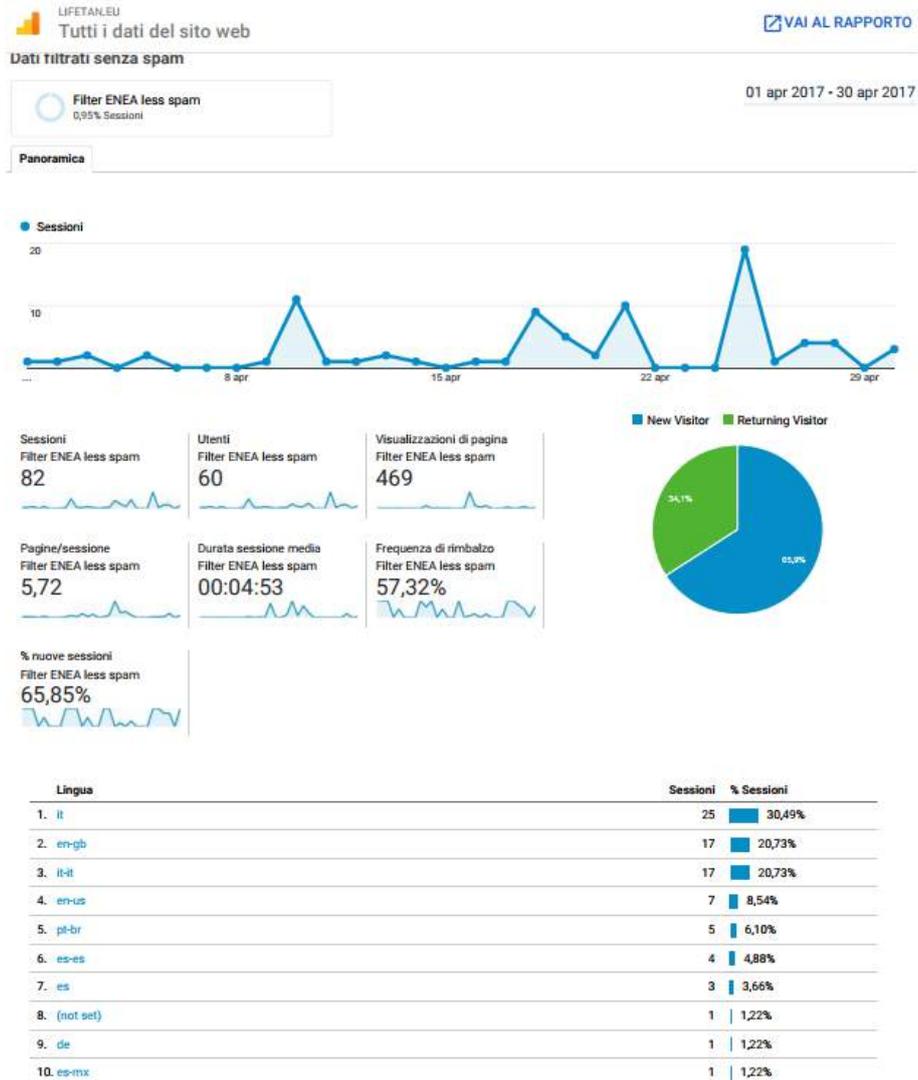


Figure 2.25 – LIFETAN website access monitoring in April 2017 (applied filter)



Figure 2.26 – LIFETAN website access monitoring in May 2017 (applied filter)



# ANNEX DISSEMINATION

## Eco friendly tanning cycle

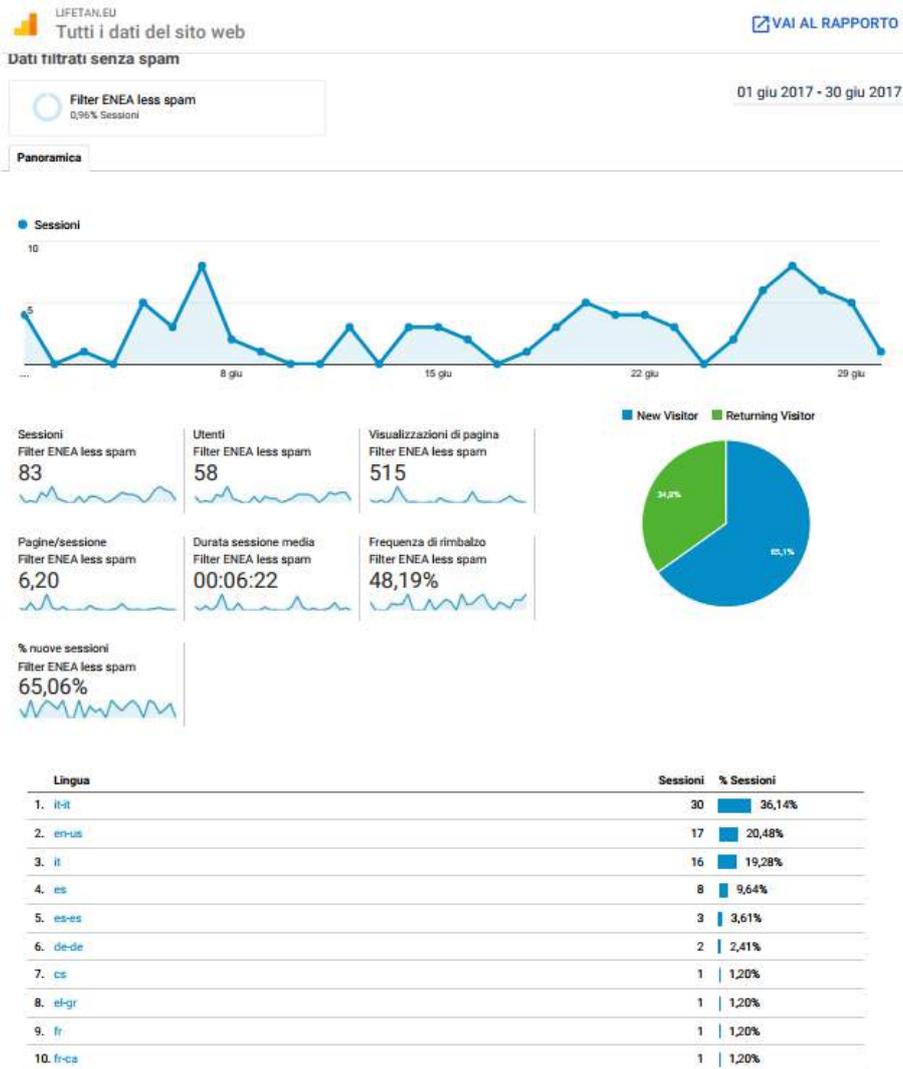


Figure 2.27 – LIFETAN website access monitoring in June 2017 (applied filter)

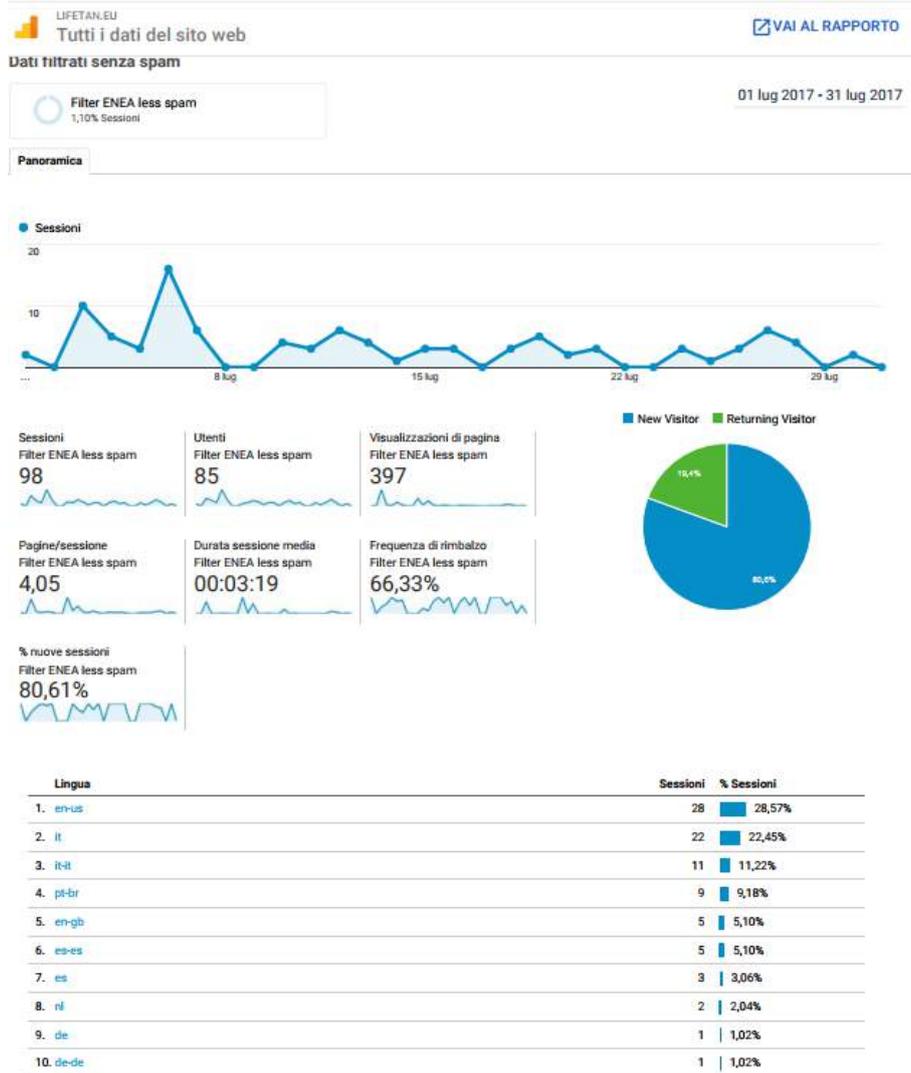


Figure 2.28 – LIFETAN website access monitoring in July 2017 (applied filter)

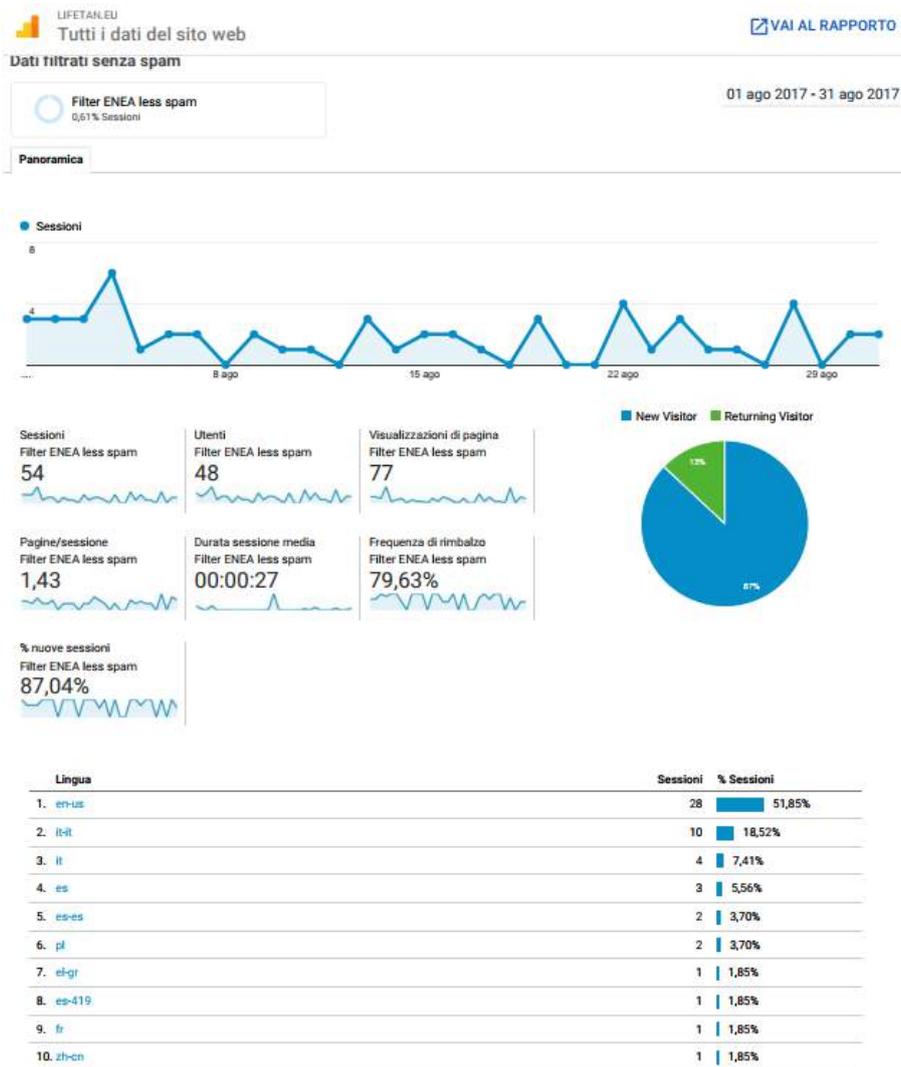


Figure 2.29 – LIFETAN website access monitoring in August 2017 (applied filter)



Figure 2.30 – LIFETAN website access monitoring in September 2017 (applied filter)

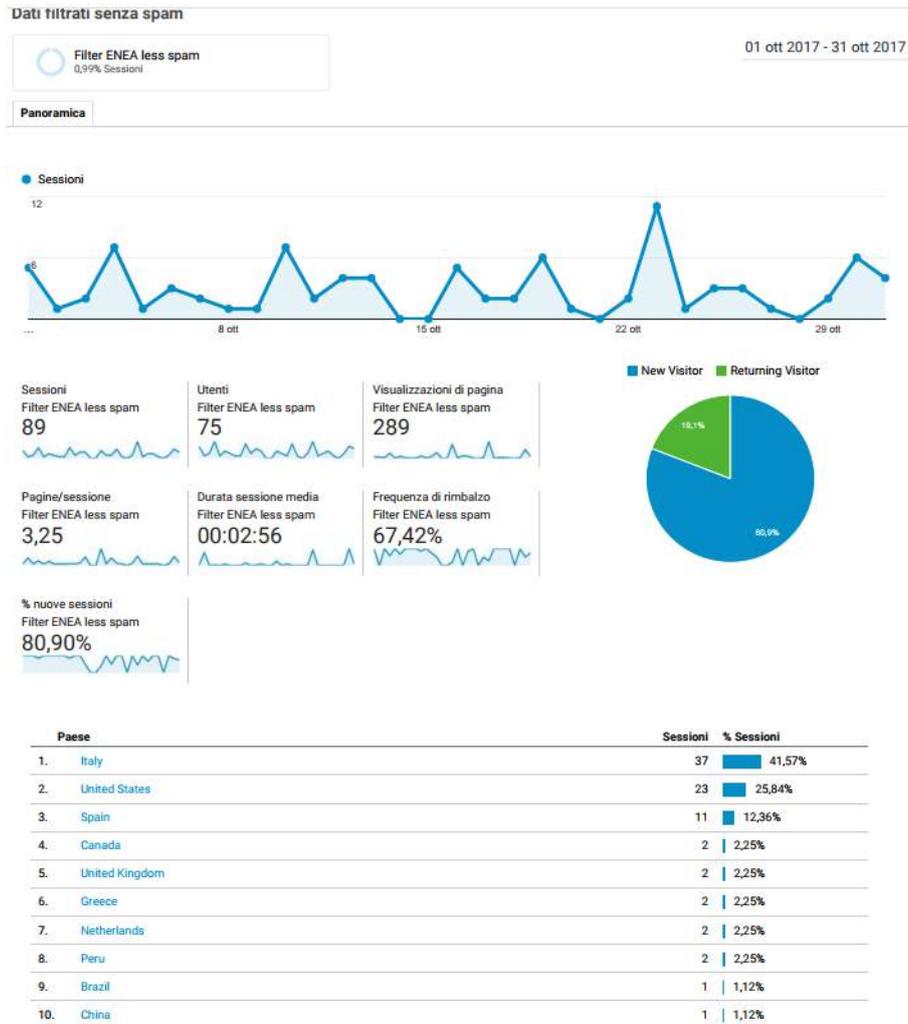


Figure 2.31 – LIFETAN website access monitoring in October 2017 (applied filter)

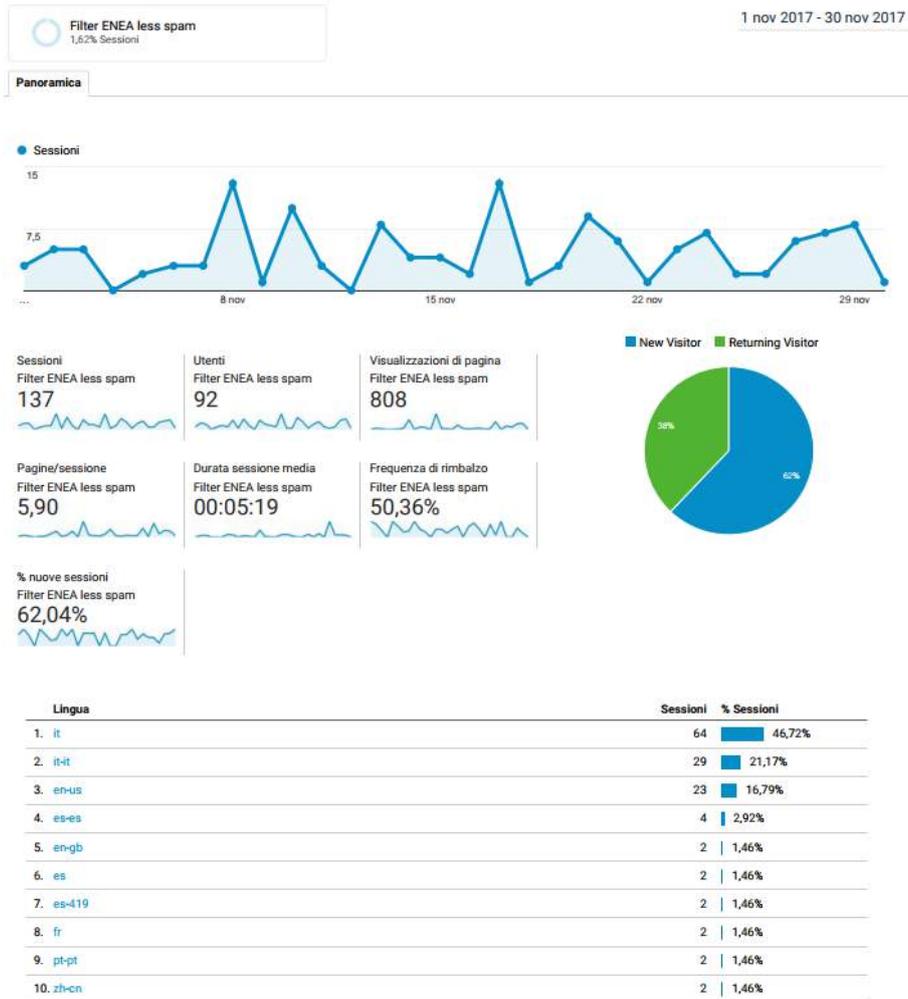


Figure 2.32 – LIFETAN website access monitoring in November 2017 (applied filter)



# ANNEX DISSEMINATION

## Eco friendly tanning cycle

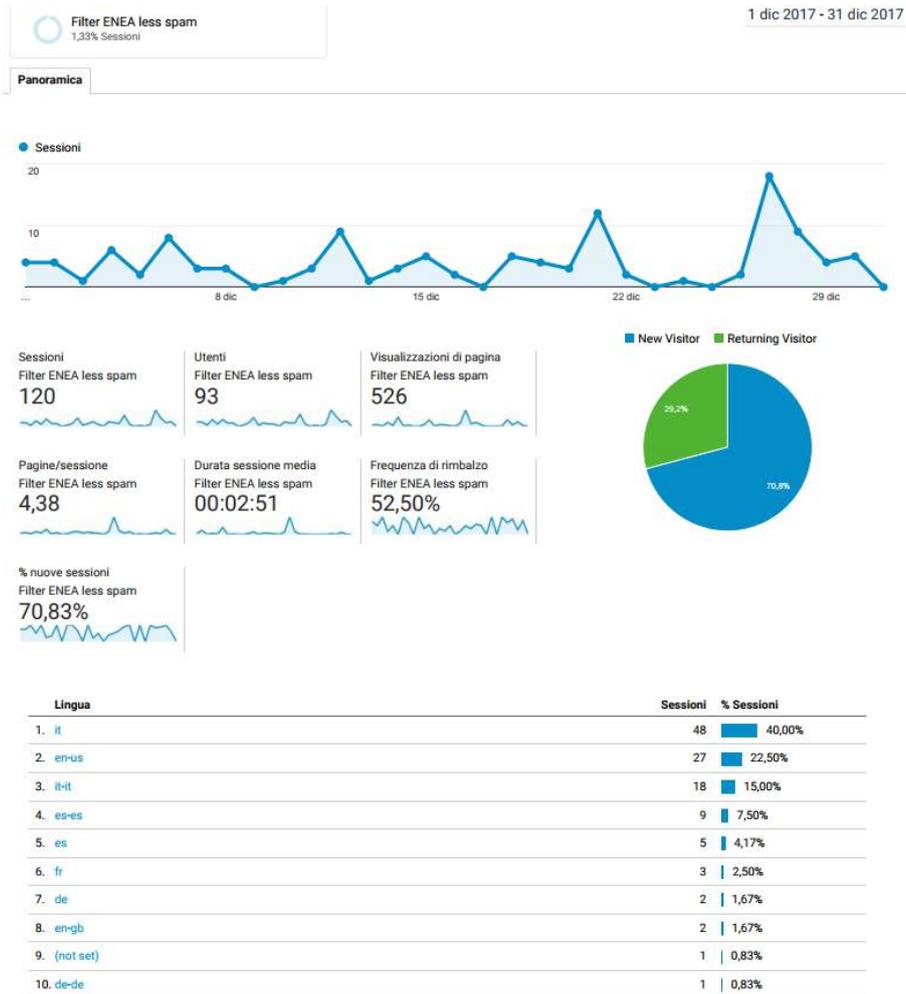


Figure 2.33 – LIFETAN website access monitoring in December 2017 (applied filter)

### 3. ACTION D4 - Diffusion material preparation

#### 3.1 LIFETAN Logo

A logo of LIFETAN project was designed (Fig. 3.1) and delivered with LIFE logo to each beneficiary in order to brand all diffusion and dissemination material as poster, website link, news, etc.



Figure 3.1 – Logo of LIFETAN project

A LIFETAN project labels was also designed in order to identify leather samples and articles produced within the project (Fig. 3.2).



Figure 3.2 –LIFETAN labels prepared by INESCOP and Newport

#### 3.2 LIFETAN Notice board

During the first period of the LIFETAN project ENEA designed and created the structure of the project Notice board and produced printed copies (700x1000mm), which were given to all the

partners and displayed in visible spots and accessible places to the public on the partners' premises. In figures 3.3 and 3.4 the LIFETAN Notice board in English and Italian languages.

The notice board features the LIFE logo and Lifetan logo at the top. The title is "LIFETAN - Eco friendly tanning cycle" with the subtitle "Funded by the European Union with the LIFE programme (2014-2020)".

### PROJECT

LIFETAN aims at demonstrating, in the whole leather tanning process, the use of innovative natural products and technologies for the bating, defatting, fattening, dyeing and tanning phases.

### OBJECTIVES

The main environmental, social and economic goal is the replacement of current commercial chemical and toxic products with natural products in the whole tanning cycle, in order to establish a significantly eco-sustainable and convenient business for companies. Production of high quality leather products, traditional or new, perfectly workable.

Demonstration at three levels:

- 1st. Laboratory level
- 2nd. Semi-industrial level
- 3rd. Pre-industrial level

### EXPECTED RESULTS

- 6 new tanning formulations with natural products
- recycling and use of poultry waste to obtain technical products for the bating phase
- 100 leather samples tanned with natural products for each level:
  - laboratory - semi-industrial - pre-industrial
- further 100 leather products in line with EU Ecolabel criteria
- 20% reduction of pollutants in wastewater
- 20% reduction of water consumption
- 20% reduction of greenhouse gases
- increased biodegradability of the used molecules
- increased penetration of hides by novel products and high performance of the finished product
- demonstration of the technical, social and economic feasibility of chrome-free leather tanning.

www.lifetan.eu

Project coordinator Alice Dall'Ara [alice.dallara@enea.it](mailto:alice.dallara@enea.it) [Duration: 01/10/2015 - 30/09/2017]

Project coordinator: **ENEA** (Italian national agency for new technologies, energy and sustainable economic development)

Beneficiaries: **ICCOM**, **INESCOP**, **NEWPORT**, **Tradelda, S.L.**

Figure 3.3– English LIFETAN Notice board prepared by ENEA

LIFE14 ENV/IT/000443 LIFETAN

## LIFETAN – Eco friendly tanning cycle

Finanziato dall'Unione Europea con il Programma LIFE (2014-2020)

### PROGETTO

LIFETAN intende dimostrare l'applicabilità di prodotti naturali a basso impatto ambientale e di tecnologie innovative per l'intero processo conciario delle pelli, ed in particolare nelle fasi macerazione, sgrassaggio, tintura, ingrasso e concia.

### OBIETTIVI

Il principale obiettivo dal punto di vista ambientale, sociale ed economico è la sostituzione di prodotti chimici tossici attualmente impiegati nell'industria conciaria con prodotti naturali, al fine di raggiungere un significativo business eco-sostenibile e conveniente per le aziende. Realizzazione di prodotti in pelle di alta qualità, tradizionali o nuovi, perfettamente lavorabili.

Dimostrazione a tre livelli

1. Scala di laboratorio
2. Scala semi-industriale
3. Scala pre-industriale

### RISULTATI ATTESI

- 6 nuove formulazioni con prodotti naturali per il processo di concia
- riciclo di pollina e uso per prodotti tecnici per la fase di macerazione
- 100 pelli conciate con prodotti naturali per ogni livello di dimostrazione: laboratorio - semi-industriale - pre-industriale
- ulteriori 100 prodotti in pelle in linea con i criteri del marchio europeo Ecolabel
- riduzione del 20% di inquinanti nelle acque reflue
- riduzione del 20% del consumo di acqua durante il processo di concia
- riduzione del 20% di emissioni di gas serra
- aumento della biodegradabilità delle molecole impiegate
- aumento della penetrazione nella pelle da parte dei nuovi prodotti usati e migliori prestazioni dei prodotti finiti
- dimostrazione della fattibilità tecnica, sociale ed economica della concia delle pelli senza l'uso di Cromo

www.lifetan.eu

Coordinatore del progetto Alice Dall'Ara alicedallara@enea.it
[Durata: 01/10/2015 - 30/09/2017]

Coordinatore del progetto
Beneficiari

Figure 3.4 – Italian LIFETAN Notice board prepared by ENEA

**NOTICE BOARD in premises of beneficiaries**

The following photos (Fig. 3.5-9) shown the LIFETAN Notice board located in visible spots and places accessible to the public in the premises of ENEA, ICCOMCNR, INESCOP, NEWPORT and TRADELDA. 15 copies of bilingual notice board were distributed to beneficiaries.



Figure 3.5 – English and Italian LIFETAN Notice board in ENEA premises



Figure 3.6 – LIFETAN Notice board in ICCOMCNR premises



Figure 3.7 – LIFETAN Notice board in NEWPORT premises

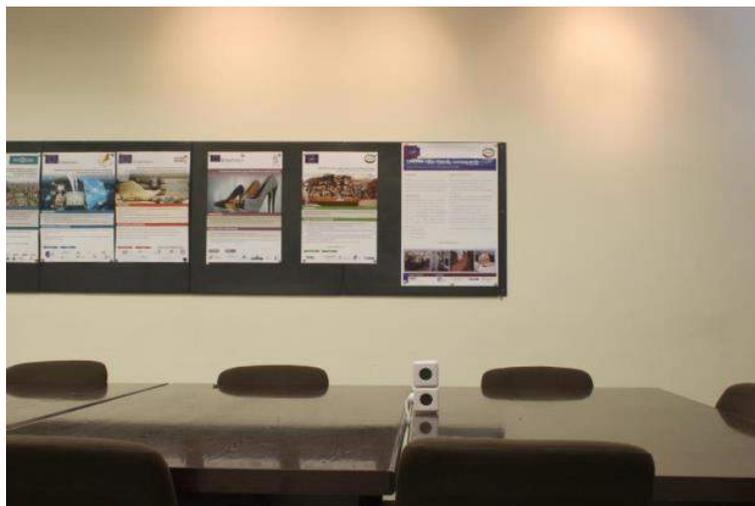


Figure 3.8 – LIFETAN Notice board in INESCOP premises



Figure 3.9 – LIFETAN Notice board in TRADELDA premises

### 3.3 LIFETAN posters and presentations

ENEA and beneficiaries have prepared several dissemination materials. ENEA has prepared presentation for different events (Fig. 3.10); INESCOP has prepared several dissemination materials (in English and Spanish), such as a notice-board, a poster and project presentations for dissemination actions in fairs, conferences, etc (Fig. 3.11-15).



Figure 3.10 – Examples of project presentations for dissemination actions prepared by ENEA and INESCOP

For example, in Figure 3.11 the materials displayed in several places at INESCOP's premises in Elda and Vall d'Uixó.

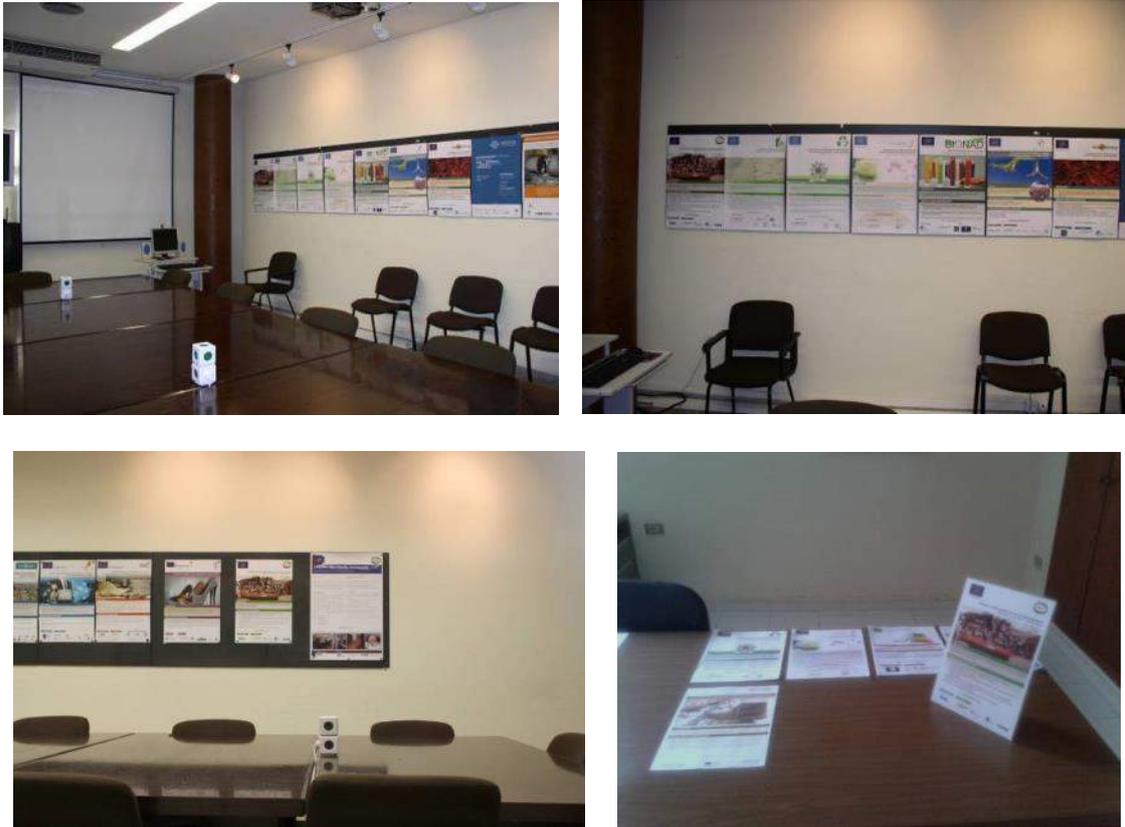


Figure 3.11 - LIFETAN dissemination materials at INESCOP's premises

These dissemination materials have been also employed in different dissemination events carried out by INESCOP at its premises or in other places:



Figure 3.12 - LIFETAN project dissemination in a training course of LEAN manufacturing on 15th May 2016 at INESCOP's premises



Figure 3.13 - LIFETAN project dissemination at Workshop of the Step to Sustainability project – S2S project on 21st July 2016 at INESCOP's premises



Figure 3.14 - LIFETAN project dissemination at the Footwear Museum of Elda (which has around 9000 visitors in 2015).

At the end of the project, more than 25 copies of the following posters were prepared (Fig.3.15 a, b):

- 1 bilingual poster of INESCOP distributed in 6 copies to beneficiary
- 1 scientific poster Analytical Spectroscopy Congress 2016 of ICCOM-CNR
- 1 scientific poster SCI 2016 of ICCOM-CNR
- 3 scientific posters CSI XL 2017 of ENEA & ICCOM-CNR
- 1 scientific poster SCI2017 of ICCOM-CNR & ENEA
- 2 scientific posters ECOMONDO 2017 ENEA –INESCOP and all partner

Other detail are reported in the Chapter 4 of the present document.

**Eco friendly tanning cycle based on natural/naturalized products**

**AIM OF THE WORK:**

**EXPERIMENTAL RESULTS:**

**CONCLUSIONS:**

**Chromium reduction in an eco friendly tanning cycle**

**AIM OF THE WORK:**

**EXPERIMENTAL RESULTS:**

**CONCLUSIONS:**

**Curtición de piel respetuosa con el medio ambiente**

**OBJETIVO:**

**RESULTADOS ESPERADOS:**

**Eco friendly tanning cycle**

**OBJECTIVE:**

**EXPECTED RESULTS:**

Figure 3.15.a - LIFETAN posters

The figure displays a collection of 12 posters from the LIFETAN project, organized into three rows. The top row features two posters detailing the use of Fourier Transform Infrared Spectroscopy (FTIR) for leather quality control, comparing natural and synthetic products. The middle row contains two posters: one demonstrating the eco-friendly tanning cycle through spectroscopic techniques, and another focusing on energy dispersive X-ray spectroscopy (EDS) combined with scanning electron microscopy (SEM) and thermogravimetric analysis (TGA) for leather characterization. The bottom row includes a poster on circular economy and sustainability in leather, and a large circular diagram illustrating the tanning cycle from raw material to finished leather, highlighting the use of natural products and the reduction of chemical waste.

Figure 3.15.a - LIFETAN posters



### 3.4 LIFETAN articles and press release

Since the beginning of the LIFETAN project, the following press releases and newsletter have been prepared for project dissemination, in the local, national and international press, TV interviews, specialised technical magazines, e-newsletters, etc.

- Two articles (Fig. 3.16-17) made by ENEA and published through ENEA media channels and Italian press. The article is available (from June 1<sup>st</sup>, 2016) on:
  - “NEWS” webpage in Italian ( <http://www.enea.it/it/Stampa/news/ambiente-enea-coordina-programma-ue-per-industria-conciaria-piu-green/> ) and English language (<http://www.enea.it/en/news/environment-enea-eu-coordinator-of-sustainable-tanning-industry-program> );
  - its dissemination was also done by the newsletter ENEA@informa (Fig.3.18), both in Italian and English languages; the newsletter ENEA@informa sent email to about 3000 addressees including stakeholders on energy, new technologies, the environment and sustainable economic development, national and international media, companies, public administrations, local bodies, associations and institutions.
- Article published on Focus.it (1st June 2016), the website of the FOCUS monthly magazine (Mondadori Scienza SpA Edition), the most widespread Italian magazine for science diffusion, (Fig.3.19) ( <http://www.focus.it/ambiente/ecologia/industria-conciaria-green-enea-coordina-il-programma-ue> )
- News on arpat.toscana.it (3rd August, 2016), the website of Regional Agency of Environment protection of Tuscany region (<http://www.arpat.toscana.it/notizie/notizie-brevi/2016/industria-conciaria-green-con-il-progetto-ue-lifetan> ) (Fig.3.20)
- INESCOP has presented the project through the newsletters (2015 and 2016) that are distributed in electronic and paper form to INESCOP’s member companies (mainly tanneries and footwear and leather goods manufacturers) (Fig.3.21-22)
- a summary of the project has been published in the Footwear technologic monitoring newsletter of the Observatory for Industrial Technology Foresight (OPTI) 2016, which objective is to create a knowledgebase on the most relevant technology trends for future economic and social development, therefore providing support for decision-making regarding technology in both public and private fields (fig. 3.23)
- ENEA article and Newsletter, April 2017 (Fig. 3.24)
- Article published on PLATINUM – Aziende e protagonisti (July 2017), a significant publishing media due to his editorial profile and quality. Distributed in Italy in Direct Mailing and in newsstand with Il Sole 24 Ore, Platinum is also widely used in Europe through the Italian Chamber of Commerce abroad (CCIE) and on this site it is possible to consult the full version in Italian and English (Figg. 3.25 - 26) (<http://www.platinum-online.com/wp-content/uploads/PL059-LUGLIO-2017.pdf>).
- Article in LederPiel Magazine Anno XXI N°108 2nd trimestre de 2017 (Fig.3.27)
- INESCOP wrote 2 articles about promotion of the LIFETAN workshop and the training course in the newsletters Medio Ambiente (November 2017) that are distributed in electronic and paper form to INESCOP’s member companies (mainly tanneries and footwear and leather goods manufacturers) (Fig.3.28)
- Article “Eco-friendly Leather: Chromium Reduction in the Tanning Cycle” Journal of Environmental Science and Engineering A 6 (2017) 402-409 (doi:10.17265/2162-5298/2017.08.004) (Fig.3.29)

Moreover, on the basis of the work carried out in before the end of LIFETAN project, other two articles were published at the beginning of 2018.



- Article in Arsutoria Magazine – English and Italian version (<http://tannerymagazine.com/it/una-concia-sempre-piu-verde/> <http://tannerymagazine.com/ever-greener-tanning/>) (Fig. 3.30)
- Article in Avvenire 6 February 2018 (<https://www.avvenire.it/economia/pagine/piu-posti-con-industria-conciaria-verde>) (Fig. 3.31)



Other webpage link:

- [http://www.econewsweb.it/it/2015/11/27/europa-ambiente-fondi/#.WOT7\\_fnyjcs](http://www.econewsweb.it/it/2015/11/27/europa-ambiente-fondi/#.WOT7_fnyjcs)
- <http://www.regioneambiente.it/it/articoli/life-lue-approva-21-eco-progetti-in-italia-per-oltre-39-milioni-di-euro>
- [http://www.adnkronos.com/sostenibilita/world-in-progress/2016/06/01/industria-conciaria-green-enea-coordina-programma\\_Z6Y9Jklwg2IpDzssijbTtO.html?refresh\\_ce](http://www.adnkronos.com/sostenibilita/world-in-progress/2016/06/01/industria-conciaria-green-enea-coordina-programma_Z6Y9Jklwg2IpDzssijbTtO.html?refresh_ce)
- <http://www.amapola.it/progress-towards-a-sustainable-tanning-industry/>
- [https://www.argoit.com/en/sezione\\_id,2/newssez\\_id,214/eco-projects-life-21-italian-projects-approved-incoming-39-millions-from-eu/communications.html](https://www.argoit.com/en/sezione_id,2/newssez_id,214/eco-projects-life-21-italian-projects-approved-incoming-39-millions-from-eu/communications.html)
- <http://www.conaf.it/node/116880>
- <http://www.sustainability-lab.net/it/blogs/sustainability-lab-news/concia-polli-e-altro.aspx>
- [https://article.wn.com/view/2016/06/01/Ambiente\\_ENEA\\_coordina\\_programma\\_Ue\\_per\\_industria\\_conciaria\\_/](https://article.wn.com/view/2016/06/01/Ambiente_ENEA_coordina_programma_Ue_per_industria_conciaria_/)
- <http://www.pianetapsr.it/flex/cm/pages/ServeAttachment.php/L/IT/D/0%252F0%252F3%252FD.c52b0da56af31ac4df6e/P/BLOB%3AID%3D1517/E/pdf>
- <https://www.ilmeteo.it/notizie/italia/industria-conciaria-green-enea-coordina-il-programma-ue-498007>
- <http://www.cataniaoggi.it/?s=lifetan>
- <http://www.ilcuoioindiretta.it/santa-croce/item/47448-meno-sostanze-nocive-progetto-enea-per-una-concia-piu-green.html>
- <http://textileather.eu/it/inescop-presento-el-pasado-mes-de-mayo-el-proyecto-en-la-jornada-hacia-un-calzado-sostenible/>
- <https://www.biopianeta.it/2018/01/lifetan-la-pelle-green-dellindustria-conciaria-guarda-il-video/>
- [http://www.ansa.it/canale\\_ambiente/notizie/green\\_economy/2018/01/26/lindustria-europea-della-pelle-diventa-piu-green\\_0990a98a-70fe-459f-a639-26cc3b27bd89.html](http://www.ansa.it/canale_ambiente/notizie/green_economy/2018/01/26/lindustria-europea-della-pelle-diventa-piu-green_0990a98a-70fe-459f-a639-26cc3b27bd89.html)
- <http://www.cnrweb.tv/un-progetto-europeo-green-per-lindustria-conciaria/>
- [http://www.adnkronos.com/sostenibilita/risorse/2018/03/07/pelle-green-con-progetto-lifetan\\_kJd3cKEzay245YDTsDvdsO.html](http://www.adnkronos.com/sostenibilita/risorse/2018/03/07/pelle-green-con-progetto-lifetan_kJd3cKEzay245YDTsDvdsO.html)
- <http://www.alternativasostenibile.it/articolo/sostenibilit%C3%A0-borse-e-scarpe-pelle-pi%C3%B9-green-grazie-al-progetto-lifetan>
- <http://notizie.tiscali.it/feeds/pelle-green-progetto-lifetan/>
- <http://247.libero.it/focus/43779887/0/pelle-green-con-il-progetto-lifetan/>

Tweets in INESCOP and ENEA twitter profile and post on ENEA Facebook profile (Figg.3.31-32).

## Ambiente: ENEA coordina programma Ue per industria conciaria più sostenibile

1 giugno 2016

Sostituire sostanze tossiche con scarti di origine naturale, ridurre l'uso di cloro e risparmiare fino al 20% di acqua nelle lavorazioni. Parte il progetto europeo LIFETAN, coordinato dall'ENEA, che in due anni punta a rivoluzionare in chiave ecosostenibile l'industria conciaria europea.

La rivoluzione *green* entra nell'industria conciaria europea. Ha preso il via, infatti, il progetto LIFETAN (*Eco-friendly tanning cycle*), coordinato dall'ENEA e finanziato dalla Ue con uno stanziamento di oltre 500 mila euro, per sostituire prodotti chimici e derivati del petrolio con sostanze naturali da scarti animali (pollina) e rifiuti agro-industriali in alcune fasi di lavorazione del pellame (macerazione, sgrassaggio, tintura, ingrasso e concia).



Per due anni l'Agenzia nazionale per le nuove tecnologie, l'energia e lo sviluppo economico sostenibile (ENEA), lavorerà insieme ai quattro partner del programma scientifico (due centri di ricerca, il CNR-ICCOM di Pisa e lo spagnolo INESCOP, e due concerie, l'italiana NEWPORT e l'iberica TRADELDA SL) per arrivare a una produzione ecosostenibile ed economicamente conveniente per le aziende del settore.

In concreto, il progetto LIFETAN punterà alla sostituzione delle sostanze nocive - come il cromo - e alla riduzione della percentuale di cloro con sei nuove formulazioni *ecofriendly*, utilizzando rifiuti e sottoprodotti di origine naturale. Ma non solo: 20% di acqua in meno nel processo di lavorazione della pelle e stessa percentuale di riduzione delle sostanze inquinanti nelle acque di scarico, maggiore biodegradabilità delle molecole utilizzate e 50% di assorbimento in più dei prodotti *green* rispetto a quelli attualmente impiegati.

Ma c'è di più: il team di ricerca e industrie punterà a conquistare il marchio *Ecolabel* per il settore europeo della calzatura grazie ai nuovi processi e prodotti *ecofriendly*. LIFETAN nasce integrando i risultati ottenuti nei precedenti progetti focalizzati sulle singole fasi di lavorazione conciaria come PODEBA per la macerazione del pellame - coordinato dall'ENEA - valutato tra i 25 migliori progetti LIFE per l'eco-sostenibilità, ECODEFATTING per la sgrassatura, OXATAN per la sostituzione del cromo (*risultato "Best of the Best 2012"*), ECOFATTING per l'ingrasso e BIONAD sulla colorazione.

L'industria conciaria europea - localizzata per il 70% in Italia e in Spagna - rappresenta una quota significativa della produzione mondiale ed è un importante settore economico per l'intera Unione. I tradizionali processi di produzione del cuoio hanno un notevole impatto ambientale per l'impiego massiccio di sostanze tossiche (ad esempio le cloroparaffine) e non biodegradabili, come i prodotti utilizzati per reintrodurre i grassi nel pellame dopo la concia. Per non parlare dei prodotti semilavorati o finiti che contengono metalli tossici - il cromo in particolare - che rendono difficile il riciclo e lo smaltimento. *"L'intero settore - spiega Alice Dall'Ara del Laboratorio ENEA Tecnologie dei Materiali di Faenza e responsabile del progetto LIFETAN - ha bisogno di migliorare in modo significativo la sostenibilità ambientale dei propri processi, senza alterare la qualità di una produzione riconosciuta in tutto il mondo"*.

Fattibilità tecnica ed economica procederanno per gradi: si partirà dalla sperimentazione in laboratorio, per passare ad una fase pre-industriale con attività di formazione per i conciatori spagnoli e italiani e arrivare infine alla produzione su scala industriale nelle due concerie partner.

### Per maggiori informazioni:

<http://www.lifetan.eu/it>

Alice Dall'Ara - Laboratorio Tecnologie dei Materiali Faenza (TEMAF) - [alice.dallara@enea.it](mailto:alice.dallara@enea.it)  
Federica Bezzi - Laboratorio Tecnologie dei Materiali Faenza (TEMAF) - [federica.bezzi@enea.it](mailto:federica.bezzi@enea.it)

Figure 3.16 - Italian version of ENEA NEWS of 1st June 2016

### Environment: Towards a more sustainable European tanning industry

Substituting toxic substances with waste from natural substances, reducing the use of chlorine and achieving a 20% water reduction in the leather tanning process. The ENEA coordinates EU project LIFETAN, aiming at radically changing in a sustainable direction the European tanning industry within two years, has just kicked off.

The European tanning industry is going green. The project LIFETAN (*Eco-friendly tanning cycle*), coordinated by ENEA and financed by the EU with over 500 thousand euro, has just begun. The project's goal is to substitute chemical oil derived products with natural substances from poultry and agro-industrial waste in some phases of the leather tanning process (bating, defatting, dyeing, fattening and tanning).

ENEA (National Agency for New Technologies, Energy and the Environment) will work for two years, jointly with the four partners of the Scientific Program (two research centers, the CNR-ICCOM in Pisa, the Spanish INESCOP and two tanneries, the Italian NEWPORT and the Spanish TRADELDA SL) to achieve a sustainable and economically viable production for the tanning sector companies.



In practice, the project LIFETAN will aim at the substitution of hazardous substances such as chrome and the reduction of the chlorine content with six new eco-friendly formulations using natural by-products and waste. But there's more: a 20% water consumption cut in the leather tanning process and an equal reduction of pollutants in wastewater, increased biodegradability of the molecules used and 50% increased absorption capacity of green products compared to those currently employed.

But that's not all: the research and industries team will aim at securing the *Ecolabel* brand for the European footwear sector thanks to new eco-friendly processes and products. LIFETAN derives from the combination of the results obtained in previous projects focused on the single phases of the tanning process such as PODEBA for leather bating -coordinated by ENEA - considered among the 25 best LIFE projects for eco-sustainability, ECODEFATTING for defatting, OXATAN for chromo substitution (*Best of the Best 2012*), ECOFATTING for fattening and BIONAD for coloring.

The European tanning industry-70% of which is located in Italy and Spain\_- accounts for a large share of global production and it's an important economic sector for the entire European Union. Conventional tanning manufacturing processes have a significant environmental impact because of their use of toxic and non-biodegradable substances (e.g. chloroparaffins), such as the products used to reintroduce fats into the leather after tanning. Not to mention the semi-processed or finished products containing toxic metals- particularly chrome- that make it difficult to recycle and dispose.

*\* The whole sector-Alice Dall'Ara of the ENEA Laboratory for Materials Technologies, Head of the project LIFETAN, explained- needs to significantly improve process sustainability without altering the quality of a world renowned production\*.*

Technical and economical feasibility will proceed in stages, from laboratory experimentation through a pre-industrial activity envisaging training activities for Spanish and Italian tanners and finally to manufacturing at industrial level in both partner tanneries.

For more information visit:

<http://www.lifetan.eu/it>

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Federica Bezzi - Laboratorio TECnologie dei MATERIALI Faenza (TEMAF) - [federica.bezzi@enea.it](mailto:federica.bezzi@enea.it)

Filed under: News



Figure 3.17 - English version of ENEA NEWS of 1st June 2016



Figure 3.18 - Example of newsletter ENEA@informa

**Focus.it**

## Industria conciaria 'green', Enea coordina il programma Ue

Lifetan in due anni punta a rivoluzionare in chiave ecosostenibile il settore



ADN KRONOS



Roma, 1 giu. - (AdnKronos) - Sostituire sostanze tossiche di origine naturale, ridurre l'uso di cloro e risparmiare acqua nelle lavorazioni. Parte il progetto europeo Lifetan (eco-friendly tanning cycle), coordinato dall'Enea, che in due anni rivoluzionerà in chiave ecosostenibile l'industria con

Finanziato dall'Ue con uno stanziamento di oltre 500 milioni, il progetto punta a sostituire prodotti chimici e derivati del petrolio con da scarti animali (pollina) e rifiuti agro-industriali in lavorazione del pellame (macerazione, sgrassaggio, concia).



L'Enea lavorerà con i quattro partner del programma scientifico (due centri di ricerca, il Cnr-Iccom di Pisa e lo spagnolo Inescop, e due concerie, l'italiana Newport e l'iberica Tradelda Sl) per arrivare a una produzione ecosostenibile ed economicamente conveniente per le aziende del settore.

Il progetto punterà alla sostituzione delle sostanze nocive come il cromo e alla riduzione della percentuale di cloro con sei nuove formulazioni 'ecofriendly', utilizzando rifiuti e sottoprodotti di origine naturale. Ma non solo: 20% di acqua in meno nel processo di lavorazione della pelle e stessa percentuale di riduzione delle sostanze inquinanti nelle acque di scarico, maggiore biodegradabilità delle molecole utilizzate e 50% di assorbimento in più dei prodotti green rispetto a quelli attualmente impiegati.

Ma c'è di più: il team di ricerca e industrie punterà a conquistare il marchio Ecolabel per il settore europeo della calzatura grazie ai nuovi processi e prodotti ecofriendly. L'industria conciaria europea, localizzata per il 70% in Italia e in Spagna, rappresenta una quota significativa della produzione mondiale ed è un importante settore economico per l'intera Unione.

I tradizionali processi di produzione del cuoio hanno un notevole impatto ambientale per l'impiego massiccio di sostanze tossiche (ad esempio le cloroparaffine) e non biodegradabili, come i prodotti utilizzati per reintrodurre i grassi nel pellame dopo la concia. Per non parlare dei prodotti semilavorati o finiti che contengono metalli tossici, il cromo in particolare, che rendono difficile il riciclo e lo smaltimento.

“L'intero settore – spiega Alice Dall'Ara del Laboratorio Enea TECnologie dei MAteriali di Faenza e responsabile del progetto Lifetan - ha bisogno di migliorare in modo significativo la sostenibilità ambientale dei propri processi, senza alterare la qualità di una produzione riconosciuta in tutto il mondo”.

Fattibilità tecnica ed economica procederanno per gradi: si partirà dalla sperimentazione in laboratorio, per passare ad una fase pre-industriale con attività di formazione per i conciatori spagnoli e italiani e arrivare infine alla produzione su scala industriale nelle due concerie partner.

01 GIUGNO 2016 | ADN KRONOS

Figure 3.19 - Article on “Focus.it”

<http://www.focus.it/ambiente/ecologia/industria-conciaria-green-enea-coordina-il-programma-ue>





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### Industria conciaria "green" con il progetto UE "Lifetan"

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03/08/2016 08:00

**ENEA coordina il progetto finanziato dall'Unione Europea per rivoluzionare in chiave ecosostenibile il settore conciario**

Prende il via "Lifetan" uno dei 96 progetti finanziati dalla Unione Europea nell'ambito del programma LIFE per l'Ambiente, il progetto coordinato dall'ENEA, che mira a rivoluzionare, in due anni, in chiave ecosostenibile l'industria conciaria Europea.



*Concia al cromo*

L'attuale lavorazione della produzione del cuoio ha un consistente **impatto ambientale** che vede l'utilizzo di **significative quantità di sostanze pericolose e non biodegradabili**, come i prodotti per reintrodurre i grassi nel pellame dopo la concia, oltre ai prodotti semilavorati o finiti che contengono metalli tossici, in particolare il cromo, che rendono difficile lo smaltimento o il riciclo.

Scopo del progetto è quello di **sostituire prodotti chimici**, come i derivati dal petrolio, attualmente impiegati nell'industria conciaria, con **prodotti naturali a basso impatto ambientale**, scarti animali, tipo pollina e rifiuti agro-industriali, in alcune fasi di lavorazione del pellame (macerazione, sgrassaggio, tintura, ingrasso e concia).

In concreto il progetto punterà alla **sostituzione di sostanze nocive** come il cromo e alla riduzione della percentuale di cloro con sei nuove formulazioni ecologiche, **utilizzando sottoprodotti di origine naturale**. Ma non solo, anche il **20% di acqua in meno** del processo di lavorazione della pelle e stessa percentuale di riduzione delle sostanze inquinanti nelle acque di scarico, **maggiore biodegradabilità** delle molecole utilizzate e **50% di assorbimento** in più dei prodotti "green" rispetto a quelli attualmente impiegati.

L'ENEA lavorerà con quattro partner del programma scientifico:

- due centri di ricerca: il **CNR-ICCOM** di Pisa e lo spagnolo **Inescop**
- due concerie: l'italiana **Newport** e l'iberica **Tradelda SI**

Il team punterà anche a conquistare il **marchio Ecolabel** per il settore Europeo della calzatura, grazie ai nuovi processi e prodotti ecologici. L'industria conciaria Europea è localizzata prevalentemente in Italia e in Spagna, rappresentando una quota significativa della produzione mondiale.

La necessità di migliorare l'intero settore conciario, in modo significativo per la sostenibilità ambientale dei processi, non dovrà comunque alterare la qualità di una produzione riconosciuta in tutto il mondo.

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Figure 3.20 - News on [www.arpat.toscana.it](http://www.arpat.toscana.it)

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# MEDIO AMBIENTE

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Nº185 - OCTUBRE 2015 · PUBLICACIÓN EXCLUSIVA PARA SOCIOS

**CURSO "REACH"**

Diversos medios recientemente supone la presencia de algunas sustancias químicas, ordenado retirar modelos de zapatos de alto contenido en esta sustancia se encun pasado mes de mayo REACH de la Unión Europea.

INESCOP está informando a través de este boletín de las sustancias limitadas de informar a la industria que afectan a la fabricación de sus componentes.

**PROYECTO EUROPEO SOBRE CURTICIÓN SOSTENIBLE**

El 1 de octubre comenzó el proyecto europeo "Curtición de piel respetuosa con el medio ambiente (LIFETAN)", en el que por parte de España, INESCOP participa como principal socio tecnológico, en colaboración con una tenería de la Comunidad Valenciana.

El proyecto cuenta con el apoyo parcial de la Unión Europea a través del programa LIFE+ y tiene como principal objetivo la demostración del uso de productos alternativos innovadores en diferentes etapas del procesado de las pieles, reduciendo de forma global su impacto ambiental.

El proyecto, con una duración prevista de 24 meses, está coordinado por ENEA (Agencia italiana para las Nuevas Tecnologías, la Energía y el Desarrollo Económico Sostenible) y cuenta también con la participación del Instituto italiano de Química de los Compuestos Organometálicos del Consejo Nacional de Investigación (ICCOM-CNR) y una tenería italiana.

**NUEVA NORMA ISO 14001 SOBRE GESTIÓN AMBIENTAL**

La Organización Internacional de Normalización (ISO) ha publicado la nueva versión de la norma de Sistemas de Gestión Ambiental ISO 14001.

La ISO 14001 es una norma internacional de carácter voluntario, que puede ser empleada por las empresas como herramienta de gestión ambiental, mediante la cual se pueden identificar y minimizar los impactos ambientales derivados de las actividades realizadas.

Esto se puede traducir en importantes beneficios ambientales y económicos, como la reducción de consumos (energía, agua y materias primas), mejora de los procesos, cumplimiento de la legislación ambiental, etc.

Las principales novedades de la nueva versión se centran en el liderazgo, la estrategia empresarial, una mayor protección del medio ambiente, el enfoque al ciclo de vida y una comunicación más efectiva de los impactos ambientales.

Actualmente, esta norma está implantada en más de 300.000 organizaciones en 171 países de todo el mundo, siendo España con 16.000 empresas certificadas el segundo país de Europa en número de certificados de sistemas de gestión ambiental.

Las empresas que ya estén certificadas según ISO 14001 deberán adaptar su sistema de gestión a los nuevos requisitos antes de **septiembre de 2018**.

**AMPLIACIÓN DE INFORMACIÓN\***

Si desea recibir más información, devuelva la presente hoja cumplimentada por fax o por correo a INESCOP:

<input type="checkbox"/> Curso REACH en Alemansa	Peticionario: .....	Firma: .....
<input type="checkbox"/> Proyecto LIFETAN	Empresa: .....	
	Dirección: .....	
	Población: .....C.P.....	
<input type="checkbox"/> Gestión Ambiental (ISO 14001)	Fecha: .....e-mes.....	

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Figure 3.21 - INESCOP's Environment Newsletter, No. 185, October 2015

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# MEDIO AMBIENTE

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Nº195 - AGOSTO 2016

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### PROGRAMA LIFE INFODAY 2016

El 14 de julio se realizó en Valencia la presentación de la convocatoria 2016 del Programa LIFE, que es un instrumento financiero de la Unión Europea dedicado, de forma exclusiva, al medio ambiente.

Durante la jornada, organizada por la Red de Institutos Tecnológicos de la Comunidad Valenciana (REDIT) y la Cámara de Comercio de Valencia, se presentaron las principales novedades y áreas prioritarias de esta nueva convocatoria (abierta hasta el **12 de septiembre**) y se mostraron las experiencias y recomendaciones de entidades que ya han participado en proyectos LIFE.

INESCOP participó en la jornada presentando los resultados de los proyectos LIFE:

- microTAN: Revalorización de residuos de tenería para obtener microcápsulas.
- ShoeBAT: Mejores técnicas ambientales para el sector calzado y tenería.
- CO2Shoe: Huella de carbono de calzado.
- **LifeTAN: Curtición respetuosa con el medio ambiente.**

### PROGRAMA LIFE 2016 INFODAY REGIONAL

Jueves, 14 de julio de 2016

Escuela de Repostería Luis Vives  
Sede de Actos  
C/ Benjamín Franklin, 6  
Parque Tecnológico de Burjassot, Valencia

### ACABADOS SOBRE PIELES EXENTAS DE CROMO Y METALES

El pasado 31 de julio finalizó el proyecto **"Acabados sobre pieles exentas de cromo y metales"**, desarrollado por Tradelda S.L., una empresa de la Comunidad Valenciana en colaboración con INESCOP y que cuenta con el apoyo del Instituto Valenciano de Competitividad Empresarial (IVACE) y del Fondo Europeo de Desarrollo Regional.

El principal objetivo del proyecto fue eliminar la presencia de metales en las pieles acabadas.

Durante el proyecto, se seleccionaron los 12 pigmentos y 8 anilinas más adecuados para realizar los acabados y se aplicaron sobre pieles curtidas sin cromo y sin metales obteniendo productos acabados con muy bajos contenidos en metales que cumplen la norma UNE-EN 15987:2015. Además, se verificó que las pieles acabadas cumplen con los requisitos y estándares de calidad establecidos para las principales aplicaciones de la piel (calzado, marroquinería y automoción entre otros).

Como resultado del proyecto, la empresa ha creado una innovadora línea de fabricación de pieles acabadas con bajo contenido en metales.

UNIÓN EUROPEA  
Fondo Europeo de Desarrollo Regional  
Una manera de hacer Europa

INSTITUTO VALENCIANO DE COMPETITIVIDAD EMPRESARIAL

RED DE INSTITUTOS TECNOLÓGICOS DE LA COMUNIDAD VALENCIANA

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Figure 3.22 - INESCOP's Environment Newsletter, No. 195, August 2016



EOI/Cátedra de Innovación y Propiedad Industrial Carlos Fernández-Nóvoa



### PIELES MÁS SOSTENIBLES MEDIANTE TECNOLOGÍAS ALTERNATIVAS DE CURTICIÓN

El proceso de curtición de las pieles se realiza mediante una serie de operaciones en las que, de forma secuencial, se procede a la limpieza y preparación de las pieles, la estabilización del colágeno por reacción con un agente curtiente y, finalmente, la mejora de las propiedades físicas y estéticas de la piel.

En este proceso interviene una importante cantidad de sustancias químicas disueltas en agua que penetran y reaccionan con la piel para proporcionarle diferentes propiedades. En la mayoría de los procesos, las sustancias no fijadas en la piel pasan a las aguas residuales industriales, causando un notable impacto ambiental. Por otro lado, en los últimos años se ha producido un importante incremento de las restricciones en el contenido de determinadas sustancias en las pieles, tanto de tipo legal como establecidas por los fabricantes.

INESCOP, Centro de Innovación y Tecnología, ha abordado estas problemáticas mediante varios proyectos relativos al desarrollo de productos y tecnologías para la mejora ambiental del proceso y la adecuada composición de las pieles. Estos proyectos, realizados con el apoyo de la Unión Europea a través del programa LIFE+, se han centrado en la demostración del uso de productos más sostenibles y exentos de sustancias restringidas en las etapas de rendido, desengrase, curtición, tintura y engrase, como son:

- el reciclaje de residuos avícolas desodorizados en la etapa de rendido de las pieles en sustitución de preparados enzimáticos comerciales que incrementan notablemente el contenido en nitrógeno de las aguas residuales (LIFE PODEBA),
- la utilización de productos de desengrase exentos de sustancias restringidas (nonilfenol-NF y etoxilados de nonilfenol – NFEs) y formulados en base a azúcares

residuales de la industria alimentaria más biodegradables (LIFE EcoDefatting),

- el uso de oxazolidina como curtiente alternativo a las sales de cromo trivalente que permite obtener pieles de calidad y exentas de metales, evitándose además la posible formación de cromo hexavalente (LIFE OXATAN),
- el empleo de colorantes más naturales, de elevada solubilidad y exentos de productos químicos auxiliares de gran impacto en la conductividad de las aguas residuales (LIFE BioNaD) y,
- el engrase de pieles mediante productos derivados de aceites naturales alternativos a las cloroparafinas de cadena corta, de uso restringido (LIFE ECOFATTING).

En estos proyectos, se ha evaluado de forma individualizada la viabilidad de cada uno de estos procesos alternativos, mediante ensayos sobre pieles a escala piloto, el control de calidad de las pieles y el análisis de su impacto sobre las aguas residuales.

En la actualidad, INESCOP participa en el proyecto europeo LIFE titulado Curtición Respetuosa con el Medio Ambiente (LifeTAN), que tiene como principal objetivo la demostración integrada de las tecnologías desarrolladas en los proyectos LIFE citados, sustituyendo las sustancias químicas restringidas por otras más seguras, más biodegradables y con un menor impacto ambiental, garantizando el mantenimiento de la calidad de las pieles. En definitiva, el desarrollo del proyecto LifeTAN proporcionará importantes beneficios en la seguridad de los productos y en la protección del consumidor y del medio ambiente, mejorando la competitividad de la industria del cuero y calzado europeo.

NIPO: 073-15-038-0

Más información: [www.lifetan.eu](http://www.lifetan.eu)

B O L E T Í N O N - L I N E 1

Figure 3.23 - Footwear technologic monitoring newsletter of the Observatory for Industrial Technology Foresight (OPTI), No. 54, April-June 2016  
[[https://www.oepm.es/export/sites/oepm/comun/documentos\\_relacionados/Boletines/Calzado/opticalz0216.pdf](https://www.oepm.es/export/sites/oepm/comun/documentos_relacionados/Boletines/Calzado/opticalz0216.pdf)]

### Environment: In the Tuscan leather district the progress meeting of EU project LIFETAN coordinated by ENEA

The LIFETAN 18 month progress meeting will take place in Newport premises in Santa Croce s/A (Italy), in the Tuscan leather district, on April 26th -27th, 2017. The project coordinator is Alice Dall'Ara, ENEA researcher at Laboratory of Materials Technologies of Faenza that belongs to Sustainable Territorial and Production Systems Department. ENEA and all beneficiaries (CNR-ICCOM, Newport, INESCOP and TRADELDA) will present the implemented technical/dissemination activities and discuss the obtained results, in order to organize the activities to be carried out in the next months. Also administrative issues will be checked. During the meeting both the Project Adviser Mr Mario Lionetti of the EASME (*Executive Agency for Small and Medium-sized Enterprises*) of European Commission and the Technical Monitor Mrs Cristina Rabozzi (Neemo) will be present. It will be the occasion to deep policy



implications, environmental indicators, sustainability and transferability prospects of the project, consistent with LIFE strategies. Also demonstration of LIFETAN process is planned.

The LIFE14 ENV/IT/443 LIFETAN (Eco friendly tanning cycle) project aims at demonstrating the use of innovative natural products and technologies for the bating, defatting, fatting, dyeing and tanning phases of the whole leather tanning process. The main environmental, social and economic goal of LIFETAN project is the replacement of current commercial chemical and toxic products with natural products in the whole tanning cycle, in order to establish a significantly eco-sustainable and convenient business for companies. Production of high quality leather products, traditional or new, perfectly workable ([www.lifetan.eu](http://www.lifetan.eu)).

For further information:

Alice D'Allara, [alice.dallara@enea.it](mailto:alice.dallara@enea.it)

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Figure 3.24 – Article and newsletter in ENEA@informa April 2017

[<http://www.enea.it/en/news-enea/news/environment-in-the-tuscan-leather-district-the-progress-meeting-of-eu-project-lifetan-coordinated-by-enea>]



# A question of... skin

How to make the tanning production line greener



Italy is a leading country in the tanning sector with over 60% of production at European level and 17% of world production. The EU has financed different “Life” projects in this sector to make the tanning industry greener by substituting the toxic substances used for the working of leather with natural substances based on waste from the agro-industry and from renewable sources. Enea with its Research Laboratory in Faenza is at the head of the Lifetan Project (Life 14 Env/It/443 Eco friendly tanning cycle) which – starting from the results obtained by five previous Eu projects dedicated to the working of leather – has as its goal, the making of the leather production line more ecological, guaranteeing the companies economically sustainable and high quality production even for the “chromium free” lines. “To obtain the soaking agent for leather - explains Alice Dall’Ara from Enea, the head of the European Lifetan project – we are testing production which uses chicken manure, which is waste from



chicken-raising, while for degreasing and coloring, we are experimenting with substances with a lactose base coming from the making of cheeses”. “For the moment, we are in a testing phase, with the involvement of some Italian companies (Amek, Clycolor, Serichim), but our goal - concludes Dall’Ara – is to soon begin innovative industrial production with low envi-

ronmental impact in accordance with the circular economic model. This should give a push to the sector, creating a Made in Italy production line and new jobs”. The Lifetan Project coordinated by Enea has, as partners, two research centers, Cnr-Iccom in Italy and Inescop in Spain, while the tanning factories involved are Italian Newport and Spanish Tradelda”.

Figure 3.25 - Platinum, July 2017



## Questione di... pelle

Come rendere più green la filiera della concia



**L**'Italia è un paese leader nel settore conciario con oltre il 60% della produzione a livello europeo e il 17% di quella mondiale. In questo settore la Ue ha finanziato diversi progetti "Life" per rendere l'industria della concia più green, sostituendo i prodotti tossici utilizzati nella lavorazione delle pelli con sostanze naturali a base di scarti dell'agroindustria e da fonti rinnovabili. ENEA con il suo Laboratorio di Ricerca di Faenza è capofila del progetto Lifetan (LIFE 14 ENV/IT/443 Eco friendly tanning cycle) che, partendo dai risultati ottenuti da cinque precedenti progetti Ue dedicati alla lavorazione del pellame, ha come obiettivo rendere la filiera della concia più ecologica, garantendo alle imprese produzioni economicamente sostenibili e di alta qualità anche per le linee "chromium free". "Per ottenere l'agente macerante del pellame - spiega Alice Dall'Ara dell'ENEA, responsabile del progetto europeo Lifetan - stiamo testando prodotti che utilizzano la pollina, ossia lo scarto degli allevamenti di polli, mentre



come sgrassante e colorante stiamo sperimentando sostanze a base di lattosio proveniente dalle lavorazioni casearie". "Per ora siamo in una fase di test che vedono il coinvolgimento di alcune aziende italiane (Amek, Glycolor, Serchim), ma il nostro obiettivo - conclude Dall'Ara - è di avviare presto una produzione industriale innovativa e a basso impatto

ambientale secondo il modello di economia circolare, che sia di impulso al settore creando una filiera made in Italy e nuovi posti di lavoro". Il progetto Lifetan coordinato dall'ENEA ha come partner due centri di ricerca, il CNR-ICCOM in Italia e INESCOP in Spagna, mentre le concrete coinvolte sono l'italiana Newport e la spagnola Tradelda".

Figure 3.26 - Platinum, July 2017



Figure 3.27-a – LederPiel Magazine, N°108/2017

## Sostenibilidad y calidad para las pieles del futuro

Inescop, Centro de Innovación y Tecnología, está desarrollando con el apoyo de la Unión Europea a través del programa LIFE+, el proyecto Lifetan, cuyo principal objetivo es la demostración integrada de las diferentes tecnologías posibles, desarrolladas por el centro, para una curtición sostenible.

El proceso de curtición de las pieles se realiza mediante una serie de operaciones en las que, de forma secuencial, se procede a su limpieza y preparación, la estabilización del colágeno por reacción con un agente curtiente y, finalmente, la mejora de sus propiedades físicas y estéticas.

En este proceso interviene una importante cantidad de sustancias químicas disueltas en agua que penetran y reaccionan con la piel para proporcionarle diferentes propiedades. En la mayoría de los procesos, las sustancias no fijadas pasan a las aguas residuales, causando un notable impacto ambiental. Por otro lado, en los últimos años se ha producido un importante incremento de las restricciones en el contenido de determinadas sustancias en las pieles, tanto de tipo legal, como establecidas por las grandes marcas.

Inescop, Centro de Innovación y Tecnología, ha abordado estos retos tecnológicos mediante varios proyectos relativos al desarrollo de productos para la mejora ambiental del proceso y la adecuada composición de las pieles. Estos proyectos, realizados con el apoyo de la Unión Europea a través del programa LIFE+, se han centrado en la demostración del uso de productos más sostenibles y exentos de sustancias restringidas en las etapas de rendido, desengrase, curtición, tintura y engrase, como son:

- El reciclaje de residuos avícolas desodorizados en la etapa de rendido como alternativa al uso de preparados enzimáticos comerciales, reduciéndose notablemente el contenido en nitrógeno de las



Ensayos a escala semiindustrial con productos sostenibles Lifetan.

aguas residuales (LIFE Podeba).

- La utilización de productos de desengrase formulados en base a azúcares residuales de la industria alimentaria más biodegradables y, por tanto, exentos de sustancias restringidas como los nonilfenoles y etoxilados de nonilfenol (LIFE EcoDefatting).
- El uso de oxazolindina como curtiente alternativo a las sales de cromo trivalente, que permite obtener pieles de calidad, exentas de metales y más biodegradables, evitándose además la posible formación de cromo hexavalente (LIFE Oxatan).
- El empleo de colorantes más naturales, de elevada solubilidad y exentos de productos químicos auxiliares mejorando el impacto en la conductividad de las aguas residuales (LIFE BioNaD).
- El engrase de pieles mediante productos derivados de aceites naturales alternativos a las cloroparafinas de cadena corta, de uso restringido (LIFE EcoFatting).

En cada uno de estos proyectos se ha evaluado, de forma individualizada,

la viabilidad de los procesos alternativos citados mediante ensayos sobre pieles a escala piloto, el control de calidad de las pieles y el análisis de su impacto sobre las aguas residuales.

En la actualidad, Inescop participa en el proyecto europeo Lifetan, «Curtición respetuosa con el medioambiente», que tiene como principal objetivo la demostración integrada de las tecnologías desarrolladas en los proyectos LIFE citados, sustituyendo las sustancias químicas restringidas por otras más seguras, más biodegradables y con un menor impacto ambiental, garantizando el mantenimiento de la calidad de las pieles.

Los objetivos técnicos del proyecto se están verificando, mediante ensayos a escala de laboratorio y semiindustrial, en los equipos piloto de Inescop, y a escala preindustrial en tenerías de España e Italia, participantes a su vez en el proyecto, evaluándose el impacto ambiental de los productos y la calidad de las pieles, mediante el análisis de las aguas residuales generadas en cada etapa y ensayos normalizados de control de calidad.

El proyecto Lifetan proporcionará importantes beneficios para la protección del medioambiente y el desarrollo sostenible de la industria del cuero y calzado europeo mediante el proceso de pieles combinando productos alternativos que permitan obtener pieles de calidad, exentas de sustancias restringidas y más respetuosas con el medioambiente.

Para más información:  
[www.lifetan.eu](http://www.lifetan.eu)

Figure 3.27-b – LederPiel Magazine, N°108/2017



**INESCOP**  
INSTITUTO  
TECNOLÓGICO  
DEL CALZADO  
Y CONEXAS

# MEDIO AMBIENTE



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**Nº210 - NOVIEMBRE 2017**

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**JORNADA DE CURTIDOS EN LA CEV**

El próximo **29 de noviembre** tendrá lugar en Valencia, en la sede de la Confederación Empresarial Valenciana (CEV), la jornada "Últimas novedades en curtidos", organizada por INESCOP.

Durante la jornada se abordarán las nuevas tecnologías de curtición sostenible, las sustancias químicas limitadas en la actualidad, novedades formativas para

curtidores, productos químicos innovadores para el cuero, acabados funcionales mediante laser-plasma y novedades en normalización cuero-calzado, entre otros temas de interés para el sector curtidos.

Para más información:

[comunicacion@inescop.es](mailto:comunicacion@inescop.es)

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**INESCOP EN ECOFIRA**

El próximo **28 de noviembre**, INESCOP presentará la conferencia titulada "Impulso a la economía circular en el calzado" en la sesión de tecnologías, productos, procesos y buenas prácticas para la industria en economía circular, que tendrá lugar en la Feria de Medio Ambiente ECOFIRA (Valencia).

Además, INESCOP contará con un stand (Pabellón 5; Stand R3), donde se mostrarán los resultados del proyecto **LifeTAN "curtición de piel respetuosa con el medio ambiente"**, que cuenta con el apoyo parcial de la Unión Europea a través del programa LIFE+.

Puede obtener más información del proyecto en:

[www.lifetan.eu](http://www.lifetan.eu)



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**CONGRESO MEDIOAMBIENTAL EN VALENCIA**

Del **27 al 29 de noviembre** tendrá lugar en la capital valenciana el encuentro CONAMA LOCAL VALENCIA 2017. Durante este encuentro se tratarán temas como el cambio climático, la crisis de la biodiversidad, la economía circular, etc.

INESCOP participará en este evento con tres comunicaciones:

- "Preyención del cromo hexavalente en el calzado".
- "Economía circular y sostenibilidad en las pieles del futuro".
- "Materiales para calzado a partir de dióxido de carbono".

Estos trabajos propician y promueven la búsqueda de procesos productivos alternativos, que aumenten la competitividad de las empresas, así como la investigación para la obtención de productos más respetuosos con el medio ambiente.

Las empresas interesadas pueden obtener más información en:

[www.conamalocal2017.conama.org](http://www.conamalocal2017.conama.org)

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únicos con validez legal.

**CONSEJO REGULADOR DE CALZADO**

**FACE**

Figure 3.28 – Article on Medio Ambiente November 2017



Journal of Environmental Science and Engineering A 6 (2017) 402-409  
doi:10.17265/2162-5298/2017.08.004



## Eco-friendly Leather: Chromium Reduction in the Tanning Cycle

Elena Salemitano<sup>1</sup>, Alessandra Strafella<sup>1</sup>, Mercedes Roig<sup>2</sup> and Alice Dall'Ara<sup>1</sup>

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2. *INESCOP, Centre for Technology and Innovation, Elda 03600, Spain*

**Abstract:** The leather manufacturing is traditionally responsible for high environmental pollution. Tannery effluent contains, indeed, large amounts of lime sludge, sulfides, acids, toxic metals salts, in particular chromium salts, which are toxic, non-biodegradable and hardly disposable. For this reason, great research efforts are addressed to establish a significantly eco-sustainable and convenient business for companies and to produce high quality leather products. The replacement of current commercial chemical and toxic products with innovative natural/naturalized products and technologies in some crucial phases of the tanning cycle (mainly bating and defatting), can induce an eco-friendly reduction of the needed chromium amount. Leather samples, treated with innovative bating and defatting products and tanned by several different Cr contents, were characterized by SEM-EDS (Scanning Electron Microscopy equipped with Energy Dispersive X-Ray Spectroscopy) and TGA (Thermogravimetric Analysis). SEM-EDS was used to observe the surface and cross-section morphology and to provide a semi-quantitative elemental analysis, while TGA to evaluate the thermal stability and decomposition phases. The compatibility of the innovative products was demonstrated and the environmental impact of the process, performed by the effluents characterization, was effectively improved as a result of a 20% Cr lowering. The use of innovative products and the chromium reduction did not affect the thermal stability, leather morphology and not involve significant differences in the composition.

**Key words:** Leather manufacturing, tanning cycle, Cr reduction, natural/naturalized products.

Figure 3.29 – Article on JESE 2017

ARSUTORIA
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Tannery Magazine > An ever-greener tanning



### An ever-greener tanning

The studies and tests of LifeTan continue, the European project aimed at replacing the chemical products currently used in tanning with natural substances

Jan 02, 2018 | Posted in: Events

The recent EcoMondo – the main exhibition for the green and circular economy of the Euro-Mediterranean area, an international event that is held every year in November at the Rimini Expo and brings together all sectors of the green and circular economy in a single platform – was also attended by ENEA, the National Agency for new technologies, energy and sustainable economic development. The Agency was present as coordinator of the LifeTan project, which is specifically dedicated to tanning, among the 88 projects financed by the European Union as part of the “LIFE” environmental programme.

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Tannery Magazine > Una concia sempre più verde



### Una concia sempre più verde

Proseguono gli studi e i test di LifeTan, il progetto europeo che mira a sostituire i prodotti chimici attualmente impiegati in conceria con sostanze naturali

Jan 02, 2018 | Posted in: Events

Alla recente edizione di EcoMondo – il principale appuntamento espositivo dell'economia verde e circolare dell'area euro-mediterranea, un evento internazionale che si tiene ogni anno a novembre alla Fiera di Rimini e che riunisce tutti i settori della green economy e di quella circolare in un'unica piattaforma – ha partecipato anche Enea, l'Agenzia nazionale per le nuove tecnologie, l'energia e lo sviluppo economico sostenibile. L'Ente era presente in veste di coordinatore del progetto LifeTan, che è quello specificamente dedicato alla concia tra i 88 progetti finanziati dalla Unione Europea nell'ambito del programma “LIFE” per l'ambiente.

LifeTan, che gode di un finanziamento comunitario di 500mila euro, ha preso avvio a giugno 2016 e si prefigge di capire, entro i due anni di durata, come sostituire – in alcune fasi della lavorazione del cuoio (macerazione, sgrassaggio, tintura, inrasso e concia) – i prodotti chimici e derivati del petrolio con sostanze naturali ricavati da scarti animali e da rifiuti agro-industriali. Poiché l'industria conciaria europea è localizzata per il 70 per cento tra Italia e Spagna, gli attori di LifeTan arrivano da questi Paesi: si tratta di due Centri di ricerca (il CNR-ICCOM di Pisa e lo spagnolo INESCOP), per le valutazioni analitiche; e di due concerie (l'italiana Newport e l'iberica Tracelda), per le prove pratiche.

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#### PROSSIMI EVENTI

ISC West  
Apr 11 - Apr 13, 2018

Canton Fair  
Apr 15 - Apr 18, 2018

Jinjiang International Footwear Exhibition  
Apr 19 - Apr 22, 2018

IL08  
Apr 22 - Apr 24, 2018

China Sourcing Fair Fashion Accessories  
Apr 27 - Apr 30, 2018

[SEE ALL](#)

Figure 3.30 – Article ARSUTORIA 2nd January 2018  
[\[http://tannerymagazine.com/ever-greener-tanning/\]](http://tannerymagazine.com/ever-greener-tanning/)



### Enea. Più occupazione con l'industria conciaria "verde" ¶

Maurizio Caracciolo martedì 6 febbraio 2018 ¶

Possibilità di creare 60 nuovi posti di lavoro dopo tre anni dalla fine del progetto ¶



L'industria conciaria cambia "pelle" e diventa sempre più verde. Grazie al progetto Lifetan ([www.lifetan.eu](http://www.lifetan.eu)), cofinanziato dall'Unione europea e coordinato dall'Enea, sono stati messi a punto cinque prodotti ecosostenibili, a base di scarti di origine naturale, che permetteranno di abbattere il carico inquinante della lavorazione del pellame senza alterare la qualità della produzione. I partner industriali di Italia e Spagna hanno già realizzato i primi campioni di borse e scarpe di pelle trattata con le innovative formulazioni. Non a caso questi sono anche i due Paesi dove è concentrato il 70% dell'industria conciaria europea, caratterizzata da piccole e medie imprese alla continua ricerca di innovazione per competere sul mercato globale. «Il progetto», spiega la responsabile Alice Dall'Ara,

consiste in un innovativo ciclo di concia, in cui in alcune fasi di lavorazione si vanno a sostituire prodotti chimici spesso da fonti non rinnovabili e di difficile biodegradabilità, talvolta tossici (cloro paraffine, fenili e ossilati, cromo) con prodotti naturali e/o a base naturale, da fonti rinnovabili. Le fasi del ciclo di concia interessate sono cinque: la macerazione, lo sgrassaggio, la concia vera e propria, la tintura e il grasso finale. Per esempio per la macerazione si utilizza la pollina, particolari tipologie di pollina con trattamenti specifici brevettati, pollina che è un sottoprodotto della produzione di uova e che può essere di difficile collocazione finale. Per lo sgrassaggio e la tintura si usano formulati che contengono al loro interno prodotti sintetizzati a partire da lattosio, quindi un scarto del siero (lavorazione del latte). Per il grasso si usano formulati che contengono olio di palma (spesso rimosso dagli alimenti può trovare opportuna collocazione nel settore conciario). Si tratta nella proposizione di innovazione di prodotto (sostituzione/integrazione) che al contempo consente la riduzione dell'impatto ambientale e dall'altro di riutilizzare nel ciclo produttivo scarti e/o sottoprodotti di altre filiere, quali l'industria agroalimentare, con caratteristiche innovative. Sono esempi di pratiche di economia circolare, in cui parte delle risorse vengono risparmiate utilizzando sottoprodotti e scarti di altre filiere per ottenere le materie prime da utilizzare per i nuovi prodotti. ¶

Nella maggior parte dei casi, le pelli stesse sono il primo esempio di recupero/riciclo di uno scarto dell'industria alimentare (es. le pelli di maiale entrano marginalmente nella filiera della concia perché rimangono all'interno della filiera alimentare). Si è scelta l'innovazione di prodotto (processo nel suo complesso) proprio per facilitare l'introduzione produttiva del nuovo ciclo conciario e renderla compatibile sia con la dotazione strumentale, attrezzature e bottali già presenti in conceria; tale innovazione è compatibile con l'implementazione di nuovi strumenti di monitoraggio e di ottimizzazione di processo così come previsto per Industria 4.0. Il progetto Lifetan quindi ha inteso dimostrare fino a scala semi-industriale la fattibilità tecnica – economica di un nuovo ciclo di concia. Elemento fondante la qualità dei pellami finali, che deve essere almeno pari ai pellami ottenuti attualmente, proprio per mantenere quella leadership del made in Italy o made in Europe, per qualità dei pellami e sicurezza dei prodotti utilizzati nella trasformazione. ¶

«Gli sbocchi occupazionali – continua Dall'Ara – sono legati in modo diverso al settore conciario e al settore dei nuovi prodotti green. Già nella proposta alla Commissione europea l'obiettivo previsto è il mantenimento dell'occupazione nel settore conciario per Italia e Spagna, i due maggiori produttori europei. L'Italia deve mantenere una leadership e al contempo fronteggiare concorrenze di prezzo che vengono dal Medio Oriente e dall'Asia. E non solo. Anche per questo spesso le parti iniziali del ciclo sono svolte fuori Europa. Gli sbocchi occupazionali sono collegati essenzialmente alla possibilità di creare nuovi posti di lavoro nello sviluppo e manifattura dei prodotti green, i nuovi reagenti per l'industria conciaria che consentono di ridurre l'impatto ambientale, in particolare il carico inquinante delle acque di scarico e loro biodegradabilità, ma anche gas ad effetto serra. Sono effetti che si vedono dopo alcuni anni dalla fine del progetto, anche perché bisogna nel frattempo completare anche quegli aspetti amministrativi/autorizzativi che permettono di introdurre nuovi prodotti e quindi nuovi percorsi/cicli per l'economia circolare. ¶ Si auspica la possibilità di creare 60 nuovi posti di lavoro dopo tre anni dalla fine del progetto. ¶

Poiché tali prodotti/processi sono compatibili anche con la digitalizzazione di processo, il controllo degli scarichi, l'innovazione richiede la formazione degli attuali occupati del settore conciario. E nuove figure professionali, ad alta professionalità, per lo sviluppo, la manifattura di nuovi prodotti tecnici e di utilizzare nella concia, ottenuti da sottoprodotti, la formazione degli utilizzatori finali. Lo sviluppo di tali prodotti consentirebbe poi di trovare applicazioni in altri settori (tessile, e anche fertilizzanti nel caso di pollina). Quindi figure professionali qualificate per renderle praticabili e applicate industrialmente nuovi percorsi di casi economia circolare. ¶

«Due concerie sono state partner di progetto», conclude la responsabile, l'italiana Newport del distretto di Santa Croce e la spagnola Tradelda, della zona di Alicante, proprio per la messa a punto del processo e per comprendere come una conceria può rispondere all'introduzione dei nuovi prodotti, quali sono le criticità e come superarle. Abbiamo cominciato la diffusione dei risultati del progetto a varie aziende e altre strutture della filiera, anche attraverso workshop (in Spagna presso Ecofira - International fair of environmental solutions - e in Italia presso il Cnr di Pisa) e attraverso giornate di formazione/informazione ai tecnici. ¶

© RIPRODUZIONE RISERVATA ¶

Figure 3.31 Avvenire.it article of 6th February 2018

### Further communication

ENEA on ENEA Profile Facebook.

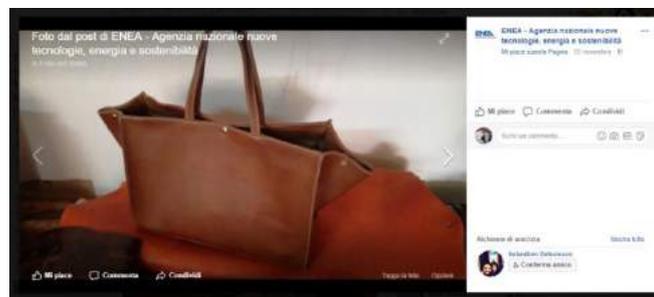
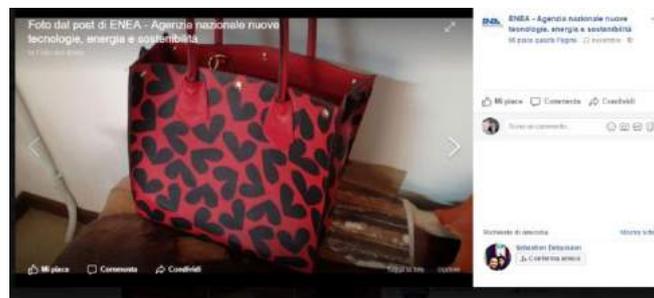


Figure 3.31 – a. Post on ENEA Profile Facebook 22 November 2017

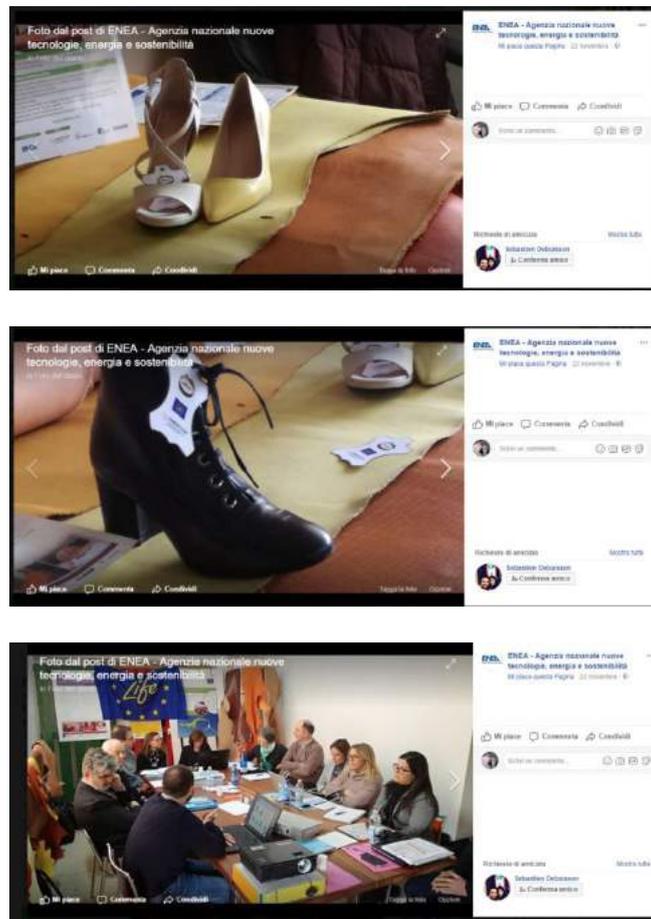


Figure 3.31 – b. Post on ENEA Profile Facebook 22 November 2017

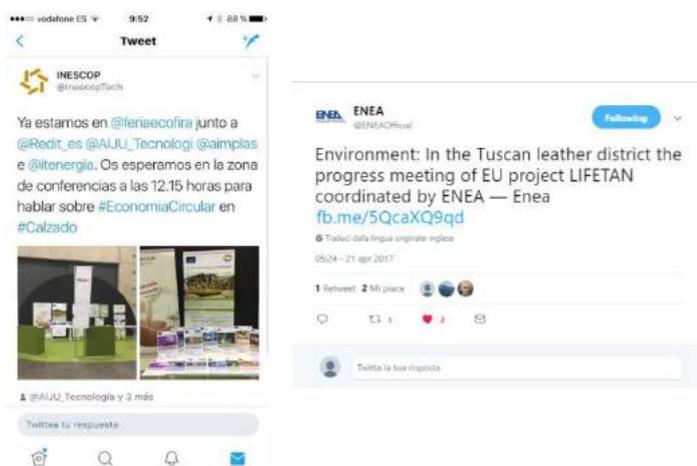


Figure 3.32 – Tweet on INESCOP and ENEA profile Twitter

### 3.5 LIFETAN brochure and gadgets

Various Brochure, leaflets, stickylabels and gadgets were realized and distributed during the project and are also available for afterlife.

- 1000 LIFETAN brochure printed in English and Italian languages.



Figure 3.33 – LIFETAN brochure in English and Italian

- Realization of 3000 sticky labels of LIFETAN project of different dimensions



Figure 3.34 – LIFETAN sticky labels

- Realization of 500 USB pen drives with 4.0 Gigabyte and LIFETAN project indication.



Figure 3.35 – LIFETAN pendrive



# ANNEX DISSEMINATION Eco friendly tanning cycle



- 3000 leaflets printed in English, Italian and Spanish languages, as A4 copies of LIFETNA notice board and posters

**LIFETAN - Eco friendly tanning cycle**  
Funded by the European Union with the LIFE programme (2014-2020)

**PROJECT**  
LIFETAN aims at demonstrating, in the whole leather tanning sector, the use of innovative natural products and technologies for the tanning, defatting, fatting, dyeing and tanning phases.

**EXPECTED RESULTS**

- 5 new tanning formulations, with natural products
- recycling and use of poultry waste to utilize technical products for the tanning phase
- 100 leather samples tanned with natural products for each level:
  - Laboratory - semi-industrial - pre-industrial
- further 100 leather products to test with EU Ecolabel criteria
- 30% reduction of pollutants in wastewater
- 20% reduction of water consumption
- 20% reduction of greenhouse gases
- increased biodegradability of the used molecules
- increased penetration of hides by reagent products and high performance of the finished product
- demonstration of the technical, social and economic feasibility of chrome-free leather tanning.

**OBJECTIVES**  
The main environmental, social and economic goal is the replacement of current conventional chemical and toxic products with natural products in the whole tanning cycle, in order to establish a significantly more sustainable and convenient business for companies. Production of high quality leather products, traditional or new, perfectly workable.

**Dissemination at three levels:**

- 1st Laboratory level
- 2nd Semi-industrial level
- 3rd Pre-industrial level

[www.lifetan.eu](http://www.lifetan.eu)

Partners: ENEA, INESCOP, TADMILA S.L., CECOM, NEVYPOD, TADMILA S.L.

**LIFETAN - Eco friendly tanning cycle**  
Finanziato dall'Unione Europea con il Programma LIFE (2014-2020)

**PROGETTO**  
LIFETAN intende dimostrare l'applicabilità di prodotti naturali a base vegetale, animale e di sottoprodotto animale per l'intero processo concettuale delle pelli, ed in particolare nelle fasi: macerazione, sgrassaggio, faticatura, ingrosso e colorazione.

**ISULTATI ATTESI**

- 5 nuove formulazioni con prodotti naturali per il processo di concia
- riciclo di polleria e uso per prodotti tecnici per la fase di macerazione
- 100 pelli conciate con prodotti naturali per ogni livello di dimostrazione: laboratorio - semi-industriale - pre-industriale
- ulteriori 100 prodotti in pelle in fase con i criteri del marchio europeo Ecolabel
- riduzione del 30% di inquinanti nelle acque reflue
- riduzione del 20% del consumo di acqua durante il processo di concia
- riduzione del 20% di emissioni di gas serra
- aumento della biodegradabilità delle molecole impiegate
- aumento della penetrazione nella pelle da parte dei reagenti prodotti usati e migliori prestazioni dei prodotti finiti
- dimostrazione della fattibilità tecnica, sociale ed economica della concia delle pelli senza l'uso di Cromo

**OBIETTIVI**  
L'obiettivo principale del progetto è la sostituzione di prodotti chimici tossici attualmente impiegati nell'industria conciatrice con prodotti naturali, al fine di raggiungere un significativo business sostenibile e conveniente per le aziende. Realizzazione di prodotti in pelle di alta qualità, lavorabili e nuovi, perfettamente lavorabili.

**Disseminazione a tre livelli:**

1. Scala di laboratorio
2. Scala semi-industriale
3. Scala pre-industriale

[www.lifetan.eu](http://www.lifetan.eu)

Coordinatore del progetto: ENEA  
Partner: INESCOP, TADMILA S.L., CECOM, NEVYPOD, TADMILA S.L.

**LIFETAN - Eco friendly tanning cycle**  
Demonstration of eco friendly tanning cycle by spectroscopic techniques

**PROGETTO**  
LIFETAN aims at demonstrating the use of innovative natural and reagent-free products and technologies for the tanning, defatting, fatting, dyeing and tanning phases.

**OBJECTIVES**

- The main environmental, social and economic goal is the replacement of current conventional chemical and toxic products with natural and reagent-free products in the whole tanning cycle
- Maintaining the leather high quality standards, the project proposes:
  - Chromium free tanning cycle
  - 20% reduction of chromium salts with the new natural products
- Other natural from agricultural byproducts

**DEMONSTRATION AT THREE LEVELS:**

- 1st Laboratory level
- 2nd Semi-industrial level
- 3rd Pre-industrial level

**LEATHER CHARACTERIZATION TECHNIQUES**

- FTIR: Infrared spectra analysis
- SEM: Morphology and microstructure analysis
- TGA: Thermal stability and weight loss analysis

[www.lifetan.eu](http://www.lifetan.eu)

Partners: ENEA, INESCOP, TADMILA S.L., CECOM, NEVYPOD, TADMILA S.L.

**Eco friendly tanning cycle**  
(Duration: 01/10/2015 - 30/09/2017)

**OBJECTIVE:**  
To demonstrate alternative products and technologies for environmental improvement of the tanning process.

**EXPECTED RESULTS:**

- Processing of hides using products with less environmental impact:
  - Poultry manure in the tanning phase
  - Metals-free tanning agents
  - Natural-based dyes and defatting agents obtained from dairy industry wastes
  - Fatliquors derived from natural oils alternative to chloroparaffins
- High quality leathers, free from restricted substances and more environmentally friendly
- Improvement of the competitiveness of EU tanneries.

[www.lifetan.eu](http://www.lifetan.eu)

Partners: ENEA, INESCOP, TADMILA S.L., CECOM, NEVYPOD, TADMILA S.L.

**Curcione di pelle rispettosa con il medio ambiente**  
(Duración: 01/10/2015 - 30/09/2017)

**OBJETIVO:**  
Dimostrazione del uso di prodotti e tecnologie alternative per la mejora ambiental del proceso di concia della pelle.

**RESULTADOS ESPERADOS:**

- Procesado de pieles mediante productos de menor impacto ambiental:
  - Residuos avícolas en la etapa de rendido enzimático
  - Colorantes y desengrasantes naturalizados obtenidos a partir de residuos de la industria láctea
  - Engrasas derivados de aceites naturales alternativos a los cloroparafinas
- Obtención de pieles de alta calidad, exentas de sustancias restringidas y más respetuosas con el medio ambiente
- Mejora de la competitividad de las tannerías de la Unión Europea

[www.lifetan.eu](http://www.lifetan.eu)

Partners: ENEA, INESCOP, TADMILA S.L., CECOM, NEVYPOD, TADMILA S.L.

**LIFETAN - Eco friendly tanning cycle**  
Eco friendly leather: Energy Dispersive X-Ray Spectroscopy combined with Scanning Electron Microscopy and Thermogravimetric Analysis

**AIM OF THE PROJECT**  
Replacement of current conventional chemical and toxic products with innovative natural and reagent-free products in the whole tanning cycle, in order to establish a significantly more sustainable and convenient business for companies.

**LIFETAN OBJECTIVES**

- Using alternative fatliquors and defatting agents with reduced environmental impact
- Producing water-soluble dyes
- Employing natural-based dyes to replace synthetic products in the tanning phase
- Designing reagent-free fatliquors
- Introducing an innovative Chromium-free tanning technology

**LABORATORY LEVEL**  
The experimental part of the tanning cycle was evaluated using XRF, SEM and TGA testing, with XRF providing the most detailed information on the chromium content in the tanned leather.

**SEMI AND PRE-INDUSTRIAL LEVEL**  
The experimental part of the tanning cycle was evaluated using XRF, SEM and TGA testing, with XRF providing the most detailed information on the chromium content in the tanned leather.

**CONCLUSIONS**  
The experimental part of the tanning cycle was evaluated using XRF, SEM and TGA testing, with XRF providing the most detailed information on the chromium content in the tanned leather.

[www.lifetan.eu](http://www.lifetan.eu)

Partners: ENEA, INESCOP, TADMILA S.L., CECOM, NEVYPOD, TADMILA S.L.

Figure 3.36 – LIFETAN leaflets

- 6000 LIFETAN brochures printed in English and Italian languages.



Figure 3.37 – LIFETAN brochure in English and Italian

### 3.6 LIFETAN Video

The realization of the project video was performed by the Service communication and promotion of ENEA (ENEA REL-PROM). In particular, ENEA REL-PROM unit shot various scenes and video interviews in ENEA Faenza, CNR-ICCOM and Newport premises while INESCOP shot the scenes in INESCOP and TRADELDA premises, in March and November 2017. The predisposition and editing of the project LIFETAN video and of its preview was performed by ENEA REL-PROM. Dialogues and texts were defined by all beneficiaries.

The LIFETAN video and its Italian preview was disseminated in LIFETAN website homepage and also by means of the following links:

- <https://www.youtube.com/watch?v=Cz62RNiqQbk>
- <http://www.cnrweb.tv/un-progetto-europeo-green-per-lindustria-conciaria/>
- <http://notizie.tiscali.it/feeds/pelle-green-progetto-lifetan/>
- [http://www.adnkronos.com/sostenibilita/risorse/2018/03/07/pelle-green-con-progetto-lifetan\\_kJd3cKEzay245YDTsDvdsO.html](http://www.adnkronos.com/sostenibilita/risorse/2018/03/07/pelle-green-con-progetto-lifetan_kJd3cKEzay245YDTsDvdsO.html)
- [http://www.ansa.it/canale\\_ambiente/notizie/green\\_economy/2018/01/26/lindustria-europea-della-pelle-diventa-piu-green\\_0990a98a-70fe-459f-a639-26cc3b27bd89.html](http://www.ansa.it/canale_ambiente/notizie/green_economy/2018/01/26/lindustria-europea-della-pelle-diventa-piu-green_0990a98a-70fe-459f-a639-26cc3b27bd89.html)
- <https://www.biopianeta.it/2018/01/lifetan-la-pelle-green-dellindustria-conciaria-guarda-il-video/>
- <http://www.minambiente.it/pagina/lifetan-enea>

It was presented at LIFETAN workshop and training course in Pisa (5<sup>th</sup> and 19<sup>th</sup> December 2017).



Figure 3.38 – Photos during video realization

### 3.7 LIFETAN Layman's report

Layman's report was designed by ENEA with the support of an external company (Internettfly) for graphics and printing. The contents were defined with beneficiaries that collaborated also for translation in Italian, English and Spanish languages.

The PDF files of LIFETAN Layman's report (100 copies of 12 pages) were printed in Italian, English and Spanish languages.



Figure 3.39 – LIFETAN Layman's report

### 3.8 LIFETAN sample books

Books contained leather samples produced with the innovative LIFETAN technology were created for fair events and promotions, in order to allow visitors appreciate the leather materials tanned with the new natural products.

In particular were produced n.2 LIFETAN samples books by TRADELDA/INESCOP (Fig. 3.40) and n.2 LIFETAN samples books by NEWPORT (Fig. 3.41).



Figure 3.40 – LIFETAN leather books prepared by INESCOP/TRADELDA



Figure 3.41 – LIFETAN leather books prepared by Newport



#### 4. ACTION D5 - International conferences, events and fairs

During all the project duration, LIFETAN project was presented to events, workshop, etc. or to public fairs, conferences, events externally organized, as foreseen in Action D5, in order to inform interested stakeholders about the project objectives, foreseen and obtained results.

At the end of the project, 25 events were attended, as follow reported.

- 1) 16th Week of Scientific and Technological Culture, Research Laboratories of ENEA in Faenza, 24th March 2016
- 2) Workshop “Sostenibilidad en la industria del calzado” (Sustainability in the footwear industry), INESCOP - Elda –Alicante (Spain), 16th June 2016
- 3) SIMAC & Tanning Tech 2016, Milan (Italy), 23rd - 25th February 2016
- 4) Industrial Technologies 2016, Amsterdam (The Netherlands), 22nd - 24th June 2016
- 5) MOMAD Metrópolis, Salón Internacional de Textil, Calzado y Complementos, Madrid (Spain), 9th - 11th September 2016
- 6) ECOFIRA 2016, International Fair of Environmental Solutions, Valencia (Spain), 28th - 29th September 2016
- 7) LINEAPELLE Milano 2016, International Leather Fair, Milano (Italy), 20th – 22nd September 2016
- 8) FUTUR MODA ALICANTE - International Fair of Leather, Components and machinery for Footwear and Leather Goods, Alicante (Spain), 5th – 6th October 2016
- 9) Analytical Spectroscopy Congress 2016, 29th May – 2nd June 2016, Matera (Italy)
- 10) Congresso Nazionale di Chimica Analitica, Società Chimica Italiana, Giardini Naxos, Messina (Italy), 18th -22nd September 2016
- 11) Event Bright Pisa, Area della Ricerca CNR, 30th September 2016
- 12) Switch-med Side Event - Tunis (Tunisia), 2nd December 2016
- 13) Workshop CircularER – MIC Faenza (Italy), 15th January 2017
- 14) Lineapelle TanningTech Fair – Milan (Italy), 21st-23rd February 2017
- 15) MOMAD Fair - Madrid (Spain), 4th-6th March 2017
- 16) International Networking Event - Apulia-Net, Brindisi (Italy), 14th March 2017
- 17) Futurmoda Fair - Alicante (Spain), 22nd-23th March 2017



- 18) “Towards a sustainable footwear” workshop the premises of INESCOP in Elda –Alicante (Spain), 18th May 2017
- 19) CSI XL-Colloquium Spectroscopicum Internationale XL – Pisa (Italy), June 11-16, 2017
- 20) XXVI Congresso Nazionale della Società Chimica Italiana 2017 - Paestum (SA) Italy, 10th-14th September 2017
- 21) MOMAD Metrópolis, Salón Internacional de Textil, Calzado y Complementos, Madrid (Spain), 22th - 24th September 2017
- 22) LINEAPELLE Milano 2017, International Leather Fair, Milano (Italy), October 2017
- 23) ECOMONDO 2017 – The green technology expo - Rimini (Italy) 7th-10th November 2017
- 24) CONAMA 2017 – National congress of the environment Valencia (Spain), 28th November 2017
- 25) ECOFIRA 2017 – International Fair of Environmental Solutions, Valencia (Spain), 28th - 30th November 2017

**16th Week of Scientific and Technological Culture, Research Laboratories of ENEA in Faenza, 24th March 2016**

The LIFETAN project program was disseminated with a power point presentation on 24th March 2016 at Research Laboratories of ENEA in Faenza (Fig. 4.1-4.3), during the 16th Week of Scientific and Technological Culture organized by local public administration for the scientific culture dissemination in the territory. The reference strategic policies, actions and objectives of LIFETAN project were presented to about forty guests, including private citizens and student of the courses "Energy supply and construction of plants" and "Management and verification of energy facilities" (Superior Technical Institute of Ravenna).



Figure 4.1 - 16th Week of Scientific and Technological Culture - LIFETAN power point



Figure 4.2 - 16th Week of Scientific and Technological Culture - Alice Dall'Ara of ENEA during the LIFETAN presentation



ITS "TECNICO SUPERIORE PER L'APPROVVIGIONAMENTO ENERGETICO E LA COSTRUZIONE DI IMPIANTI"  
RIF PA 2014-2925/RER

N°	Cognome	Nome	Codice fiscale	Data di nascita	Lugaro di nascita
1	ALIBALI	BEKIM	LBELBEM95P11Z100C	11/09/1995	ALBANIA
2	AMANZIO	ANDREA	MNZNDR031H14E230N	14/06/1995	LUGO (RA)
3	ASSIRELLI	DIAN MARCO	SSRGMR95C17H1983	17/03/1995	RAVENNA
4	CANNIZZARO	NUNZIO LUIGI MARIA	CNNNZL04E27G2733V	23/05/1984	PALESTRO
5	COLASUNNO	ANDREA	CLSNDR95B22H199F	22/02/1995	RAVENNA
6	COMPAGNUCCI	FEDERICO	CMPTFC93L07H198P	07/07/1995	RAVENNA
07	FAYE	BASSIRDI	FYABSR85T30Z343X	30/13/1985	SENEGAL
08	FRANCOLA	ELIA	FRNLBBD06H199F	06/04/1989	RAVENNA
09	GABRIELLI	NICOLA	GEBNCL95A02H1991	02/01/1993	RAVENNA
10	GATTI	MICHELA	GTTMHL95B55H199N	15/02/1995	RAVENNA
11	MACI	MICHELE	MCAMHL97C11A94V	11/03/1995	BOLOGNA

12	MEZDI	FABIO	MEZFBASC95N09P	29/05/1995	RAVENNA
13	MONTE	SIMONE	MNTSMNG95G2619P8	26/06/1995	RAVENNA
14	SARTI	LORENZO	SRTLNDRIAT10H9P	04/01/1995	RAVENNA
15	ZUCCARINO	CIGARA	ZUCCBRI95N0799P	17/06/1995	RAVENNA

16) CRODELLI GIUSEPPE  
17) DOMENICINI FRANCESCO  
18) BALDACCINI MATTEO

RIF. P.A. 2014-4194/RER "TECNICO SUPERIORE PER LA GESTIONE E LA VERIFICA DI IMPIANTI ENERGETICI" I ANNUALITA'

N°	Cognome	Nome	Codice fiscale
1	ALIVANESI	ELVANA	ELNVAN84E49E33A
2	BABELLI	ANDREA	BRLNDR94C07P257A
3	BELLI	MARCO	BLMRCB7E25D704H
4	BISCHI	MATTEO	BISMTT9013H199E
5	BRODI	ALESSANDRO	BRLSNRSL27233L
6	COCCIANI	PAVEL	CCOPLN84H01H9P
7	CORTI	ANDREA	CNTDRR85B51N4S
8	CRODELLI	GIUSEPPE	CROCFP96L23H19P
9	DALVA	EDMONDO	DUGS89N6L23H19V
10	DEODORIANI	EMILIO	DEODEN95M0E230
11	DI CECILIA	DAVID	DCDIBAN82B099P
12	DIOGLIO	GIANLUCA	DIOLGL03F16E03R
13	FAGGI	FABIO	FAGFBAT819H09P
14	FILIPPI	ROCCARDO	FILROCC95M0E198P
15	GIROTTI	FILIPPO	GIOTFIB84E433B

16	GRUA	ROMARIO	GRUAR95P03L009P
17	GRIZIARDI	LUCA	GRIZLGRF10D79H
18	MAFFEO	NICOLA	MAFFNL95A00C25G
19	MARCONI	LUCA	MARLCA95N01H19A
20	NALZINI	FELIPPO	NALFPP95B01H19V
21	OTTI	LORENZO	OTTLRN20P0279E0
22	RAFFI	LUCA	RAFFLCA95L199E
23	TRISSI	ANDREA	TRSDNDR95B199P

24) AMELI FRANCO  
25) MIA FRACCA 25B231

Figure 4.3 - 16th Week of Scientific and Technological Culture - Participant list

***Workshop “Sostenibilidad en la industria del calzado” (Sustainability in the footwear industry), INESCOP - Elda –Alicante (Spain), 16th June 2016***

The workshop “Sostenibilidad en la industria del calzado” (Sustainability in the footwear industry) was held on 16th June 2016 at the premises of INESCOP in Elda –Alicante (Spain).

This workshop, organized in parallel with the “Green Week 2016” as a partner event, was intended to inform the attendees about the environmental improvement projects that are being developed by INESCOP for footwear and related industries. In this context, at this workshop was presented the LIFETAN project, explaining the project objectives and stages and the technical project results.



Figure 4.4 - Presentation of the LIFETAN project

The workshop brought together around 51 technicians from leather and footwear industries, chemical suppliers and public bodies, and ended with a lively round table, where the attendees participated actively and showed their interest in the use of the natural dyes developed in the LIFETAN project.

Afterwards, AENOR (Spanish Association for Standardisation and Certification) also took part with a presentation titled “Environmental Standardisation and Certification in Footwear” and ECOEMBES (Ecoembalajes España, S.A.) led a workshop about “Packaging Recycling and Eco-design in the Footwear Sector” and finally, there was some extra time for net-working.



Figure 4.5 - Workshop attendances during the lively round table

***SIMAC & Tanning Tech 2016, Milan (Italy), 23rd - 25th February 2016***

SIMAC & Tanning Tech is the international fair for equipment and technologies for the footwear, leather goods and tanning industries, and is held together with LINEAPELLE, the international fair for accessories, components, leathers, synthetics, fabrics and models for footwear, leather goods, clothing and furniture. In the edition of February 2016, LIFETAN project was disseminated at INESCOP's stand.



Figure 4.6 - Dissemination of LIFETAN project at SIMAC & Tanning Tech 2016.

***Industrial Technologies 2016, Amsterdam (The Netherlands), 22nd - 24th June 2016***

Industrial Technologies 2016 is the largest networking conference in the field of new production technologies, materials, nanotechnology, biotechnology and digitalisation in Europe, with high level delegates. Industrial Technologies 2016 is a three days conference with a wide variety of plenary and interactive sessions, inspiring keynote speakers, case studies, eye-opening site visits and numerous opportunities to get in contact with new business partners.

This conference brought together research, industry, education, finance and policy representatives from manufacturing and process industry and technology domains from all over Europe to identify priorities that are crucial to strengthen the European industrial innovation ecosystem. In total, there were 1135 participants from 42 countries. In this edition, the LIFETAN project was disseminated at the Valencian Network of Technology Institutes (REDIT) stand.



Figure 4.7 - Dissemination of LIFETAN project at Industrial Technologies 2016

***MOMAD Metrópolis, Salón Internacional de Textil, Calzado y Complementos, Madrid (Spain), 9th - 11th September 2016***

INESCOP has participated in MOMAD, International Exhibition of Textile, Footwear and Accessories, held from 9th to 11th September 2016 in Madrid, displaying the different R&D projects in which INESCOP is currently involved, including the LIFETAN project.



Figure 4.8 - MOMAD 2016: dissemination of LIFETAN project

***ECOFIRA 2016, International Fair of Environmental Solutions, Valencia (Spain), 28th - 29th September 2016***

The LIFETAN project results were presented by INESCOP in ECOFIRA 2016, the International Fair of Environmental Solutions, held in Valencia from 28 to 29th February 2016. In this edition, the LIFETAN project was disseminated at the Valencian Network of Technology Institutes (REDIT) stand and by means a presentation of the LIFE projects ongoing by INESCOP in a conference about “Techniques and processes environmentally friendly in the tanning and footwear industry”.



Figure 4.9 - ECOFIRA 2016 fair: dissemination of LIFETAN project



***LINEAPELLE Milano 2016, International Leather Fair, Milano (Italy), 20th – 22nd September 2016***

During LINEAPELLE Milano Fair, organized by Fiera Milano - Lineapelle organization, Tradelda S.L. has made at the Stand different presentations, meetings, expositions and explanations about LIFETAN final issues and developments got till middle of September 2016. Posters, scientific papers was used for these porpoises.

On these days has attended to the Stand Managers and Chief Technicians from different leather shoes and leather bags companies, people working on leather trade field, RTD performers, Chemical companies representors and technicians, tannery general/sales managers, and leather SMEs workers, from many different nationalities. In total we estimate around 30-35 persons.



Figure 4.10 - Dissemination of LIFETAN project at Lineapelle 2016 at Tradelda stand

***FUTUR MODA ALICANTE - International Fair of Leather, Components and machinery for Footwear and Leather Goods, Alicante (Spain), 5th – 6th October 2016***

During Futurmoda Alicante Fair Tradelda S.L. has made at the Stand different presentations, meetings, expositions and explanations about LIFETAN final issues and developments got till middle of September 2016. Posters, scientific papers was used for these porpoises.

On these days has attended to the Stand Managers and Chief Technicians from different leather shoes and leather bags companies, people working on leather trade field, RTD performers, Chemical companies representors and technicians, tannery general/sales managers, and leather SMEs workers, from many different nationalities. In total we estimate around 15-20 persons.



Figure 4.11 - Dissemination of LIFETAN project at FUTUR MODA Alicante 2016 at Tradelda stand

*Analytical Spectroscopy Congress 2016, 29th May – 2nd June 2016, Matera (Italy)*

LIFETAN notice board and posters and dissemination on technical activities have been presented. A scientific poster “*Fourier Transform Infrared Spectroscopy in the leather quality control: the project LIFETAN: and eco friendly tanning cycle*” was presented by ICCCOM-CNR during the Analytical Spectroscopy Congress. The LIFETAN results obtained on analysed leather samples and the application of spectroscopic techniques used for LIFETAN project were discussed with other researcher and congress participant.



**P5** *Fourier Transform Infrared Spectroscopy in the leather quality control: the project LIFETAN: and eco friendly tanning cycle*  
Emilia Bramanti<sup>1</sup>, Valentina Della Porta<sup>1</sup>, Massimo Onor<sup>1</sup>, Beatrice Campanella<sup>1,2</sup>, Alessandro D’Ulivo<sup>2</sup>, Emanuela Pitzalis<sup>1</sup>, Marco Carlo MAScherpa<sup>3</sup> and Alice Dall’Ara<sup>3</sup>  
<sup>1</sup>Consiglio Nazionale delle Ricerche (CNR), Istituto di Chimica dei Composti Organometallici, UOS di Pisa  
<sup>2</sup>Dipartimento di Chimica e Chimica Industriale, Università di Pisa  
<sup>3</sup>Unità Tecnica Tecnologie dei Materiali Faenza (UTTMAF)

## Book of Abstracts

Figure 4.12 – Book of abstract LIFETAN poster at Analytical Spectroscopy Congress, Matera 2016



Figure 4.13 –LIFETAN notice board at Analytical Spectroscopy Congress, Matera 2016

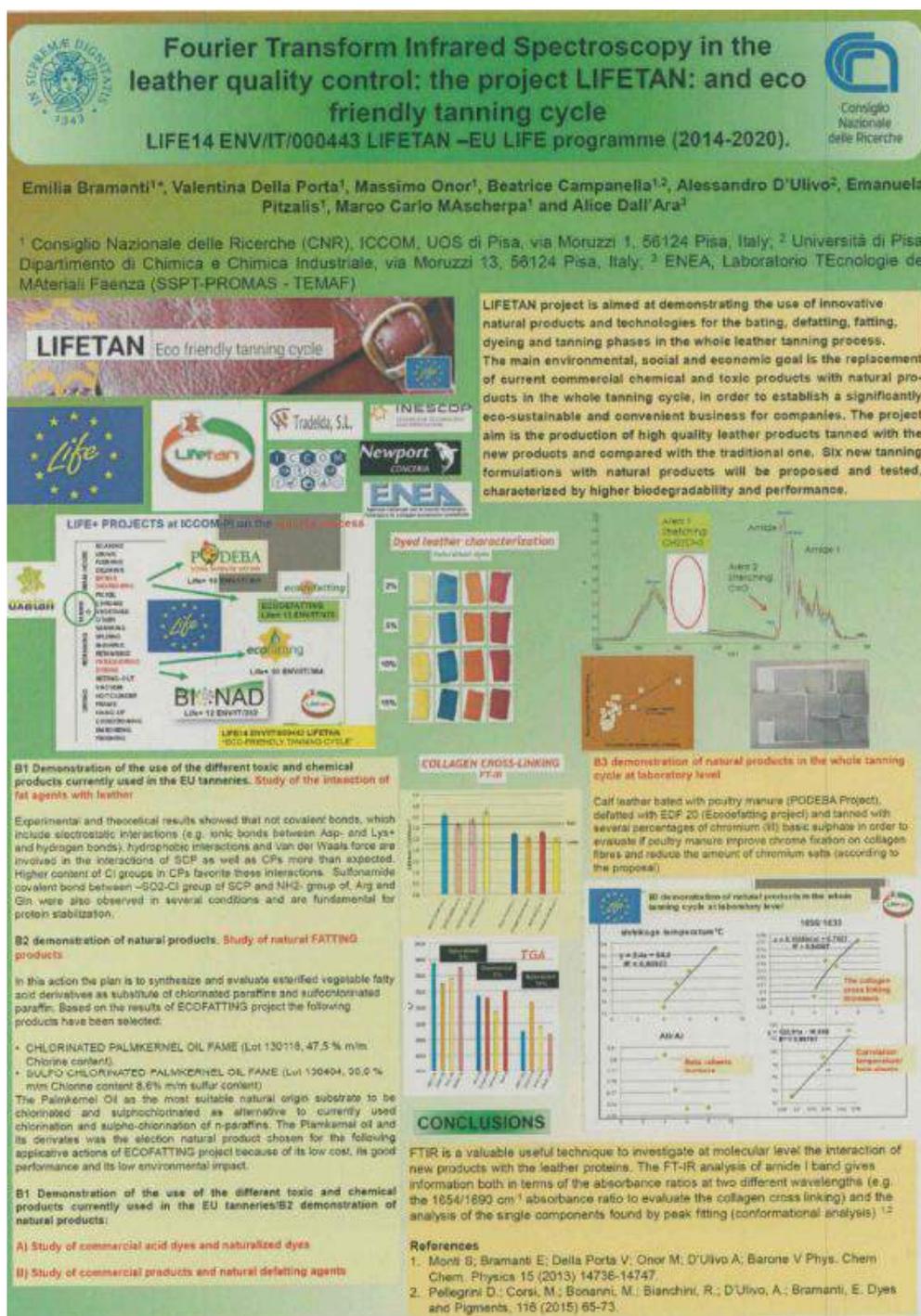
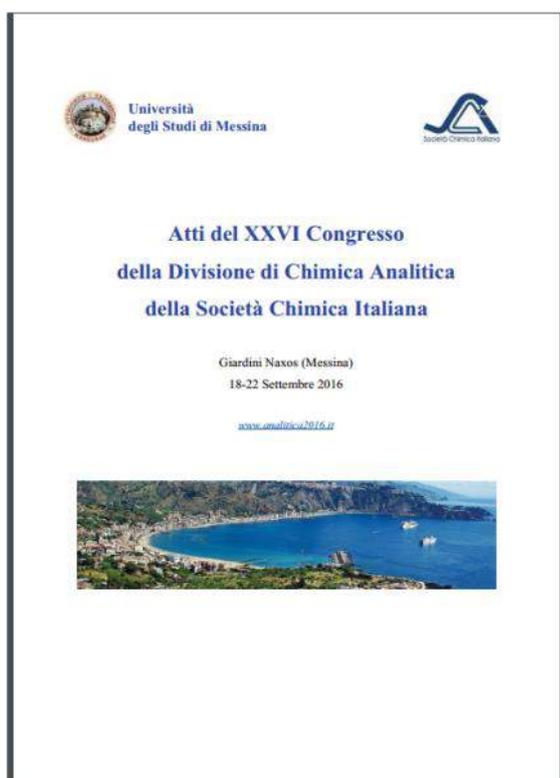


Figure 4.14 – Book of abstract LIFETAN poster at Analytical Spectroscopy Congress, Matera 2016

*Congresso Nazionale di Chimica Analitica, Società Chimica Italiana, Giardini Naxos, Messina (Italy), 18th -22nd September 2016*

LIFETAN notice board and posters and dissemination on technical activities have been presented. A scientific poster “*Fourier Transform Infrared Spectroscopy for the leather quality control in the eco friendly tanning cycle*” was presented by ICCCOM-CNR during the Congresso Nazionale di Chimica Analitica, Società Chimica Italiana, held in Giardini Naxos, Messina (Italy) from 18th to 22nd September 2016. The LIFETAN results obtained on analysed leather samples and the application of spectroscopic techniques used for LIFETAN project were discussed with other researcher and congress participant.



P17

**FOURIER TRANSFORM INFRARED SPECTROSCOPY FOR THE LEATHER QUALITY CONTROL IN THE ECO FRIENDLY TANNING CYCLE**

E. Bramanti<sup>1</sup>, V. Della Porta<sup>1</sup>, M. Onor<sup>1</sup>, B. Campanella<sup>1,2</sup>, A. D'Ulivo<sup>2</sup>, E. Pitzalis<sup>1</sup>, M.C. Mascherpa<sup>1</sup>, A. Dall'Ara<sup>3</sup>

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<sup>2</sup>Dipartimento di Chimica e Chimica Industriale, Università di Pisa, via Moruzzi 13 – 56124 Pisa

<sup>3</sup>Unità Tecnica Tecnologie dei Materiali Faenza (UTTMATF)

The aim of the LIFETAN project<sup>1</sup> is the demonstration of the use of innovative natural products and technologies for the bating, defatting, fattening, dyeing and tanning phases in the whole leather tanning process.

The main environmental, social and economic goal is the replacement of current commercial chemical and toxic products with natural products in the whole tanning cycle, in order to establish a significantly eco-sustainable and convenient business for companies. The project aim is the production of high quality leather products tanned with the new products and compared with the traditional one. Six new tanning formulations with natural products will be proposed and tested, characterized by higher biodegradability and performance.

FTIR is a valuable useful technique to investigate at molecular level the interaction of new products with the leather proteins. The FT-IR analysis of amide I band gives information both in terms of the absorbance ratios at two different wavelengths (e.g. the 1654/1690 cm<sup>-1</sup> absorbance ratio to evaluate the collagen cross linking) and the analysis of the single components found by peak fitting (conformational analysis)<sup>2,3</sup>.

[1] LIFE14 ENV/IT/000443 LIFETAN -Funded by the European Union with the LIFE programme (2014-2020)

[2] Monti S; Bramanti E; Della Porta V; Onor M; D'Ulivo A; Barone V. Phys. Chem Chem. Physics 15 (2013) 14736-14747.

[3] Pellegrini D.; Corsi, M.; Bonanni, M.; Bianchini, R.; D'Ulivo, A.; Bramanti, E. Dyes and Pigments, 116 (2015) 65-73.

Figure 4.15 – Scientific LIFETAN poster at Congresso Nazionale di Chimica Analitica, Messina 2016



***Event Bright Pisa, Area della Ricerca CNR, 30th September 2016***

The LIFETAN project was disseminated within the event Bright held Pisa by ICCOM-CNR. The event is correlated to the European Researchers' Night promoted in Europe on 30th September 2016. More than thousand people visited stand organized at Area della Ricerca del Cnr di Pisa.



Figure 4.16- LIFETAN notice board and photos at Bright Pisa 2016

***Switch-med Side Event - Tunis (Tunisia), 2nd December 2016***

INESCOP has been showed information about the LIFETAN project at the Switch-med Side Event, organized by UNIDO and the UE, Tunis (Tunisia), on 2nd December 2016 by means of a conference titled “Eco-innovative solutions for footwear & leather industries”.



Figure 4.17- LIFETAN at Switch-med Side Event - Tunis (Tunisia), 2nd December 2016

***Workshop CircularER – MIC Faenza (Italy), 15th January 2017***

ENEA participated at the local workshop CircularER focused on Circular Economy, recycling and re-use of materials and the environmental sustainability, in the premises of International Museum of Ceramics in Faenza. ENEA presented the LIFETAN project activities and results within the session “Secondary raw materials”. Important national and local policy makers attended to the workshop as Italian Minister of Environment Gian Luca Galletti, the president of Emilia-Romagna region, the Mayor of Faenza and local delegates of enterprises.



Figure 4.18- Alice Dall’Ara with Italian Minister of Environment Gian Luca Galletti and presentation of LIFETAN at Workshop CircularER – MIC Faenza (Italy), 15th January 2017

***SIMAC & Tanning Tech 2017, Milan (Italy), 21rd to 23th February 2017***

SIMAC TANNING TECH, the international exhibition of machinery and technology for the footwear, leather-goods and tanning industry, closed with a two-figure increase in visitor numbers compared with 2016, which had already been a record year for the event, and recorded longer exhibition visits. Increases were also seen in exhibition space (+20%) – a concrete sign of a constantly growing exhibition that can increasingly adapt to market demands. In the edition of February 2017, LIFETAN project was disseminated at INESCOP’s stand.



Figure 4.19 - Dissemination of LIFETAN project at SIMAC & Tanning Tech 2017

***MOMAD Fair - Madrid (Spain), 4th-6th March 2017***

INESCOP has been at the MOMAD Fair in Madrid (Spain).



Figure 4.20 - INESCOP stand at MOMAD Fair - Madrid (Spain), 4th-6th March 2017

***International Networking Event - Apulia-Net, Brindisi (Italy), 14th March 2017***

ENEA- TEMAF participated at the common plenary session devoted to future partnership from Italy, Croatia, Albania and Montenegro promoted by Enterprise Europe Network (EEN) in different field. ENEA presented the results of LIFETAN during the thematic session named “Innovation and competitiveness” at the present public mainly composed by Public Authorities, Universities, Public and Private Research, Technology Organisations and Non-profit private organisations.

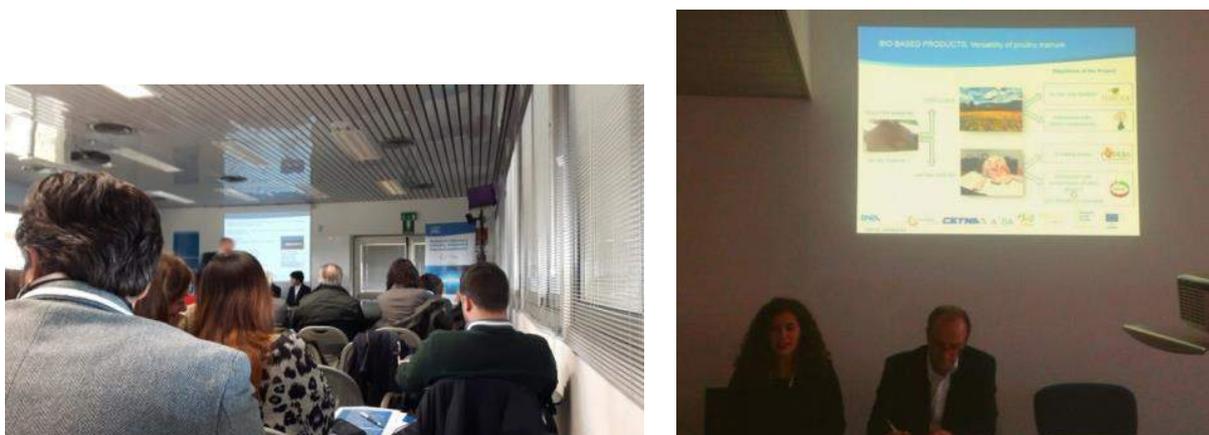


Figure 4.21 – ENEA at International Networking Event - Apulia-Net, Brindisi (Italy), March 2017

*Futurmoda Fair - Alicante (Spain), 22nd-23th March 2017*

TRADELDA participated with a stand at Futurmoda Fair in Alicante (Spain).



Figure 4.22 – Tradelda stand at Futurmoda Fair - Alicante (Spain), March 2017

*“Towards a sustainable footwear” workshop the premises of INESCOP in Elda –Alicante (Spain), 18th May 2017*

INESCOP has organized a workshop titled ‘Hacia un calzado sostenible’ (Towards a sustainable footwear) in the occasion of “Green Week 2017” as a partner event. The workshop was held on 18th May 2017 at the premises of INESCOP in Elda –Alicante (Spain). This workshop was intended to inform the attendees about the environmental improvement projects that are being developed by INESCOP for footwear and related industries. In this context, at this workshop was presented the LIFETAN project, explaining the project objectives and stages and the technical project results. The workshop brought together around 37 technicians from leather and footwear industries, chemical suppliers and public bodies, and ended with a lively round table, where the attendances participated actively and showed their interest in the LIFETAN project.



Figure 4.23 – INESCOP presents the LIFETAN project at the workshop “Towards a sustainable footwear”, May 2017.

*CSI XL-Colloquium Spectroscopicum Internationale XL – Pisa (Italy), June 11-16, 2017*

ENEA and ICCOM-CNR participated at the CSI XL 2017 organized by the Institute of Chemistry of Organo Metallic Compounds (ICCOM) Pisa - Italian National Research Council (CNR) in Congress Palace, Pisa, Italy. ENEA presented 2 scientific posters: “Demonstration of eco friendly tanning cycle by spectroscopic techniques” and “Eco friendly leather: Energy Dispersive X-Ray Spectroscopy combined with Scanning Electron Microscopy and Thermogravimetric Analysis”. ICCOM presented the scientific poster “Fourier Transform Infrared Spectroscopy in the leather quality control”. The CSI XL represents a historic forum among scientists presenting and discussing recent developments in fundamentals and applications in all branches of Spectroscopy for several fields of interest (i.e. materials, environment, food, pharmaceuticals, cultural heritage, biology, nanotechnology, fuels). This context was suitable to show the experimental results obtained by spectroscopic techniques, such as Scanning Electron Microscopy (SEM), Energy Dispersive X-Ray Spectroscopy (EDS), Thermogravimetric Analysis (TGA) and Attenuated Total Reflectance Mid-Infrared (ATR-FTIR) Spectroscopy. The leather characterization allowed the monitoring of both the final leather quality and along the tanning cycle phases. Processes with standard reagents and natural/naturalized products were compared, revealing how the introduction of natural/naturalized products did not modify leather morphology (pore size and distribution), interaction with leather collagen and thermal behavior. LIFETAN brochures were distributed together with some posters copies with the project website and the contact persons e-mail addresses. Some hundreds of participants: researchers, exhibitors, sponsors, laboratory instruments suppliers.

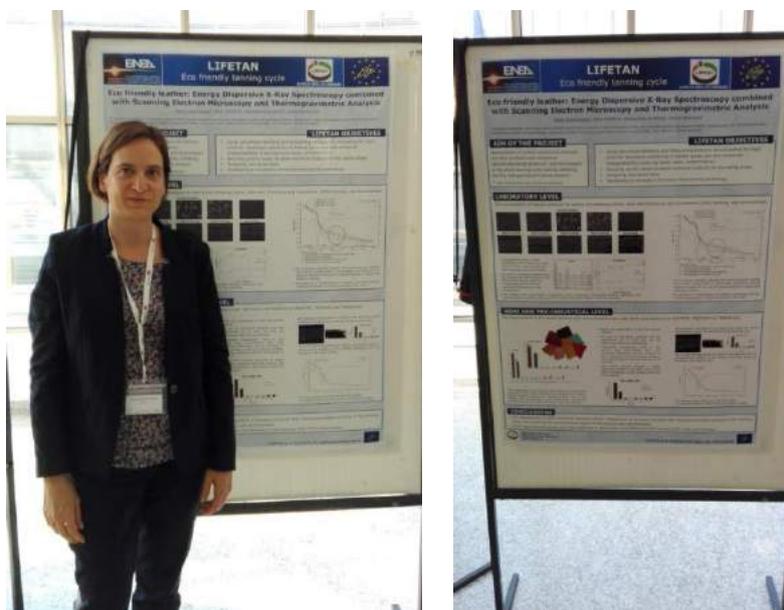


Figure 4.24 – ENEA poster at CSI XLPisa (Italy), June 11-16, 2017



Figure 4.25 – ENEA poster at CSI XLPisa (Italy), June 11-16, 2017

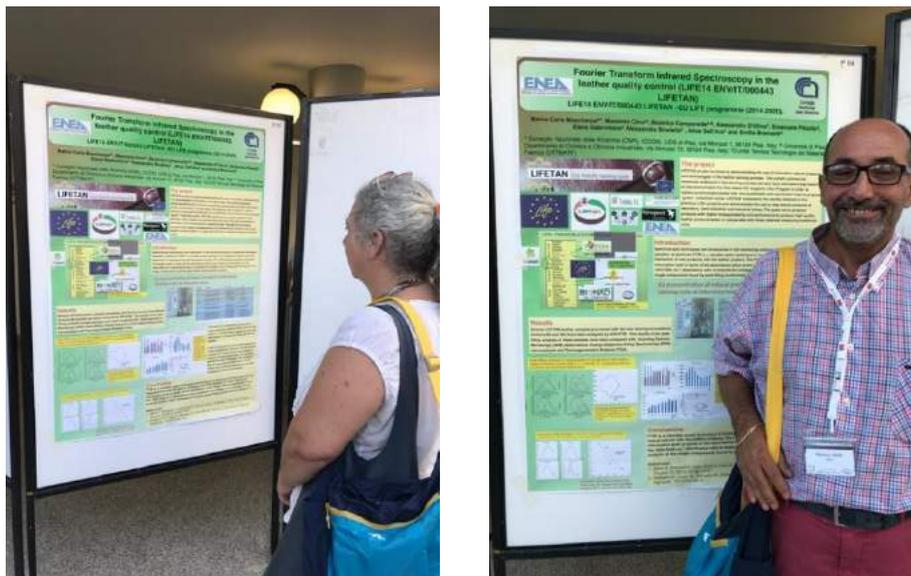


Figure 4.26– CNR-ICCOM poster at CSI XLPisa (Italy), June 11-16, 2017

**Focus Pime i emprendoria, 29 June 2017, Villena (Alicante), Spain**

On June 29, 2017 several European projects were presented within the framework of the presentation entitled "Circular economy in footwear and tanned" where the LIFETAN project was presented.



Figures 4.27 - Dissemination of LIFETAN project at Focus Pime i emprendoria 2017

**XXVI Congresso Nazionale della Società Chimica Italiana 2017 - Paestum (SA) Italy, 10th-14th September 2017**

A scientific poster "Fourier Transform Infrared Spectroscopy and Termogravimetric Analysis in the Leather Quality Control: the Project LIFETAN (LIFE14 ENV/IT/000443)" was presented by ICCOM-CNR during the Congresso Nazionale di Chimica Analitica, Società Chimica Italiana, held in Paestum, Salerno (Italy) from 10th to 14th September 2017. The LIFETAN results obtained on analysed leather samples and the application of spectroscopic and thermogravimetric techniques used for LIFETAN project were discussed with other researcher and congress participant.

XXVI Congresso Nazionale della Società Chimica Italiana

ANA-PO112

**Fourier Transform Infrared Spectroscopy and Termogravimetric Analysis in the Leather Quality Control: the Project LIFETAN (LIFE14 ENV/IT/000443)**

Massimo Onor<sup>a</sup>, Marco Carlo Mascherpa<sup>a</sup>, Beatrice Campanella<sup>a,b</sup>, Alessandro D'Ulivo<sup>a</sup>, Emanuela Pitzalis<sup>a</sup>, Elena Salernitano<sup>c</sup>, Alessandra Strafella<sup>c</sup>, Alice Dall'Arca<sup>c</sup>, Emilia Bramanti<sup>a</sup>

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<sup>b</sup>Department of Chemistry and Industrial Chemistry, University of Pisa, via Moruzzi 13, 56124 Pisa, Italy;

<sup>c</sup>Unità Tecnica Tecnologia dei Materiali Faenza (UTTMATF), Italy;

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LIFETAN project is aimed at demonstrating the use of innovative natural products and technologies in the leather tanning process. The current commercial chemicals employed in the tanning process are very toxic and have a big impact on the environment. For this reason, EU supports Life+ Program in order to replace products/processes with eco-sustainable and convenient ones to propose "green" industrial cycles.

LIFETAN implements the results obtained in five previous Life+ projects that successfully demonstrated the use of natural products in the tanning cycle: OXATAN for the tanning phase, PODEBA for bating, ECODEFATTING for defatting, ECOFATTING for the fattening phase, BIONAD for the dyeing phase. LIFETAN as well as all Life+ projects demonstrate the use of the new natural products at laboratory, semi-industrial and industrial phase. The goals are to propose products with higher biodegradability and performance to produce high quality leather products better or comparable with those obtained employing traditional ones.

Spectroscopic techniques are fundamental in the monitoring actions to characterize the leather samples. In particular FTIR is a valuable useful technique to investigate at molecular level the interaction of new products with the leather proteins. The FT-IR analysis of amide I band gives information both in terms of the absorbance ratios at two different wavelengths (e.g. the 1654/1690 cm<sup>-1</sup> absorbance ratio to evaluate the collagen cross linking) and the analysis of the single components found by peak fitting (conformational analysis). The results obtained on several LIFETAN samples obtained with the new tanning formulations are described and compared with thermogravimetric (TGA) data.

Figure 4.28– CNR-ICCOM and ENEA Abstract at SCI 2017



Figure 4.29 – CNR-ICCOM and ENEA Poster at SCI 2017

***MOMAD Metrópolis, Salón Internacional de Textil, Calzado y Complementos, Madrid (Spain), 22th - 24th September 2017***

INESCOP, with the presence of TRADELDA, has presented LIFETAN project at MOMAD Fair by means of a stand where LIFETAN dissemination materials, leathers and footwear has been showed. In addition, INESCOP also participated in a round table about “Sustainability in the footwear and related industries”, showing LIFETAN project as an example of reduction of the environmental impact of tanning companies through the use of products of natural origin and free of restricted substances.



Figure 4.30 -LIFETAN site at MOMAD (September 2017)



Figure 4.31 -. Round table at MOMAD Shoes 2017

***LINEAPELLE Milano 2017, International Leather Fair, Milano (Italy), 4 - 6 October 2017***

TRADELDA participated with a stand (Pad. 13P da H22 a H24), showed finished LIFETAN products and distributed LIFETAN materials.



Figure 4.32 -Tradelda stand at Lineapelle October 2017

***Futurmoda fair, 25th-26th October 2017, Elche (IFA)***

International Fair of Leather, Components and Machinery for Footwear and Leather Goods, organized by Spanish Footwear Components and Machinery Association (AEC). The LIFETAN leaflet and a video slideshow were displayed at INESCOP's booth. About 500 brands were represented by 309 exhibitors. The fair regularly receives 6,000 visitors.



Figure 4.33 - Futurmoda fair 2017: dissemination of LIFETAN project

**ECOMONDO 2017 – The green technology expo - Rimini (Italy) 7th-10th November 2017**

ENEA participated at Ecomondo 2017, the leading euro-mediterranean area green and circular economy expo, an international event with an innovative format that brings together all sectors of the circular economy in a single platform. Lifetan project results were presented in two different posters “Eco friendly tanning cycle based on natural/naturalized products” and “Chromium reduction in an eco friendly tanning cycle”.

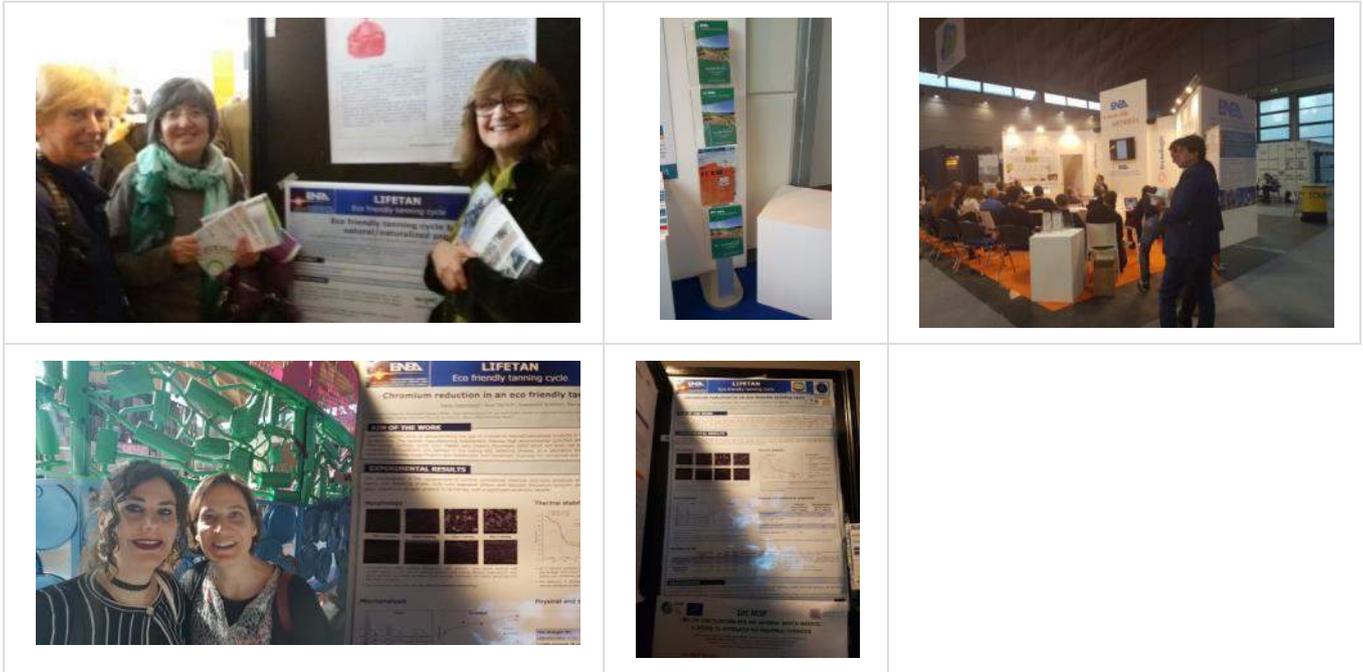


Figure 4.34 – ENEA at ECOMONDO 2017

**Stakeholders meeting en clave de innovación, 22 de noviembre, Villena (Alicante) Spain**

Meeting of companies from various sectors, including the footwear and tanning sector that are committed to following the guidelines set out in the study "The Strategic Lines of the Future Economy of Villena" prepared by the University of Alicante. In this event, LIFETAN was disseminated.



Figure 4.35 - Stakeholder meeting with dissemination of LIFETAN project

**CONAMA 2017 – National congress of the environment Valencia (Spain), 28th November 2017**

Inescop participated to CONAMA with the poster “Economía circular y sostenibilidad en las peles del futuro”.



Figure 4.36 - CONAMA 2017 – Photo at INESCOP poster

**ECOFIRA 2017 – International Fair of Environmental Solutions, Valencia (Spain), 28th - 30th November 2017**

INESCOP participated at ECOFIRA 2017, the International Fair of Environmental Solutions, hold in Valencia from 28th - 30th November 2017. INESCOP organized its stand with LIFETAN poster and project diffusion materials (leaflets, brochures, etc). The LIFETAN project was disseminated by INESCOP at the stand and by means of a presentation with title “Impulso a la economía circular en el calzado”.



Figure 4.37 - ECOFIRA 2017 INESCOP stand



## 5. ACTION D6 - Networking

LIFETAN networking activities were and are continuously activated during the project life according to the project progress. Networking activities are activated through direct contacts, emails and organisation and participation at different networking events in order to disseminate the knowledge about the LIFETAN project. A number of 10 projects or initiatives connected with LIFETAN project's was expected, while at the end of the LIFETAN project 13 projects have been connected and 12 networking initiatives were realized.

The results of the LIFETAN networking activities are reported. The networking with other project, that have been working in the past or present on similar topics, was carried out in the framework of LIFETAN, in order to collect information, experience and feedback and stimulating an international exchange. The networking was implemented by the selection of relevant projects and consortia and a frequent communication.

- Strict cluster with follow LIFE project:
  - OXATAN, “Environmentally friendly oxazolidine-tanned leather “(LIFE08 ENV/E/000140), common issue being free Chromium tanning
  - ECOFATTING “Environmentally friendly natural products instead of chloroparaffines in the fattening phase of the tanning cycle” (LIFE10 ENV/IT/000364) common issue being natural fatliquoring agent
  - PODEBA, “Use of poultry dejection for the bating phase in the tanning cycle” (LIFE 10 ENV/IT/000365) common issue being natural bating agent
  - BioNaD, “Naturalised dyes replacing commercial colorants for environmentally friendly leather dyeing and water recycle” (LIFE12 ENV/IT/000352) common issue being naturalized dyes
  - ECODEFATTING “Environmentally friendly natural products instead of chemical products in the degreasing phase of the tanning cycle” (LIFE13 ENV/IT/000470) common issue being naturalized defatting agent
- Cluster with follow LIFE project:
  - ADNATURE, “Demonstration of natural coagulant use advantages in physical & chemical treatments“ (LIFE12 ENV/ES/000265); common issue is the use of innovative natural product and water saving
  - microTAN “Recovery of tannery wastes for functional microencapsulated products” (LIFE12 ENV/ES/000568) common issue is advanced use of solid tannery waste
  - ShoeBAT, “Promotion of best available techniques in the European footwear and tanning sectors” (LIFE12 ENV/ES/000243) common issue is the collection of BAT for shoes production
  - TEXTILEATHER “Functional textiles and leathers by innovative MLSE process” (LIFE13 ENV/ES/001138) common issue is the finishing treatments textile and leather
  - CHIMERA “CHIcken Manure Exploitation and RevAluation” (LIFE15 ENV/IT/000631) common issue is the re-use of poultry manure and the need of strengthen the relationship with the chicken farmers through common pathways



- store “Synergic TPAD and O<sub>3</sub> process in WWTPs for Resource Efficient waste management” (LIFE14 ENV/ES/000150) common discussion about circular economy for the re-use of poultry manure as source of fertilizer and energy
- RESAFE “Innovative fertilizer from urban waste, bio-char and farm residues as substitute of chemical fertilizers” (LIFE12 ENV/IT/000356) for the use of poultry as fertilizer composition
- EVERGREEN “Environmentally friendly biomolecules from agricultural wastes as substitutes of pesticides for plant diseases control” (LIFE13 ENV/IT/000461) common issue is the use of natural plant extracts such as tannin (skin tanners) applied as molecules for the protection of plants.

## 5.1 Networking events

### *Networking meeting with LIFE Textileather project representatives, INESCOP, Elda – Alicante (Spain), 11th March 2016*

Networking meeting between Laura Santos from ATEVAL (coordinator), Paqui Arán from INESCOP, Cristina Puche from CCI- Clúster Calzado Innovación representing LIFE Textileather project and Joaquín Ferrer from INESCOP representing LIFETAN project, whose explain the objectives and expected results of its projects and look for possible opportunities for collaboration.



Figure 5.1 - Networking meeting between LIFE Textileather and LIFETAN project representatives

### *LIFE+ Networking Event, Valencia (Spain), 14th July 2016*

INESCOP presented the results of the LIFETAN project in an event organized by the Chamber of Commerce and the Valencian Network of Technology Institutes (REDIT) jointly for the dissemination of the LIFE+ projects that are being carried out within the Valencian Region.

This event took place on the 14th July 2016 in the Valencia Chamber of Commerce (Spain) with the attendance of approximately 50 people. After the conference, profiles from European projects, technological demands and offers of collaboration were exposed to initiate contacts with potential partners-collaborators in other projects.



Figure 5.2 Conference in LIFE+ Networking Event in Valencia (Spain) on July 2016



**ADNATUR Final Event, Enea's Liaison Office, Rue de Namur, 72 - 74 Brussels (Belgium), 15th September 2016**

ENEA presented the LIFETAN project during the final workshop of ADNATUR project organized at Enea's Liaison Office in Brussels on the 15th September 2016. During the event the common issue between ADNATURE project and LIFETAN were discussed in order to strengthen the interaction. In particular were highlighted the possibility of interaction for thematic related to the application of natural products and water saving.




Project funded by the EC  
within LIFE program  
LIFE 12/ENV/ES/000265

**LIFE ADNATUR - Demonstration of natural coagulant use advantages in physical & chemical treatments in industry and urban waste water**

Duration  
Start date 01/10/2013 – End date 30/09/2016

Preliminary Schedule and Program	
10:00 – 10:30	Welcome coffee
10:30 – 10:45	Welcome and Introduction (Miriam Martínez chair AITEX)
10:45 – 11:00	Project description (Maria Blanes AITEX)
11:00 – 11:15	Introduction on ADNATUR coagulants (José Francisco Cabeza SERVYECO)
11:15 – 11:30	Environmental advantages of the natural coagulants (Gianpaolo Sabia ENEA)
11:30 – 11:45	Pilot test of ADNATUR coagulants on municipal wastewater (Sergio Lloret EGEVASA)
12:00 – 12:15	Pilot test of ADNATUR coagulants on textile wastewater (Maria Blanes TEXTILS MORA)
12:15 – 12:30	Pilot test of ADNATUR coagulants on ceramic wastewater (Luis Guaita KERABEN)
12:30 – 13:00	Discussion on the reported experiences
13:00-14:00	LUNCH
14:00 – 14:15	Introduction to Networking Activities (Roberto Farina ENEA)
14:15 – 14:30	Coagulation of humic natural waters (Tiina Leiviskä University of Oulu, Finland)
14:30 – 14:45	LIFETAN Eco friendly tanning cycle (Valerio Abbadessa ENEA)
14:45 – 15:00	Coffe break
15:00 – 15:15	ECWRTI Total Water Recycling in Textile Industry (Peter Cauwenberg VITO)
15:15 – 15:30	Role of the Environmental technology Verification Program in the innovation of the water sector (Bernd Gawlik JRC EC)
15:30 – 15:45	EEN services for valorization and exploitation of project results (Diego Santi Enterprise Europe Network EEN)
15:45 – 16,00	Final discussion and conclusions

**For information and registration, please contact:**  
Roberto Farina: roberto.farina@enea.it

**Project coordinator:**  
Miriam Martínez: miriam.martinez@aitex.es





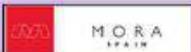


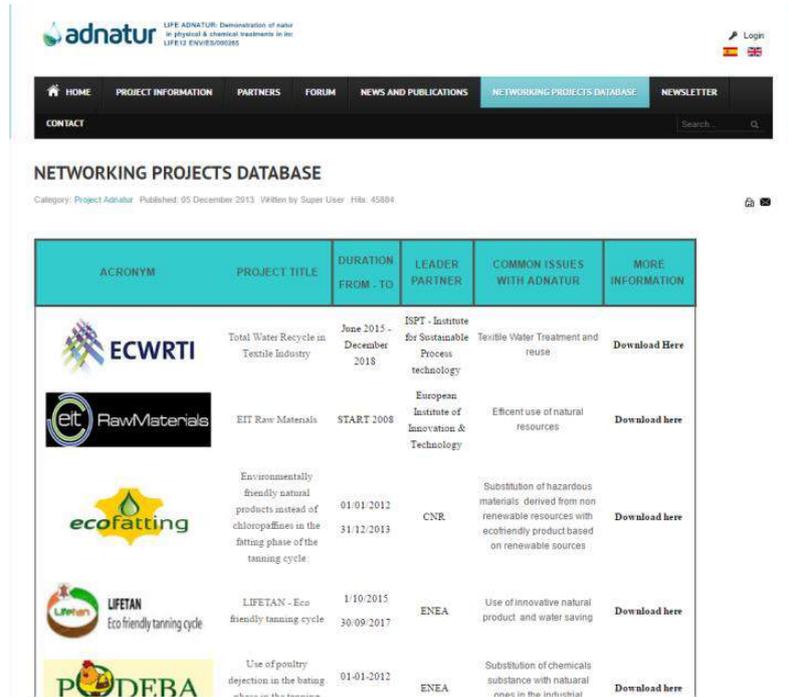








Figure 5.3 - ADNATUR Final Event, September 15 - Program



ACRONYM	PROJECT TITLE	DURATION FROM - TO	LEADER PARTNER	COMMON ISSUES WITH ADNATUR	MORE INFORMATION
 ECWRTI	Total Water Recycle in Textile Industry	June 2015 - December 2018	ESPT - Institute for Sustainable Process technology	Textile Water Treatment and reuse	<a href="#">Download Here</a>
 EIT RawMaterials	EIT Raw Materials	START 2008	European Institute of Innovation & Technology	Efficient use of natural resources	<a href="#">Download here</a>
 ecofating	Environmentally friendly natural products instead of chlorophenols in the tanning phase of the tanning cycle	01/01/2012 - 31/12/2013	CNR	Substitution of hazardous materials derived from non renewable resources with ecofriendly product based on renewable sources	<a href="#">Download here</a>
 LIFETAN	LIFETAN - Eco friendly tanning cycle	1/10/2015 - 30/09/2017	ENEA	Use of innovative natural product and water saving	<a href="#">Download here</a>
 PODERA	Use of poultry dejection in the tanning cycle	01-01-2012	ENEA	Substitution of chemicals substance with natural ones in the industrial	<a href="#">Download here</a>

Figure 5.4 LIFETAN project on Adnature website



Figure 5.5 - ADNATUR Final Event, September 16

### *Switch-med Side Event - Tunisia (Tunisia), 2nd December 2016*

Networking activity of INESCOP within the SwitchMed business networking event, implemented by the United Nation Industrial Development Organization (UNIDO), connects EU Eco-Innovation technologies, developed in the framework of EU's Eco-Innovation and Life programme, to businesses of the Southern Mediterranean region.



Figure 5.6 – INESCOP at switch-med event in Tunis



# ANNEX DISSEMINATION

## Eco friendly tanning cycle



### LIFE CHIMERA project, Bologna (Italy) 20th January 2017

Networking meeting with the LIFE CHIMERA project with the adhesion to the Advisory board in order to organized joined events and to strengthen the relationship with the chicken farmers through common pathways, Bologna (Italy) 20th January 2017.

**CHIMERA**

**MEETING MINUTE**

Date: 20/01/2017

Minute n°:

Project: LIFE15 ENV/IT/000631 - LIFE-CHIMERA  
Meeting objective: Networking, EU/IB building - ENEA  
Document examined:

**PARTECIPANTI**

Tre P Engineering: Rosolino Ucci, Andrea Mangarelli, Elisabetta Gromini (Confindustria)  
ENEA: Alice Dell'Ara, Laura Cutale, Luigi Forte

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TRE P Engineering s.r.l., 24/01/2017, Chiaravalle (AN)

LIFE CHIMERA - Ombra e Memoria: Ripollazione and Revitalization  
Project funded by the European Union - GA n. LIFE15 ENV/IT/000631  
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This project is funded by the European Union  
GA n. LIFE15 ENV/IT/000631

La pollina utilizzata nel processo di concia è solo quella proveniente da ovicelle e deve essere essiccata. È una soluzione compatibile con CHIMERA perché usa al massimo il 2-3 % della produzione nazionale di pollina.

Si insiste sul considerare la pollina non più un rifiuto, ma un "agente mesoerante".

**Progetto POCEBA (concluso):** è in collaborazione con l'azienda ANEK, che si occupa del trattamento di prodotti compatibili con l'attività enzimatica, anche del trattamento della pollina. L'idea è di aggiungere enzimi alla pollina per riciclare sul suolo, garantendo un migliore assorbimento dell'azoto e del fosforo. ANEK ha coordinato in precedenza il progetto FERROCE, sulla produzione di un fertilizzante da pollina, migliorando l'humus e rendendolo un fertilizzante a lento rilascio di azoto (molto vivo). In Poceba l'attività enzimatica è importante perché la pelle ha bisogno di essere digerita dalle dietezioni. Nel progetto si è lavorato molto sugli odori (prova fatte nella conceria di Tolentino). È un caso di simbiosi industriale.

Gli obiettivi del progetto sono:

- Sostituire prodotti
- Ridurre l'impatto ambientale
- Economia circolare
- Ridurre i costi per le concerie

L'approccio scelto è quello di non stravolgere la linea di produzione, ma sostituire un prodotto con un altro.

ENEA proporrà all'EPDC Group di incollare LIFE TAN come tecnologia emergente nella BAT, Riferimento BREF TAN per la concia della pelle.

**SOLUTIONS AGREED and NEXT STEPS**

O sono aspetti di collaborazione tra ENEA e Tre P e tra i progetti LIFE TAN e CHIMERA. Come prossime tappe si prevede:

1. Adesione di Alice Dell'Ara e di Laura Cutale come membri dell'Advisory Board di Chimera, per restare aggiornate sulle attività e fornire spunti
2. Coordinamento nelle attività di networking tra Chimera e Life Tan: primo evento Chimera a giugno
3. Possibile attività del Dip. di Laura Cutale sulla rete di strutture attorno a Chimera e che potrebbe essere usata come caso studio per presentare il modello di business.

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**TOPICS DISCUSSED AND RELATED ASSESSMENT**

**Presentazione di Tre P e del progetto Chimera, Rosolino Ucci, 3P**

Del 2010, 3P cerca di sviluppare idee per arrivare alla messa sul mercato di prodotti propri. Il progetto Chimera nasce dall'idea di risolvere il problema della pollina per l'allevatore, quindi, eliminare questo scarto sul nascere, ancor prima di produrre energia elettrica, calore e fertilizzante. I primi due prototipi (presso un'azienda di ovicelle e una di broiler) saranno pronti a giugno nelle Marche mentre l'impianto in scala reale sarà costruito a partire dal 2016 in Olanda, presso l'allevatore e partner di progetto Rendier&Rendier. Ad oggi sono alla fase pre-autorizzativa nelle Marche. La novità di Chimera sta nel combustore che, oltre a recuperare CO2, garantisce un forte recupero dell'azoto, normalmente perso col fumo.

**Presentazione Dipartimento "Sostenibilità dei Sistemi Produttivi e Territorio", Laura Cutale, ENEA**

ENEA è il secondo centro di ricerca in Italia dopo il CNR. È organizzato in 3 Dipartimenti principali, operanti in 9 centri sul territorio nazionale e l'agenzia. I tre dipartimenti sono: Sostenibilità dei Sistemi Produttivi e Territoriali (Laura Cutale), Nucleare e Tecnologia Energetica. Ogni dipartimento è organizzato in divisioni. All'interno del Dipartimento Sostenibilità dei Sistemi Produttivi e Territoriali, Laura Cutale lavora nella Divisione sull'uso efficiente delle risorse ed economia circolare (nella divisione stessa vi sono due laboratori che lavorano in modo parallelo sulle tecnologie di gestione dell'acqua, rifiuti, aria, e una unità che si occupa di questioni più metodologiche, quindi di economia circolare, di cui simbiosi industriale, ecologia industriale ecc).

Il primo progetto sulle simbiosi industriali è stato fatto in Sicilia sulla produzione delle arance (discipline di uso del pesticida) e per regolamentare il suo uso come scarto/sottoprodotto la regione ha fatto una normativa ad hoc. I progetti di simbiosi industriali non guardano solo alla parte tecnica, ma soprattutto alla parte relazionale, ovvero mettere tutti gli attori attorno a un tavolo e presentare le potenzialità economiche di quello che si vuole fare, così come anche più possibilità di arrivare a cambiare le normative. I progetti di simbiosi industriali possono essere di due tipi:

1. Rete: coagulare gli operatori del territorio in un raggio di 50-100 km.
2. Area industriale: si parte dalle imprese nel distretto e si cerca di trovare dei punti in comune, anche le infrastrutture.

**Presentazione Divisione Materiali di Feenza, Alice Dell'Ara, ENEA**

Il Dipartimento è lo stesso di Laura Cutale, ma il focus è sui materiali. Da 10 anni seguono le questioni relative ai materiali bio-based attraverso i progetti.

**Progetto LIFE TAN:** viene da 5 progetti precedenti e comprende ENEA, CNR, INHESCOPE (Spagna) e 2 concerie. L'Italia detiene il primato per la qualità nella concitura delle pelli. Il consorzio è Italia-Spagna, che rappresentano l'80% del mercato. Il processo di concia è molto complesso e da una tonnellata di pelle salata ne escono 250 kg lavorabili, con l'uso di molti m3 d'acqua e 400 kg di reagenti. Ogni progetto precedentemente finanziato rappresenta una fase del progetto LIFE TAN che sostituisce i 5 ed elimina dai processi i prodotti tossici (Resoch) o i prodotti che non vengono da fonti rinnovabili.

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This project is funded by the European Union  
GA n. LIFE15 ENV/IT/000631



Figure 5.7 – ENEA at networking meeting of LIFE CHIMERA project, program and photo

***LIFE Sto3re project, Rome (Italy) 14th February 2017***

Networking meeting with Carlos Garcia of LIFE Sto3re project and common discussion about circular economy for the re-use of poultry manure as source of fertilizer and energy.

***International Networking Event - Apulia-Net, Brindisi (Italy), 14th March 2017***

ENEA- TEMAF participated at the common plenary session devoted to future partnership from Italy, Croatia, Albania and Montenegro promoted by Enterprise Europe Network in different field. ENEA presented the results of LIFETAN during the thematic session named “Innovation and competitiveness” at the present public mainly composed by Public Authorities, Universities, Public and Private Research, Technology Organisations and Non-profit private organisations.

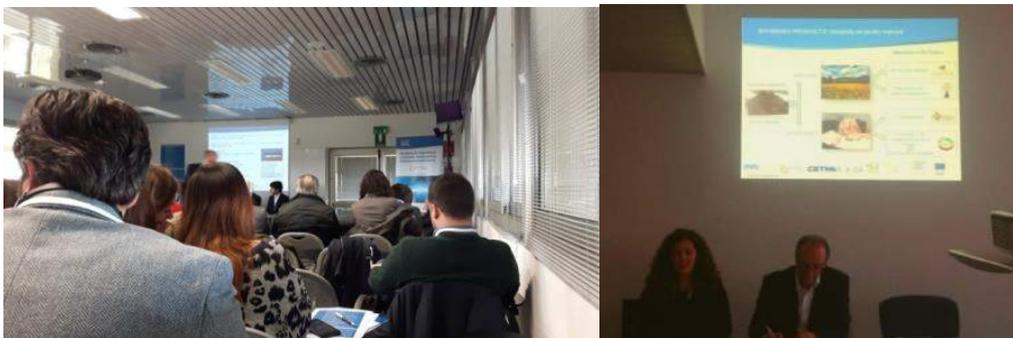


Figure 5.8 – ENEA at International Networking Event - Apulia-Net, Brindisi (Italy), March 2017

***Territorial Circular Bioeconomy - Bologna 16th May 2017***

Alice Dall’Ara of ENEA participated at the networking day *Territorial Circular Bioeconomy*, organized by University of Bologna in collaboration with European Commission and Italian Ministry for the Environment AT Sogesid. The event was attended by Angelo Salsi, Head of Unit LIFE of the Executive Agency for Small and Medium-sized Enterprises (EASME), and Stefania Betti, National Contact Point LIFE for the Italian Ministry for the Environment AT Sogesid. Alice Dall’Ara presented the result of RESAFE, a strictly networking project of LIFETAN with the presentation with title “Innovative fertilizer from urban waste, bio-char and farm residues as substitute of chemical fertilizers”.



Figure 5.9 – ENEA at Territorial Circular Bioeconomy - Bologna May 2017

***LIFE+ Networking Event, Valencia, 30th May 2017***

INESCOP has participated in the. INESCOP presented the results of the LIFETAN project in an event organized by the Chamber of Commerce and the Valencian Network of Technology Institutes (REDIT) jointly for the dissemination of the LIFE+ projects that are being carried out within the Valencian Region. This event took place on the 30th May 2017 in the Valencia Chamber of Commerce (Spain) with the attendance of approximately 45 people. After the conference, profiles from European projects, technological demands and offers of collaboration were exposed to initiate contacts with potential partners-collaborators in other projects.



Figure 5.10 – INESCOP at LIFE+ Networking Event, Valencia, May 2017

***Meeting with CETMA, Industrial Engineering Department of University of Rome Tor Vergata Rome (Italy) 13rd December 2017***

Networking meeting CETMA, expert in the development of advanced materials and processes, and involved in different National and European projects devoted to the material innovation and material re-use. In particular was established a common discussion about the possibility to apply the characterization techniques for advanced materials to the characterization of natural product and leather obtained by LIFETAN process (mechanical, physico-chemical and thermal characterization).



Figure 5.11 – ENECA at Industrial Engineering Department of University Tor Vergata Rome, December 2017

***Meeting at SSIP premises in Napoli (Italy) 12<sup>nd</sup> October 2017***

Meeting of ENEA at SSIP ([www.ssip.it](http://www.ssip.it)) – La Stazione Sperimentale per l'Industria delle Pelli e delle materie concianti, which is the National Research Body . From 1885, it works in support of all Italian companies in the tanning sector with research and development, training and product certification. The meeting was focused on presentation of LIFETAN results and dialogue about future collaboration. Participations of technical experts from SSIP.



Figure 5.12 – ENEA at SSIP in Naples (Italy), October 2017

***Meeting at IZSLER Forlì center, Forlì (Italy), 22<sup>nd</sup> December 2017***

Meeting of Alice Dall'Ara with dr. Massi Paola, Director of IZSLER Forlì center ( IZSLER, istituto zooprofilattico sperimentale della Lombardia e dell'Emilia Romagna) about poultry manure treatment and reuse (stakeholder, sanitary aspects for by-products treatment in order to recycle/obtain new raw material). Contact: [paola.massi@izsler.it](mailto:paola.massi@izsler.it) 0547 721533



Figure 5.13 – ENEA at IZSLER in Forlì (Italy), December 2017

In Table 5.1 a detail of main characteristics for each networking events is reported.



## ANNEX DISSEMINATION

### Eco friendly tanning cycle



Table 5.1 (Part 1) – Summary of networking events of LIFETAN project

Networking day	How / Where	Networking project	Participants	Topics
11th March 2016	Meeting / INESCOP, Elda – Alicante (Spain)	LIFE Textileather	Laura Santos - ATEVAL Paqui Arán - INESCOP, Cristina Puche - CCI-Clúster Calzado Innovación	Explanation of the objectives and expected results of LIFETAN and Textileather projects and look for possible opportunities for collaboration
14th July 2016	LIFE+ Networking Event / Valencia (Spain)	LIFE+ projects in Valencian Region	50 people, beneficiaries of LIFE+ projects	After the conference, profiles from European projects, technological demands and offers of collaboration were exposed to initiate contacts with potential partners-collaborators in other projects.
15th September 2016	ADNATUR Final Event / Enea's Liaison Office, Rue de Namur, 72 - 74 Brussels (Belgium)	LIFE ADNATUR	Maria Blanes - AITEX José Francisco Cabeza - SERVYECO Gianpaolo Sabia - ENEA Sergio Lloret - EGEVASA Maria Blanes - TEXTILS MORA Luis Guaita - KERABEN Roberto Farina - ENEA Tiina Leiviskä University of Oulu - Finland Valerio Abbadessa - ENEA Peter Cauwenberg - VITO Bernd Gawlik - JRC EC Diego Santi - Enterprise Europe Network EEN	The common issue between ADNATURE project and LIFETAN were discussed in order to strengthen the interaction. In particular were highlighted the possibility of interaction for thematic related to the application of natural products and water saving.
2nd December 2016	Meeting / Switch-med Side Event - Tunis (Tunisia)	EU Eco-Innovation technologies, developed in the framework of EU's Eco-Innovation and Life programme, to businesses of the Southern Mediterranean region	Partners of SwitchMed platform	The SwitchMed program is a joint initiative of the United Nations and the European Union which objective is to promote environmental projects that can be replicated in the participating countries of North Africa. In parallel, a specific event was organized, entitled "Eco-innovative solutions for the footwear and tanning industries", where Joaquín Ferrer from INESCOP presented the LIFETAN project in order to contribute to an environmental improvement of the sector in Tunisia.
20th January 2017	Meeting / Bologna (Italy)	LIFE CHIMERA project	Rosalino Usci, partner of LIFE CHIMERA project and associate of 3P ENGINEERING society, and Ing. Andrea Mengarelli, Elisabetta Giromini of Cconfindustria Marche, Laura Cutaia e Pierluigi Porta - ENEA	Adhesion to the Advisory board in order to organized joined events and to strengthen the relationship with the chicken farmers through common pathways,
14th February 2017	Meeting / Rome (Italy)	LIFE Sto3re project	Carlos Garcia Isquerdo, Teresa Hernandez – CEBAS-CSIC (Murcia, ES)	Common discussion about circular economy for the re-use of poultry manure (as source of fertilizer and energy).



Table 5.1 (Part 2) – Summary of networking events of LIFETAN project

Networking day	How / Where	Networking project	Participants	Topics
14th March 2017	International Networking Event / Apulia-Net, Brindisi (Italy)	European Territorial Cooperation programmes (2014-2020) Interreg	About 25 people participated at Innovation and competitiveness session including Alessandro Marseglia (CETMA), Daniela Cuna, Valerio Micelli, Filippo Ammirati (ENEA)	Presentation of the objectives and results of LIFETAN project and look for possible opportunities for collaboration
16 th May 2017	International networking Event / Bologna (Italy)	LIFE projects focused in two main topics: Bio waste valorization/Exploitation and Water Management and Agriculture. LIFE project Evergreen	Angelo Salsi, Head of Unit LIFE of the Executive Agency for Small and Medium-sized Enterprises (EASME) Stefania Betti, National Contact Point LIFE for the Italian Ministry for the Environment AT Sogesid List of speaker participant <a href="https://eventi.unibo.it/networking-life-2017/programma-2">https://eventi.unibo.it/networking-life-2017/programma-2</a> Stefania Tegli, reference for EVERGREEN project. About other 30 people participated at the networking day.	Projects related to Bio waste valorization/Exploitation and Water Management and Agriculture The common issue between EVERGREEN project and LIFETAN is the use of natural extracts by plants - such as tannins (skin tanners) - as molecules to protect plants.
30th May 2017	Networking event / Valencia (Spain)	LIFE+	Approximately 45 people invited by the Chamber of Commerce and the Valencian Network of Technology Institutes (REDIT)	Presentation of the objectives and results of LIFETAN project and look for possible opportunities for collaboration. After the conference, profiles from European projects, technological demands and offers of collaboration were exposed to initiate contacts with potential partners-collaborators in other projects.
13rd December 2018	Meeting / Rome (Italy)	Italian and European project related the innovation of material	Antonio Gerardi, CETMA (www.cetma.it)	Common discussion about the possibility to apply the characterization techniques for advanced materials to the characterization of natural product and leather obtained by LIFETAN process (mechanical, physico-chemical and thermal characterization).
12nd October 2017	Stakeholder Meeting / Naples (Italy)	SSIP (www.ssip.it/) and AMEK	ing Rosario Mascolo Tel. 0039 081 5979100	The meeting was focused on presentation of LIFETAN results and dialogue about future collaboration. Partecipations of Technical experts from SSIP.
22 <sup>nd</sup> December 2017	Stakeholder Meeting /Forlì (Italy)	IZSLER, istituto zooprofilattico sperimentale della Lombardia e dell'Emilia Romagna	paola.massi@izsler.it Tel 0039 0547 721533	Common discussion poultry manure treatment and reuse (stakeholder, sanitary aspects for by-products treatment in order to recycle/obtain new raw material).

## 6. ACTION D2 – Innovative technology for leather industrial natural tanning manual

The result of the action is the drafting and publishing of the technical manual which explain in detail the now-how of the new leather natural techniques utilizing the LIFETAN innovative technology. The LIFETAN manual is a formative-informative tool that explain in full detail the protocols, procedures and characteristics of the LIFETAN project with the help of informative text, boxes, graphs, charts and photos. Qualitative and quantitative data are provided, along with detailed process information and an assessment of the technical and environmental advantages of the integrated system.

The LIFETAN manual is addressed to all people of the trade in the tanning industry sector (including specialized decision makers at all levels).

The LIFETAN manual content was edited by ENEA, in collaboration mainly with Newport and Tradelda that provided data and procedures and with the co-supervision of all beneficiaries. 1000 copies of the manual (24 pages) were printed by ENEA and sent:

- 200 copies to INESCOP
- 100 copies to Tradelda
- 100 copies to Newport
- 100 copies to SSIP (Stazione Sperimentale per l'Industria delle Pelli e delle materie concianti).



Figure 6.1 – LIFETAN manual

## 7. ACTION D3 – Training courses and workshops in Italy and Spain

Training activities in tanneries and workshops in tannery and tannery association centre on LIFETAN new technology were planned and organized as technical informative courses, with special focus on protocols and procedures. The courses were specifically designed to train and form people of the trade (technicians and field workers) with a practical section for the application of the technique at a semi-industrial level. Technical informative courses were carried out in Italy and Spain as follow.

### 7.1 LIFETAN workshop in Valencia (Spain), 28th November 2017

The LIFETAN workshop was organized the 28th November 2017 by INESCOP, within ECOFIRA 2017, the International Fair of Environmental Solutions, held in Valencia from 28th - 30th November 2017. During the workshop INESCOP presented background and basic concepts of the project and its goals and contents, the pilot schemes of LIFETAN process, the substances used, and the aspects of the innovative LIFETAN process were explained. In addition, on November 28, the ECOFIRA event was used to hold the INESCOP workshop entitled “A boost to the circular economy in footwear”, with the attendance of 115 participants. Unfortunately, an error with the attendees control list prevented the identification of most technicians and tannery workers of the tannery who attended to the workshop (only 34 participants were registered in the list).

#### OPORTUNIDADES PARA LA EMPRESA EN ECONOMÍA CIRCULAR JORNADA ECOFIRA 2017



Martes, 28 de noviembre

#### PROGRAMA

Pabellón 5, Feria Valencia  
ZONA DE CONFERENCIAS

Cada europeo consume catorce toneladas de materias primas y genera otras cinco de basura al año. En un mundo de recursos menguantes, es alarmante.

En una economía circular, al contrario que en la basada en el principio de usar y tirar, el ciclo de vida de los productos se extiende gracias a un mejor ecodiseño que facilita las reparaciones, la reutilización y la refabricación de viejos productos. La vida útil de los productos también se alarga gracias a una durabilidad mejorada; a una mejor gestión del tratamiento de residuos; y a nuevos modelos de negocio basados en alquilar, compartir y recurrir a artículos de segunda mano. Todo lo cual convierte al consumidor en usuario.

Durante la jornada participarán expertos analizando oportunidades de financiación para la empresa en la puesta en marcha de nuevos modelos de negocio para la economía circular, en la incorporación de soluciones tecnológicas a los procesos y productos y en el desarrollo de proyectos de investigación, desarrollo e innovación.

Además se presentarán iniciativas y plataformas de apoyo a la empresa para la implementación de sistemas en línea con la economía circular. También se exhibirán productos, tecnologías, procesos y buenas prácticas resultantes de proyectos ejecutados por los Institutos Tecnológicos de la Comunidad Valenciana con sus empresas asociadas y clientes.

Tras la jornada, en el stand de REDIT, podrás reunirte con el ponente que te interese para revisar tus ideas de proyectos u otras consultas, previa solicitud enviando la ficha adjunta antes del 24 de noviembre a [zeimed@redit.es](mailto:zeimed@redit.es)

INSCRIPCIÓN GRATUITA en este [enlace](#).

Organizan



9:45 Bienvenida y presentación de la jornada.

10:00 Oportunidades para la financiación de proyectos en economía circular. Iniciativas regionales, nacionales e internacionales.  
D. Joaquín Collado / Área de Empresas y Asociaciones, IVACE  
D<sup>a</sup>. María José Tomás / Dirección de Promoción y Cooperación, CDTI

11:00 Oportunidades en Reto Social 5 H2020 sobre economía circular. Próximas convocatorias.  
D. Juan Carlos García  
Departamento Reto Social 5 de H2020, CDTI

12:00 Turno de preguntas.

12:15 Tecnologías, productos, procesos y buenas prácticas para la industria en economía circular.

- Iniciativas de éxito de economía circular en el sector juguete, producto infantil y ocio / D. Enrique Añó, AIJU
- Plásticos y economía circular: casos de éxito / D<sup>a</sup>. Eva Verdejo, AIMPLAS
- Impulso a la economía circular en el calzado / D<sup>a</sup>. Ana Belén Muñoz, INESCOP
- Modelos de negocio orientados a la economía circular: plataforma para la comercialización de excedentes industriales / D<sup>a</sup>. Laura Martín Frax, ITE

13:15 Conectando para una Economía Circular: Grupo Interplataformas.  
D<sup>a</sup>. Cristina González / Directora de Innovación, FEIQUE

13:45 Climate-KIC y el Instituto Europeo de Innovación y Tecnología como impulsores del nuevo modelo de economía sostenible.  
D. José Luis Muñoz / Director, CLIMATE-KIC SPAIN

14:15 Debate, comentarios y preguntas.

14:30 Cierre de la jornada.

Figure 7.1 - ECOFIRA 2017 Program



# ANNEX DISSEMINATION

## Eco friendly tanning cycle



JORNADA ECONOMÍA CIRCULAR 28 noviembre		
Name	Company	FIRMA
ALBERTO PALACIOS DELAS	AVS CONSULTING	
ALBERTO BLANCO CANET	DACSA	
Aleksandra Staszynska	FyG Consultores	
Alfons Ventura Martínez	Barrio La Pinada	
Alvaro Mendoza Sevilla	AINIA	
Ángel Guillems Peira	I-Box Create S.L.	
Angel Honrado	WeDo   Project intelligence made easy S.L.	
ANTONIO GOMEZ GALVEZ	C.D.T.I.	
Antonio Sánchez Zaplana	Aguas de Alicante	
Carlos Coquilhat Mora	BOTANICA	
Carlos Coquilhat Mora	FABLAB VALENCIA	
Carlos Moyano Martin	Centro Tecnológico Naval y del Mar	
Caterina Coll Lozano	IMECAL S.A.	
<del>Caterina Coll Lozano</del>	<del>IMECAL</del>	
CLAUDIA DE PRADO PEROT	BUILD IN GREEN	
Cristina Farinos	Veratech for Health	
Cristina Gironés	SGS	
Cristina González Alonso	FEIQUE	
Dario Zomeño	CETEC	
David Forés	Consejo Cámaras CV	
DAVID PEREZ CARRERA	1Tapizo S.L.	
diego clement	Clapl Educación Activa SL	
Diego Rosell Andre	ACZJA BIOGAS	
Eduardo Vivo Muñoz	ICEX	



José Mir Camps	UBE Corporation Europe, S.A.U.	
jose segarra	lowcarbon foundation	
jose vicente giner	ramos	
Jose Villar González	ivace	
Josep Giner	ReMa-INGENIERIA, S.L.	
Juan Alapont Solano	Banco de Sabadell, s.a.	
Juán José Pantoja González	Universidad de Cadiz	
Juan Peretó Bayo	Sistemas de Perforacion SLU	
Juana Ferrús Pérez	Fundación FISABIO	
JULIAN OVIEDO PARRA	C.O. LOS SILOS	
Laura Ruiz Pastor	Universitat Jaume I	
Laura Cifuentes Menchón	Fundación UMH	
laura pastor alcañiz	depuración de aguas del mediterráneo	
Laura TALENS PEIRÓ	UAB-ICTA	
Leo Berné Dissarz	ChemPlast	
Lucía Jordá	Aidimme	
LUIS BARRENAS FRANCIS	SF CONSULTORES	
Luis M. MARTÍNEZ CENTENO	UTE PLAN ZONAL DE RSU ZONA 1ª	
Mª José Ferré	Energía Vital	
Mª TERESA PILÁN LOZANO	COITAVC	
MPANGELES SERRANO	GLOBAL OMNIUM-AGUAS DE VALENCIA	
Mahesh Samtani	Universal Energy Solutions	
Manuel Mas	Universal Energy Solutions	
Manuel Rikote Redondo	HERIMA, S.L.	
Marcos García Cuenca	Trakteam Cinco, S.L.	



Elena Alamar Velázquez	Elena Alamar Velazquez	
elena archilés	Clapl Educación Activa	
Enoc Montavà i Cufia	Lara y Luque asesores	
Enrique Bayonne Sopo	Clúster de Energía de la Comunitat Valenciana	
ENRIQUE SÁNCHEZ VILCHES	INSTITUTO DE TECNOLOGÍA CERÁMICA-UNIVERSITAT JAUME I	
Fabián Granell Vivó	VINILOS del este, s.l.	
fabian gomez gutierrez	FyG Consultores	
Filipe Marinho Oliveira Barros	UPV	
Francisco Berenguer Llobart	Universal Energy Solutions	
Francisco Callao Vicente	Mediterraneo Environmental Group	
Francisco Jose Lopez	IMECAL S.A.	
Francisco José López--	IMECAL	
Francisco José Pérez Cuevas	FYM NETWORKING S.L.	
FRANCISCO ROCATÍ SILVESTRE	IMPORTACO CASA PONS	
Gabriel Sotoca Sanchez	STRATIC	
Gloria Gómez Barrio	Ecologica Iberica y Mediterranea	
Helena Abril Lanzuela	AEMAC	
JAVIER ARIÑO	MASUNO SOLUCIONES S.L.	
Javier Gomez	TREQTOP SERVICES, SL	
Juan Pau Plaza Villanueva	Aidimme	
JOAQUIN COLLADO MUNERA	WACE	
JORGE ANENTO	IMEDES	
Jose Del Valle Gómez Marin	Autónomo	
JOSE GUAITA ROSA	GRUPO HEURA	
Jose Mañez Bosch	INSOLATIO PAMASOL, S.L.	



Marcos Latorre	IMECAL	
Maria José Pérez	Importaco	
Maria Juan Jorda	GMC	
Maria Martínez Moreno	MatMapco	
MARIA SOLER	SOLER BAGS COMPANY	
MARIA JOSE SOLER ARBONA	SOLERBAGS COMPANY	
Martin Pacanka	LGI	
Maryna Danylyuk	Veratech for Health	
Mercedes Roig Orts	INESCOP	
Miguel Ángel García Soto	Grupo Pikolinos	
Myriam Fernandez	GVA	
Nela Gómez	Fundación Universitat Jaume I - Empresa	
NICOLAS garzon	Clapl Educación Activa	
Oscar ruiz	ITENE; Packaging, Transport & Logistics	
Pablo Ferrer	Universidad Politécnica de Valencia	
Patricia Boquera	AIDIMME	
PAULA LLOBET	LAS NAVES	
Paula Usó Martín	UJI	
Pilar Martínez Martínez	Filparse Es Gratis	
Rafa Amai Traver	UTE ZONA 1 BIONORD	
Rafael Reolid Yáñez	Grupo Pikolinos	
Rafael Aparicio Sanchez	Biomival	
Ramón Francés Díaz	INGNOVA	
Raquel González	Laboratorios Tecnológicos de Levante, S.L.	
Rebeca Belenguier Amor	Importaco	

Figure 7.2.a – Partial list of participant at LIFETAN workshop in ECOFIRA 2017 (Spain)





## 7.2 LIFETAN Training course, Valencia (Spain) – 29<sup>th</sup> November 2017

The 29<sup>th</sup> November 2017 the training course "Latest developments in tanning" was organized by INESCOP in collaboration with TRADELDA in the premises of Confederacion Empresaria Valenciana in Valencia. The training day was mainly addressed to technicians and business people of tannery sector and the results of LIFETAN project related to the demonstration of the process up to the pre-industrial production were presented to about 40 people of the tannery sector.

<p><b>JORNADA FORMATIVA DIRIGIDA A TÉCNICOS DE CURTIDOS</b></p> <p>ENTRADA LIBRE</p> <p><b>Fecha</b> 29 de Noviembre de 2017</p> <p><b>Hora</b> 17.00 h</p> <p><b>Lugar de celebración</b> Confederación Empresarial Valenciana (CEV) Plaza Conde de Carlet, nº 3 46003 Valencia</p>	 <p>POLIG. IND. CAMPO ALTO, APTDO CORREOS 253 03600 ELDA -ALICANTE- ESPAÑA TF. 965 39 5213 - FAX 965 38 10 45 e-mail:inescop@inescop.es http://www.inescop.es</p> <p>Proyecto desarrollado con el apoyo de:</p>  <p>Programa: LIFE Medioambiente y Eficiencia de Recursos</p>	 <p><b>ÚLTIMAS NOVEDADES EN CURTIDOS</b></p> <p>Presentación del Proyecto LIFETAN "Curtición de piel respetuosa con el medio ambiente"</p>  <p>Valencia, 29 Noviembre 2017</p> <p><b>ORGANIZA:</b></p> 
<p><b>PROGRAMA</b></p> <p><b>Contenido</b> Presentación del Proyecto LIFETAN.</p> <ol style="list-style-type: none"> <li>1. Introducción y objetivo del proyecto</li> <li>2. Etapas del proyecto</li> <li>3. Resultados preliminares</li> <li>4. Conclusiones</li> </ol>	<p><b>JORNADA FORMATIVA</b></p> <p><b>Presentación del Proyecto LIFETAN</b></p> <p>En el proceso de curtición de las pieles, una importante cantidad de sustancias químicas disueltas en agua penetran y reaccionan con la piel para proporcionarle diferentes propiedades. En la mayoría de los procesos, las sustancias no fijadas pasan a las aguas residuales, causando un notable impacto ambiental. Por otro lado, en los últimos años se ha producido un importante incremento de las restricciones en el contenido de determinadas sustancias en las pieles, tanto de tipo legal, como establecidas por las grandes marcas.</p> <p>Consciente de estos nuevos retos, INESCOP, Centro de Innovación y Tecnología, con el apoyo de la Unión Europea a través del programa LIFE+, ha participado en el proyecto europeo LIFETAN, "Curtición respetuosa con el medio ambiente".</p> <p>El proyecto LIFETAN tiene como principal objetivo demostrar la viabilidad del uso de diferentes tecnologías de menor impacto ambiental a las existentes hoy en día en diferentes etapas del proceso. Este proyecto supone un importante avance en el desarrollo sostenible de la industria del cuero y calzado europeo y en la protección del medio ambiente y de la salud de los usuarios, mediante el procesado de pieles combinando productos alternativos que permiten obtener pieles de calidad, exentas de sustancias restringidas y más respetuosas con el medio ambiente.</p> <p><b>Dirigido a:</b></p> <p>Directivos, técnicos y responsables de las industrias de curtidos y conexas.</p>	

Figure 7.5 - Program of LIFETAN training course in Spain



# ANNEX DISSEMINATION

## Eco friendly tanning cycle



### Lista de asistentes

29 de noviembre de 2017 – CEV – Valencia

Nombre y apellidos	Empresa	Dirección /ciudad	País	Correo electrónico	Firma
Jorge Cerdá	Canals Finish Leather	Canals (Valencia)	España	<a href="mailto:jorgeyelnuitre@gmail.com">jorgeyelnuitre@gmail.com</a>	
Mercedes Roig	Industrias del Curtido	Silla (Valencia)	España	<a href="mailto:mroig@industriasdelcurtido.com">mroig@industriasdelcurtido.com</a>	
Ángel Gil	Industrias del Curtido	Silla (Valencia)	España	<a href="mailto:arce.es@empresas.inescop.com">arce.es@empresas.inescop.com</a>	
Balbino López	Industrias del Curtido	Silla (Valencia)	España	<a href="mailto:arce.es@empresas.inescop.com">arce.es@empresas.inescop.com</a>	
Daniel Moneva	Industrias del Curtido	Silla (Valencia)	España	<a href="mailto:arce.es@empresas.inescop.com">arce.es@empresas.inescop.com</a>	
José Antonio Sánchez Mora	Sánchez Agulló	Elche (Alicante)	España	<a href="mailto:joseantonio@sanchezagullosa.es">joseantonio@sanchezagullosa.es</a>	
José Antonio Sánchez Poderoso	Sánchez Agulló	Elche (Alicante)	España	<a href="mailto:joseantonio@sanchezagullosa.es">joseantonio@sanchezagullosa.es</a>	
José Rubio	Cuator	Vall d'Uixo (Valencia)	España	<a href="mailto:direccion@cuator.com">direccion@cuator.com</a>	
Francisco Canovas	Cuator	Vall d'Uixo (Valencia)	España	<a href="mailto:direccion@cuator.com">direccion@cuator.com</a>	
Manuel Cases	Cuator	Vall d'Uixo (Valencia)	España	<a href="mailto:direccion@cuator.com">direccion@cuator.com</a>	
Cristina Casao	Curtidos Jin	Cheste (Valencia)	España	<a href="mailto:curtidosjin@curtidosjin.com">curtidosjin@curtidosjin.com</a>	



Nombre y apellidos	Empresa	Dirección /ciudad	País	Correo electrónico	Firma
Inma Ciurana	Curtidos Jin	Cheste (Valencia)	España	<a href="mailto:curtidosjin@curtidosjin.com">curtidosjin@curtidosjin.com</a>	
Adela Requena	Marla Cueros	Caudete (Albacete)	España	<a href="mailto:marlacueros@gmail.com">marlacueros@gmail.com</a>	
Rafael Requena	Marla Cueros	Caudete (Albacete)	España	<a href="mailto:marlacueros@gmail.com">marlacueros@gmail.com</a>	
Alberto Pardo	Industrias del Curtido	Silla (Valencia)	España	<a href="mailto:arce.es@empresas.inescop.com">arce.es@empresas.inescop.com</a>	
Alfonso Medrano	Industrias del Curtido	Silla (Valencia)	España	<a href="mailto:arce.es@empresas.inescop.com">arce.es@empresas.inescop.com</a>	
Andrés Pérez	Industrias del Curtido	Silla (Valencia)	España	<a href="mailto:arce.es@empresas.inescop.com">arce.es@empresas.inescop.com</a>	
Juan Salerón	Ex Incusa	Silla (Valencia)	España	<a href="mailto:arce.es@empresas.inescop.com">arce.es@empresas.inescop.com</a>	
Enrique Comes	Cromogenia	Barcelona	España	<a href="mailto:arce.es@empresas.inescop.com">arce.es@empresas.inescop.com</a>	
Emiliano Honrado	Ex Lanxes-Bayer	Barcelona	España	<a href="mailto:arce.es@empresas.inescop.com">arce.es@empresas.inescop.com</a>	
Santiago Asensio	Colegio Químicos	Valencia	España	<a href="mailto:arce.es@empresas.inescop.com">arce.es@empresas.inescop.com</a>	
Vicente Segarra	IPAP Ingeniería	Callosa de Ensarria (Valencia)	España	<a href="mailto:arce.es@empresas.inescop.com">arce.es@empresas.inescop.com</a>	
Jesús Castaño	Ex Trumpler	Barberá del Valles (Barcelona)	España	<a href="mailto:arce.es@empresas.inescop.com">arce.es@empresas.inescop.com</a>	
Ignacio de Luis	Fibran	Sant Joan de les Abadesses (Gerona)	España	<a href="mailto:arce.es@empresas.inescop.com">arce.es@empresas.inescop.com</a>	

Figure 7.6.a - Participant list at LIFETAN training course in Spain



# ANNEX DISSEMINATION

## Eco friendly tanning cycle



Nombre y apellidos	Empresa	Dirección /ciudad	País	Correo electrónico	Firma
Paco Cánovas	Cuator	Vall d'Uixo (Valencia)	España	<a href="mailto:direccion@cuator.com">direccion@cuator.com</a>	
Alfredo Espantaleón	IPAP Ingeniería	Callosa de Ensarria (Valencia)	España	<a href="mailto:ipap@ipapingenieria.es">ipap@ipapingenieria.es</a>	
Jorge Duart	Tancuir-BASF	Riba-roja de Túria (Valencia)	España	<a href="mailto:arce.es@empresas.inescop.com">arce.es@empresas.inescop.com</a>	
Marivi Galiana	LWG	Northampton	UK	<a href="mailto:magaal1@gmail.com">magaal1@gmail.com</a>	
Rafael Galindo	Barrachina's	Vall d'Uixo (Valencia)	España	<a href="mailto:rafael@barrachinas.com">rafael@barrachinas.com</a>	
Miguel Ángel Martínez	Inescop	Elda (Alicante)	España	<a href="mailto:miguelangel@inescop.es">miguelangel@inescop.es</a>	
Joaquín Ferrer	Inescop	Elda (Alicante)	España	<a href="mailto:jferrer@inescop.es">jferrer@inescop.es</a>	
Francisca Arán	Inescop	Elda (Alicante)	España	<a href="mailto:aran@inescop.es">aran@inescop.es</a>	
Ana Torró	Inescop	Elda (Alicante)	España	<a href="mailto:atorro@inescop.es">atorro@inescop.es</a>	
Elena Bañón	Inescop	Elda (Alicante)	España	<a href="mailto:elenab@inescop.es">elenab@inescop.es</a>	
Ana Belén Muñoz	Inescop	Elda (Alicante)	España	<a href="mailto:anabelen@inescop.es">anabelen@inescop.es</a>	
Andres Barragán	Industrias del Curtido	Silla (Valencia)	España	<a href="mailto:arce.es@empresas.inescop.com">arce.es@empresas.inescop.com</a>	
Ángel Gómez	Industrias del Curtido	Silla (Valencia)	España	<a href="mailto:agomez@industriasdelcurtido.com">agomez@industriasdelcurtido.com</a>	
Matías Cobo	Tradelda	Elda (Alicante)	España	<a href="mailto:m.cobo@tradelda.es">m.cobo@tradelda.es</a>	



Nombre y apellidos	Empresa	Dirección /ciudad	País	Correo electrónico	Firma
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José María Sancho	Sancho Leather	Canals (Valencia)	España	<a href="mailto:sancholeather@gmail.com">sancholeather@gmail.com</a>	
Óscar Selles	Pies Cuadrados	Elche (Alicante)	España	<a href="mailto:oscar.selles@pikolinos.com">oscar.selles@pikolinos.com</a>	
José Miguel Gracia	Pies Cuadrados	Elche (Alicante)	España	<a href="mailto:oscar.selles@pikolinos.com">oscar.selles@pikolinos.com</a>	
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Elisa del Río	CEV	Valencia	España	<a href="mailto:edelrio@cev.es">edelrio@cev.es</a>	
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Jesús Pérez	Cromogenia Units	Paterna (Valencia)	España	<a href="mailto:isabel.jimenez@cromogenia.com">isabel.jimenez@cromogenia.com</a>	
Marcos Valero	Verdeveleno	Bétera (Valencia)	España	<a href="mailto:rrhh@verdeveleno.eu">rrhh@verdeveleno.eu</a>	
Silvia Navarro	INCUSA	Silla (Valencia)	"	<a href="mailto:snovano@industriasdelcurtido.com">snovano@industriasdelcurtido.com</a>	
Enrique Medina	INCUSA	Silla (Valencia)	"	<a href="mailto:kikepedraza@ignatius.com">kikepedraza@ignatius.com</a>	
Rubén González	TANNING OIL	Quint de Poblet	España	<a href="mailto:r.gonzalez@tanning-oil.es">r.gonzalez@tanning-oil.es</a>	
Daniel Moragas	INCUSA	Silla (Valencia)	España	<a href="mailto:dmoragas@industriasdelcurtido.com">dmoragas@industriasdelcurtido.com</a>	
Vicente Aloy	INCUSA	" "	"	<a href="mailto:valoy@industriasdelcurtido.com">valoy@industriasdelcurtido.com</a>	

Figure 7.6.b - Participant list at LIFETAN training course in Spain



Figure 7.7 - LIFETAN training course in Spain



### 7.3 LIFETAN Training course, Santa Croce sull'Arno (Italy) – 19<sup>th</sup> December 2017

The 19<sup>th</sup> December 2017 the training course was organized by Newport in its premises in Santa croce sull'Arno (Pisa). The training day was mainly addressed to technicians and business people of tannery sector and the results of LIFETAN project related to the demonstration of the process up to the pre-industrial production were presented to about 33 people of the tannery sector.

The brochure is divided into several sections:

- RISULTATI (Results):** Lists achievements such as the substitution of persistent and toxic substances with natural products, production of 100 samples, and various environmental and economic improvements.
- PARTNERS:** Lists logos for ENEA, ICCOM, INESCOP, Newport, and Tradelta S.L.
- COORDINATORE DI PROGETTO:** Alice Dallara, alice.dallara@enss.it
- IL PROGETTO (The Project):** Describes the project's goal of demonstrating natural products and lists previous LIFE projects like BioNaD and ECODEFATTING.
- IL PROGRAMMA (The Program):** Details the schedule: 10:00 General Objectives, 10:30 Global Process, 12:00 Open Questions, 12:30 Lunch, and 14:00 Practical Proofs.
- Event Information:** Includes the title 'CICLO DI CONCIA A BASSO IMPATTO AMBIENTALE', the course name 'CORSO DI FORMAZIONE', the location 'CONCERIA NEWPORT', and the date '19 DICEMBRE 2017'.
- Website:** www.lifetan.eu

Figure 7.8 - Brochure of the programme of the training course in Newport



# ANNEX DISSEMINATION

## Eco friendly tanning cycle



Cofinanziato dall'Unione Europea nell'ambito del programma LIFE 14 ENV17/000443

**"CICLO DI CONCIA A BASSO IMPATTO AMBIENTALE"**

**Corso di formazione**

**CONCERIA NEWPORT**  
Vicolo Abruzzi 18b/18c Santa Croce sull'Arno (Pi)  
19 DICEMBRE 2017

Il progetto LIFETAN intende dimostrare l'applicabilità di prodotti naturali a basso impatto ambientale e di tecnologie innovative per l'intero processo conciario delle pelli, ed in particolare nelle fasi macerazione, sgrassaggio, tintura, ingrasso e concia. Il progetto nasce integrando i risultati positivi ottenuti nei precedenti progetti LIFE: BioNAD, ECODEFATTING, PODEBA, ECOFATTING e OXATAN.

Il principale obiettivo dal punto di vista ambientale, sociale ed economico del progetto LIFETAN, è la sostituzione dei prodotti chimici tossici attualmente impiegati nell'industria conciaria con prodotti naturali a basso impatto ambientale. I prodotti naturali innovativi verranno applicati nell'intero ciclo conciario delle pelli, proponendo un business eco-sostenibile e conveniente per le aziende del settore, con prodotti in pelle di alta qualità.

**IL PROGRAMMA**

10.00 **OBIETTIVI GENERALI DEL PROGETTO LIFETAN**  
Maurizio Sabatini (Newport)

10.30 **PROCESSO GLOBALE DI CONCIA CON L'UTILIZZO DEI PRODOTTI NATURALI DIMOSTRATI NELL'AMBITO DEL PROGETTO LIFETAN**  
Marco Castellacci (Newport)

12.00 **DOMANDE APERTE**

12.30 **PRANZO**

14.00 **PROVE PRATICHE SPERIMENTALI DELL'UTILIZZO DEI PRODOTTI NATURALI DIMOSTRATI NELL'AMBITO DEL PROGETTO LIFETAN**  
Marco Castellacci (Newport)

**PARTNERS**



[www.lifetan.eu](http://www.lifetan.eu)  
COORDINATORE DI PROGETTO  
Dot.ssa Alice Dallara  
[alice.dallara@enea.it](mailto:alice.dallara@enea.it)

Figure 7.9 - Poster of the programme of the training course in Newport



# ANNEX DISSEMINATION

## Eco friendly tanning cycle



**CICLO DI CONCIA A BASSO IMPATTO AMBIENTALE**

IL PROGETTO EUROPEO LIFETAN - LIFE 14 ENV/IT/000443  
**CONSEGNA MANUALE LIFETAN**  
 CONCERIA NEWPORT  
 Vicolo Abruzzi 18b/18c Santa Croce sull'Arno (PI)  
 19 DICEMBRE 2017

Si consegna il Manuale del progetto Lifetan ai seguenti soggetti

n°	NOME E COGNOME	SOCIETA'/ENTE E RUOLO	FIRMA
1	Ricci MARIA	AMPELLAMI Presidente	Ricci Maria
2	Ricci BARBARA	Contra Gde N.Y.	Ricci Barbara
3	AMBROSINI CIRO	AMPELLAMI V. Presidente	Ambrosini Ciro
4	TESI ROBERTO	LAICISTRA RESPONSABILE	Tesi Roberto
5	TESI ROBERTO	LCP CANGURO SRL	Tesi Roberto
6	De Paoli GIANNI	AGENZIA CONTENUTO	De Paoli Gianni
7	BACCARADRISSA	LCP CANGURO SRL	BaccaradriSSA

**CICLO DI CONCIA A BASSO IMPATTO AMBIENTALE**

n°	NOME E COGNOME	SOCIETA'/ENTE E RUOLO	FIRMA
8	TESI ROBERTO	LCP CANGURO SRL	Tesi Roberto
9	SEVERINI ANTONELLA	NDS LANZATELLI	Severini Antonella
10	LAICISTRACCI	LAICISTRA	Laicistracchi
11	Ricci BARBARA	Contra Gde N.Y.	Ricci Barbara
12	AMBROSINI CIRO	AMPELLAMI V. Presidente	Ambrosini Ciro
13	Ricci MARIA	AMPELLAMI Presidente	Ricci Maria
14	SALVATORE GIANNI	NEW PORT SUPERMERCATO	Salvatore Gianni
15	EDUARDO CAI	SPACCATRICE ABRUZZI 1975/ANM	Eduardo Cai
16	Palumbo LINDA	NEWPORT	Palumbo Linda
17	D. R. M. ROSSI	NEWPORT	D. R. M. ROSSI

**CICLO DI CONCIA A BASSO IMPATTO AMBIENTALE**

n°	NOME E COGNOME	SOCIETA'/ENTE E RUOLO	FIRMA
18	ALESSIO INTORRE	MR. VENTURO spa	Intorre Alessio
19	TEUCCI DAVIDE	MR. VENTURO spa	Teucci Davide
20	ANDREA FERONNO	NOVAPIC spa	Feronno Andrea
21	MARCO BOLLANI	GIRAFULLA spa	Bollani Marco
22	EVFERRI FLORINDO	GIRAFULLA	Evferrì Florindo
23	MAIO CAROLINE	NEWPORT spa	Maio Caroline
24	MURRIATO DOMENICO	NEWPORT SRL	Murriato Domenico
25	BACCARADRISSA	LCP CANGURO SRL	BaccaradriSSA
26	LEONINI SANDRO	ASSOCIACE TIRAPISCHI	Leonini Sandro
27	MASSIMO AVAZZANO	DAMA PELLAMI	Avazzano Massimo

**CICLO DI CONCIA A BASSO IMPATTO AMBIENTALE**

n°	NOME E COGNOME	SOCIETA'/ENTE E RUOLO	FIRMA
28	GIANNI CERRINI	BANCA GENESILI	Cerrini Gianni
29	DALMARINO ROBERTO	NEWPORT	Dalmarino Roberto
30	NANA DEL PINO	NEWPORT	Nana Del Pino
31	PIRELLA LUCIANO	Avanzano e Ferra	Pirella Luciano
32	MARIN ROBERTO	TIRAPISCHI	Marin Roberto
33	FRANZONI M. GIUSEPPE	EDUZZAN CAPITAL	Franzoni M. Giuseppe
34			
35			
36			
37			

Figure 7.10 - List of people who received a LIFETAN manual copy



Figure 7.11 - Certificate of participation to the training day



### CICLO DI CONCIA A BASSO IMPATTO AMBIENTALE

IL PROGETTO EUROPEO LIFETAN - LIFE 14 ENV/IT/000443  
**CORSO DI FORMAZIONE**  
 CONCERNIA NEWPORT  
 Vicolo Abruzzi 18b/18c Santa Croce sull'Arno (PI)  
 19 DICEMBRE 2017

n°	NOME E COGNOME	SOCIETA'/ENTE E RUOLO	FIRMA
1	ALESSIO INTONTE	MR. VERTIGO snc	<i>[Signature]</i>
2	HARBO DONATI	GRAFANO SRL	<i>[Signature]</i>
3	LUCCI DAVIDE	MR. VERTIGO snc	<i>[Signature]</i>
4	ANDREA REGGIANO	NOVAPEL snc	<i>[Signature]</i>
5	LEVIENI FLORINDO	GIVA PELLATI SRL	<i>[Signature]</i>
6	ESKILVA V. LAZZERRO	NDS LAVORAZIONE	<i>[Signature]</i>
7	NINO MATACCHERINI	FENIX	<i>[Signature]</i>
8	SALVATORE OMARATO	NEW PORT DIPENDENTE	<i>[Signature]</i>



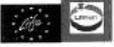
### CICLO DI CONCIA A BASSO IMPATTO AMBIENTALE

n°	NOME E COGNOME	SOCIETA' / ENTE E RUOLO	FIRMA
19	MAIO AVALONDO	LAMA POCUAMI	<i>[Signature]</i>
20	ACCI BARBARA	Kenneth Cole N.Y.	<i>[Signature]</i>
21	ACCI MARIA	Am Pelam	<i>[Signature]</i>
22	TESI ROBERTO	LCP CANGURO SRL	<i>[Signature]</i>
23	AMBROSINI CRO	AM PELAM	<i>[Signature]</i>
24	RODELI ROBERTO	LUNATIRA RESP.	<i>[Signature]</i>
25	GIUGNO DANIELA	AGENZIA DI COMMERCIO	<i>[Signature]</i>
26	ELCHINI ALESSANDRO	LCP CANGURO SRL	<i>[Signature]</i>
27	ANDREA PIGNORI	NOVAPEL SRL	<i>[Signature]</i>



### CICLO DI CONCIA A BASSO IMPATTO AMBIENTALE

n°	NOME E COGNOME	SOCIETA' / ENTE E RUOLO	FIRMA
9	27.9.00. 11.00.00	NEW PORT	<i>[Signature]</i>
10	Roberto Mignolo	NEWPORT	<i>[Signature]</i>
11	Luca Motta	NEW PORT	<i>[Signature]</i>
12	EDUARDO CAI	SPACENTRICE ABRUZZI 1375	<i>[Signature]</i>
13	MARCO BONOMO	NEWPORT	<i>[Signature]</i>
14	CAUTINI SANDRO	PACIFICI TEBESCHI	<i>[Signature]</i>
15	DANIELO DANZANO	NEWPORT	<i>[Signature]</i>
16	GIULIO CERCHI	BONIS GIOIELLI	<i>[Signature]</i>
17	GIUGNO DANIELA	AGENZIA COMMERCIO	<i>[Signature]</i>
18	GIUGNO DANIELA	NOVAPEL	<i>[Signature]</i>



### CICLO DI CONCIA A BASSO IMPATTO AMBIENTALE

n°	NOME E COGNOME	SOCIETA' / ENTE E RUOLO	FIRMA
28	MAIO CARMINE	NEWPORT	<i>[Signature]</i>
29	NANDA DE BONIS	NEWPORT	<i>[Signature]</i>
30	VIRANO CARLO	LAVORAZIONE/FAN	<i>[Signature]</i>
31	MARCO BONOMO	NEWPORT	<i>[Signature]</i>
32	FRANCESCO DI GIUSEPPE	NOVAPEL	<i>[Signature]</i>
33			
34			
35			
36			
37			

Figure 7.12- List of people attending the LIFETAN training in Newport (Italy)



Figure 7.13- LIFETAN Training course in Newport (Italy)



## 7.4 LIFETAN workshop, ICCOM-CNR Pisa, 5<sup>th</sup> December 2017 (Italy)

The 5<sup>th</sup> December 2017 the LIFETAN workshop was held in CNR premises in Pisa (Italy) and was organized by Newport in collaboration with ENEA and ICCOM-CNR. The workshop was mainly devoted to tannery and leather companies, technicians and business people. A participation of about 35 people was registered. The innovative LIFETAN technology was presented by means of presentations about LCA (Life Cycle Assessment) analysis, morphologic, thermal stability and chemical analysis of eco sustainable leather and the demonstration of the results of the application of the LIFETAN project in tannery. A preliminary version of LIFETAN video was shown and the leather obtained by LIFETAN process and some finished products, as shoes and bags, were also presented.

The figure shows a program for the LIFETAN workshop, organized into several sections:

- RISULTATI (Results):**
  - Sostituzione delle sostanze persistenti, bioaccumulabili e tossiche (PBT) nel processo di concia con sei nuove formulazioni che utilizzano prodotti naturali.
  - 50 pelli ovine e pelli bovine conciate impiegando i prodotti naturali.
  - Analisi di 100 campioni prodotti in cuoio con i prodotti naturali, in linea con i cicli del marchio tu EcoLabel.
  - Riduzione (20%) di sostanze inquinanti nelle acque reflue della produzione del cuoio.
  - Riduzione del 20% del consumo di acqua durante il processo di concia.
  - Riduzione dell'uso del Cloro nel ciclo conciaio.
  - Aumento biodegradabilità delle molecole utilizzate.
  - Incremento del 50% della penetrazione nella pelle da parte dei prodotti usati per i trattamenti di concia e migliori prestazioni dei prodotti finiti.
  - Dimostrazione della fattibilità tecnica / economica della concia delle pelli prodotte senza l'uso del cloro.
  - Dirrettazione dell'applicabilità su scala pre-industriale dei processi innovativi.
- PARTNERS:**
  - ENEA
  - ICCOM
  - INESCOP
  - Newport
  - Tradelta, S.L.
- Coordinatore di progetto:** Alice Dallera (alice.dallera@enea.it)
- CICLO DI CONCIA A BASSO IMPATTO AMBIENTALE:**
  - Logo: LIFE 14 ENV/IT/000433
  - Logo: Con il finanziamento del Programma LIFE dell'Unione Europea
  - Logo: Lifetan
- Lifetan Workshop:**
  - CNR Via Moruzzi, 1 Pisa
  - Edificio A - Piano terra Aula 28
  - 5 dicembre 2017 ore 10.00
  - www.lifetan.eu
- IL CONTESTO (Context):**
  - L'industria conciaria dell'Unione Europea, localizzata per il 70% in Italia e Spagna, rappresenta una quota significativa della produzione mondiale del cuoio e delle pelli, ed è un importante settore economico per l'intera Europa. I processi tradizionali di produzione del cuoio e delle pelli hanno attualmente un consistente impatto ambientale. In particolare, l'industria conciaria prevede un impiego significativo di:
    - sostanze pericolose utilizzate nella fase di concia che vengono rilasciate nelle acque reflue;
    - prodotti di ingrassaggio (utilizzati per reintrodurre i grassi dopo la concia) generalmente non biodegradabili;
    - formulazioni che possono contenere composti organici volatili (COV) o che generano sostanze persistenti, bioaccumulabili e tossiche (PBT).
  - Inoltre, i prodotti semilavorati e finiti, possono contenere metalli tossici ed il Cuore in particolare, che rendono difficile il riciclo e lo smaltimento. L'intero settore ha la necessità di migliorare in modo significativo la sostenibilità ambientale dei propri processi.
- IL PROGETTO (Project):**
  - Il progetto LIFETAN è rivolto all'introduzione nelle fasi di macerazione, ingrassaggio, tintura, ingrasso e concia, mediante la sostituzione di prodotti chimici e tossici con prodotti naturali e biodegradabili, per migliorare la sicurezza e l'eco-compatibilità.
  - LIFETAN intende dimostrare l'applicabilità di prodotti naturali a basso impatto ambientale e di tecnologie innovative per l'intero processo conciaio delle pelli, ed in particolare nelle fasi macerazione, ingrassaggio, tintura, ingrasso e concia. Il progetto nasce integrando i risultati positivi ottenuti nei progetti LIFE precedenti, come LIFE BIODATA, ECODERFATINGS, DO DEBA, ECOEATING e OXATAN.
  - Il principale obiettivo del punto di vista ambientale, sociale ed economico del progetto LIFETAN, è la sostituzione dei prodotti chimici tossici attualmente impiegati nell'industria conciaria con prodotti naturali a basso impatto ambientale. I prodotti naturali innovativi verranno applicati nell'intero ciclo conciaio delle pelli, proponendo un business ecosostenibile e conveniente per le aziende del settore, con prodotti in pelle di alta qualità, traddizionali e nuovi, perfettamente lavorabili.
- IL PROGRAMMA (Program):**
  - Ore 9.30 Registrazione e welcome coffee
  - Ore 10.00 "Il Progetto Lifetan" Alice Dallera (ENEA)
  - Ore 10.20 "LCA ed etichette ambientali" Pier Luigi Porta (ENEA)
  - Ore 10.40 "Analisi morfologica e stabilità termica di pellami ecosostenibili" Alessandra Strafella ed Elena Salemitano (ENEA)
  - Ore 11.00 "Metodologie chimiche per l'analisi della pelle" Emilia Bramanti (ICCOM-CNR)
  - Ore 11.20 "Applicazione dei risultati del progetto Lifetan in conceria" Maurizio Sabatini (Newport)
  - Ore 11.40 "I finanziamenti europei per le imprese e gli enti pubblici finalizzati ad attività di sviluppo e ricerca" Costantino Raspi (IGS)
  - Ore 12.00 Dibattito

Figure 7.14 - Program of LIFETAN workshop in Italy



# ANNEX DISSEMINATION

## Eco friendly tanning cycle



**"Ciclo di conca a basso impatto ambientale"**  
**LIFETAN LIFE 14 ENV/IT/000443**  
**LIFETAN WORKSHOP**  
**CNR - Via Moruzzi, Pisa (PI)**  
**5 dicembre 2017 ore 10.00**

N°	NOME E COGNOME	SOCIETA'/ ENTE/ ISTITUTO E RUOLO	E-MAIL	FIRMA
1	ALICE DALL'ARA	ENEA (Coord.)	alice.dallara@enea.it	Alice Dall'ara
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3	ALESSANDRA STRATECA	CNR	alessandra.strateca@cnr.it	Alessandra Strateca
4	CAISTINA TACCI	ISS	caistina.tacchi@iss.it	Caistina Tacchi
5	GIORGIO ROMANOLATO	ISE	giorgio.romanolato@ise.it	Giorgio Romanolato
6	MARIELLA CERRINI	ICCOM	mariele.cerrini@iccom.cnr.it	Mariella Cerrini

N°	NOME E COGNOME	SOCIETA'/ ENTE/ ISTITUTO E RUOLO	E-MAIL	FIRMA
25	GIOVANNI PARDI	Università di Genova - SPAR	giovanni.pardi@uni.ge.it	Giovanni Pardi
26	EURENA DONI	CNR - ISE	eurena.doni@cnr.it	Eurena Doni
27	ANDRES PEDRANI	UNIFI	andres.pedrani@unifi.it	Andres Pedrani
28	GIORGIO SACCHETTI	INTEC	giorgio.sacchetti@intec.it	Giorgio Sacchetti
29	ANDREA SUGNO	INTEC	andrea.sugno@intec.it	Andrea Sugno
30	MARCO SASSANI	INTEC	marco.sassani@intec.it	Marco Sassani
31	ANDREA TASSI	INTEC	andrea.tassi@intec.it	Andrea Tassi
32	GIORGIO TASSI	INTEC	giorgio.tassi@intec.it	Giorgio Tassi
33	GIORGIO TASSI	INTEC	giorgio.tassi@intec.it	Giorgio Tassi

N°	NOME E COGNOME	SOCIETA'/ ENTE/ ISTITUTO E RUOLO	E-MAIL	FIRMA
16	MARIO CARLO NASCHERPA	ICCOM-CNR	mario.carlo.nascherpa@iccom.cnr.it	Mario Carlo Nascherpa
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**"CICLO DI CONCA A BASSO IMPATTO AMBIENTALE"**

**CERTIFICATO DI PARTECIPAZIONE**  
**LIFETAN WORKSHOP**

CNR PISA  
 Via Moruzzi, 1 Pisa PI  
 5 DICEMBRE 2017 ore 10.00

Dott.ssa Alice Dallara (ENEA)

Figure 7.15 - Participant list and Certificate of participation of LIFETAN workshop in Italy



Figure 7.16 - LIFETAN workshop in Italy



Figure 7.17 - LIFETAN workshop in Italy



## 8. Conclusions

The main results about the public awareness and dissemination of results were obtained, as expected in the actions D1-D6 of LIFETAN project.

### **ACTION D1: Website creation**

During October 2015 the web site [www.lifetan.eu](http://www.lifetan.eu) was published and it is network-accessible in English, Italian and Spanish language. The site is periodically updated and it contains, in its public or reserved areas, all the documents produced during the project's activities, in particular:

- Link to LIFE+;
- Link to each beneficiary website;
- Results update;
- News update;
- Focus on;
- Reserved area;

ENEA was the responsible of the creation of the LIFETAN web site. The project web site created are clearly and visibly marked with Life logo. In September 2016 the website visitors are 9,659. The results of the activities carried out in Action D.1 were defined in the dedicated deliverable report, which was foreseen at the end of December 2015 and annexed to the Mid-term Report. The related activities carried out in the last period of the ANNEX titled "Public awareness and dissemination of results" attached to the Final report.

Following a preliminary "static" version of the web site with the main characteristics and initiatives of the project, during December 2015 the LIFETAN web site has been published and it is network-accessible at the address [www.lifetan.eu](http://www.lifetan.eu).

The website was continuously monitored with Google Analytics tools and the following results were obtained at the end of the project:

- No. of individuals: 1,779
- No. of unique visits: 2,446
- Average visit duration (minutes): 0:04:30.

This number was low, after the "cleaning from " of the website access.

A larger number of individuals was reached by means of social network and newsletters, via the Official ENEA Facebook page (about 9.900 Like and 10.072 Follower), ENEA twitter (about 7.000 Like and 9.600 Follower) and INESCOP twitter (about 500 Like and 300 Follower) profiles, used for social network dissemination.

### **ACTION D.2: Innovative technology for leather industrial natural tanning manual**

The LIFETAN manual, which explain in detail the now-how of the new leather natural techniques utilizing the LIFETAN innovative technology, was drafted and published before the end of the project. The LIFETAN manual content was edited by ENEA, in collaboration mainly with Newport and Tradelda that provided data and procedures and with the co-supervision of all beneficiaries. 1000 copies of the manual (24 pages) were printed by ENEA and sent:

- 200 copies to INESCOP
- 100 copies to Tradelda
- 100 copies to Newport
- 100 copies to SSIP (Stazione Sperimentale per l'Industria delle Pelli e delle materie concianti).



### **ACTION D.3: Training courses and workshops in Italy and Spain**

Training activities in tanneries and workshops in tannery and tannery association centre on LIFETAN new technology were planned and organized as technical informative courses in Italy and Spain, with special focus on protocols and procedures. The courses were specifically designed to train and form people of the trade (technicians and field workers) with a practical section for the application of the technique at a semi-industrial level. Technical informative courses were carried out in Italy and Spain as follow.

- LIFETAN Training course, Valencia (Spain) – 29th November 2017  
The 29th November 2017 the training course was organized by INESCOP in collaboration with TRADELDA in the premises of Confederacion Empresaria Valenciana in Valencia. The training day was mainly addressed to technicians and business people of tannery sector and the results of LIFETAN project related to the demonstration of the process up to the pre-industrial production were presented to about 40 people of the tannery sector.
- LIFETAN Training course, Santa Croce sull'Arno (Italy) – 19th December 2017  
The 19th December 2017 the training course was organized by Newport in its premises in Santa Croce sull'Arno (Pisa). The training day was mainly addressed to technicians and business people of tannery sector and the results of LIFETAN project related to the demonstration of the process up to the pre-industrial production were presented to about 33 people of the tannery sector.
- LIFETAN workshop in Valencia (Spain), 28th November 2017  
The LIFETAN workshop was organized the 28th November 2017 by INESCOP. During the workshop INESCOP presented background and basic concepts of the project and its goals and contents, the pilot schemes of LIFETAN process, the substances used, and the aspects of the innovative LIFETAN process were explained. 115 technicians and tannery workers of the tannery attended to the workshop.
- LIFETAN workshop in Italy  
The 5th December 2017 the LIFETAN workshop was held in CNR premises in Pisa (Italy) and was organized by Newport in collaboration with ENEA and ICCOM-CNR. The workshop was mainly devoted to tannery and leather companies, technicians and business people. A participation of about 35 people was registered. The innovative LIFETAN technology was presented by means of presentations about LCA (Life Cycle Assessment) analysis, morphologic, thermal stability and chemical analysis of ecosustainable leather and the demonstration of the results of the application of the LIFETAN project in tannery. A preliminary version of LIFETAN video was shown and the leather obtained by LIFETAN process and some finished products, as shoes and bags, were also presented.



#### **ACTION D.4: Diffusion material preparation**

Various diffusion materials was prepared and distributed during meeting, events, conference, fairs, training course and in the following table are summarized the main results.

<b>Obtained results</b>	<b>Expected results</b>
Defined at the beginning of the project and used in all dissemination materials.	A project's logo
Bilingual notice board was printed and distributed all partners in more than 15 copies	15 notice board
9 posters printed in more than 25 copies	25 Posters
1000 (brochures) + 6000 (brochures) + 3000 (leaflets)	10,000 leaflets/brochures/factsheets etc ready for use in dissemination events
100 USB pendrive + labels + 3000 sticky labels	2,500 various branded items
25 published print/web 8 abstract	30 publications on different media
100 +100 copies of 12 pages in English and Italian	Layman's report
Video is available in English, Italian and Spanish	Project video ready for use
2 prepared by Newport and 2 prepared by Tradelda	4 sample books of LIFETAN leather samples

#### **ACTION D.5: International conferences, events and fairs**

During all the project duration, LIFETAN project was presented to events, workshop, etc. or to public fairs, conferences, events externally organized, as foreseen in Action D5, in order to inform interested stakeholders about the project objectives, foreseen and obtained results.

At the end of the project, 25 events were attended.

#### **ACTION D.6: Networking**

The creation of an active network which to facilitate the exchange of information among consortia who work or have worked in the past on topics related to the project was expected. A number of 10 projects or initiatives connected with LIFETAN project's was expected, while at the end of the LIFETAN project 13 projects have been connected and 12 networking initiatives were realized also with stakeholders.