

Newsletter November 2017

# LIFE-PHOTOSCALING



## **Sustainability of photocatalytic technologies on urban pavements: From laboratory tests to in field compliance criteria**

Welcome to the third newsletter of the LIFE-PHOTOSCALING project.

The PHOTOSCALING project, co-funded by the European Commission began on 1st October 2015, has duration of 52 months and a total budget of 1.761.341 euros. Its implementation will allow undertaking the gap between the study of the photocatalytic efficiency in laboratory and full-scale measurements.

# LIFE-PHOTOSCALING

## Sustainability of photocatalytic technologies on urban pavements: From laboratory tests to in field compliance criteria



Since the last newsletter, we want to point out the following aspects related to PHOTOSCALING



## Indicators-based assessment of the behavior of the product from demonstration platforms was performed

The behavior of the photocatalytic products has been assessed using 3 type of indicators: 1. Photocatalytic efficiency; 2. Intrinsic durability; and 3. Undesirable effects. Different test was performed in laboratory and on the platforms in order to characterize these three indicators.

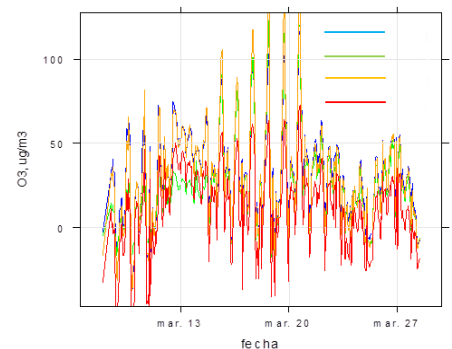
### 1. Photocatalytic efficiency



NO<sub>x</sub> degradation efficiency – in situ test



Self-cleaning efficiency of graffiti and leakages



Continuous monitoring to NO, NO, O<sub>3</sub> and VOCs

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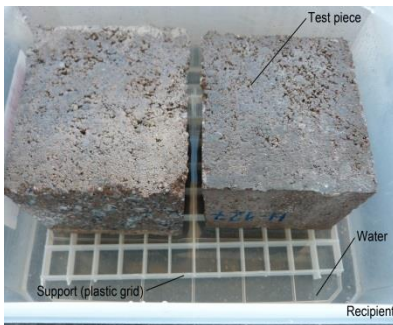


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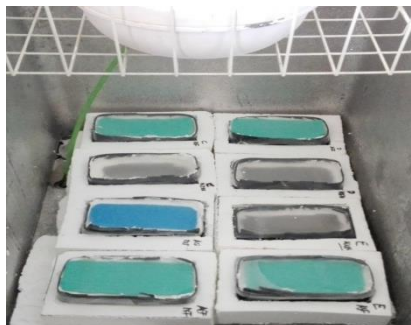


## Indicators-based assessment of the behavior of the product from demonstration platforms was performed

### 2. Intrinsic durability



Water absorption



Freeze-thaw resistance test



Mechanical strength measured by ultrasonic pulses

### 3. Undesirable effects



Collection and analysis of rainfall leachates (Ti, NO<sub>3</sub><sup>-</sup>, pH, conductivity)



Nano-particles measurements

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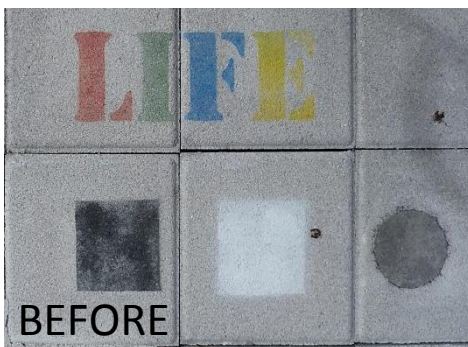


Since the last newsletter, we want to point out the following aspects related to PHOTOSCALING



### LIFE Photoscaling project: simulation of real life conditions: Water pressure cleaning by City Council workers

Cleaning the “Leaching Bank of Proofs” with water and the graffiti painted with paint stripper (aqueous acid solution) and water.



The effect of the cleaning on photocatalytic platforms was analysed by the collection and analysis of leachate (Ti,  $\text{NO}_3^-$ , pH, conductivity) and tested before and after the cleaning treatment using in situ  $\text{NO}_x$  activity test.



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## **TECHNICAL MEETINGS WITH THE PRODUCERS OF THE PHOTOCATALYTIC PRODUCTS TESTED IN THE PLATFORMS**

Separated meetings have been offered to each supplier of the photocatalytic products tested on the platforms. During these sessions, the preliminary results corresponding to each producer have been shown and discussed individually.



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### SOME DISSEMINATION ACTIVITIES...



### LIFE Photoscaling presented in Quart de Poblet (Valencia) - Networking Photocitytex –Jun 2017



### LIFE Photoscaling Project in CONPAT congress - Asunción (Paraguay) –Sept 2017

This presentation took place in two important latin congresses called **XIV Congreso Latino-Americano de Patología de la Construcción** and **XVI Congreso de Control de Calidad en la Construcción**.



#### JORNADA INFORMATIVA CONVOCATORIA LIFE 2017

MADRID – 19 de junio de 2017

Lugar: Real Jardín Botánico de Madrid (Plaza de Murillo, 2)

INSCRIPCIÓN: Cumplimentar el formulario del enlace <https://goo.gl/forms/MOHSYV5Kw1fg3BM>

#### Programa

9.30 - 10.00 Registro asistentes

10.00 - 10.10 Bienvenida  
Jesús Muñoz, Director Real Jardín Botánico (CSIC)

10.10 - 10.30 Servicio de Programas Europeos  
Marta Torrens y Luis Benito. Servicio de Programas Europeos. Vicepresidencia de Investigación Científica y Técnica (CSIC)

10.30 - 11.30 Programa LIFE 2014-2020. Convocatoria 2017. Novedades  
Elena Barrio Barcia, coordinadora de Área de la Dirección General del Servicio del Ministerio de Agricultura y Pesca, Alimentación y Medio Ambiente. Punto de Contacto Nacional Programa LIFE

#### Pausa

12.00 - 13.30 Consejos para presentar una propuesta exitosa y una adecuada gestión de los proyectos  
Marta Rodríguez, Monitor externo de seguimiento del programa LIFE. NEEMO-Idom.

13.30 - 14.30 Caso de éxito  
Marta Castellote, Directora del Instituto de Ciencias de la Construcción Eduardo Torroja (CSIC). Coordinadora Proyecto PHOTOSCALING

14.30 Cierre

LIFE-Photoscaling project was selected as an example of “successful case” – by the Spanish Ministry in an explanation session on LIFE projects. Jun 2017, Madrid (Spain)

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### 25 Years LIFE Celebration Networking with LIFE MINOx-Street and LIFE EquiNOx, 8 Jun 2017

25 Years LIFE Celebration Event organized by the IETcc (CSIC). Other LIFE projects were invited to attend, these were LIFE MINOx-Street and LIFE EquiNOx. Also, both LIFE Photoscaling project participants, which are Madrid City Council and ETSII (UPM), presented their current states and advances until today.



### Marta Castellote presents LIFE Photoscaling to children (Children at workplace) – 17 March 2017

In the day of “Children at Workplace”, Marta Castellote presents LIFE Photoscaling project to children, and made some activities related to photocatalysis for sons and daughters of IETcc (Eduardo Torroja Institute for Construction Science) workers.

