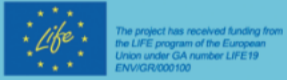


# VISIONS - LIFE19 ENV/GR/000100



InnoVative photocatalytic paints  
for healthy envirOnment and eNergy Saving

Improve  
Indoor Air Quality  
Save energy  
using innovative photocatalytic paints



**Description:** The main scope of the project is the production of an innovative photocatalytic paint, which aims at improving the quality of the indoor environment while it will enable significant energy savings in buildings.

### Budget Info:

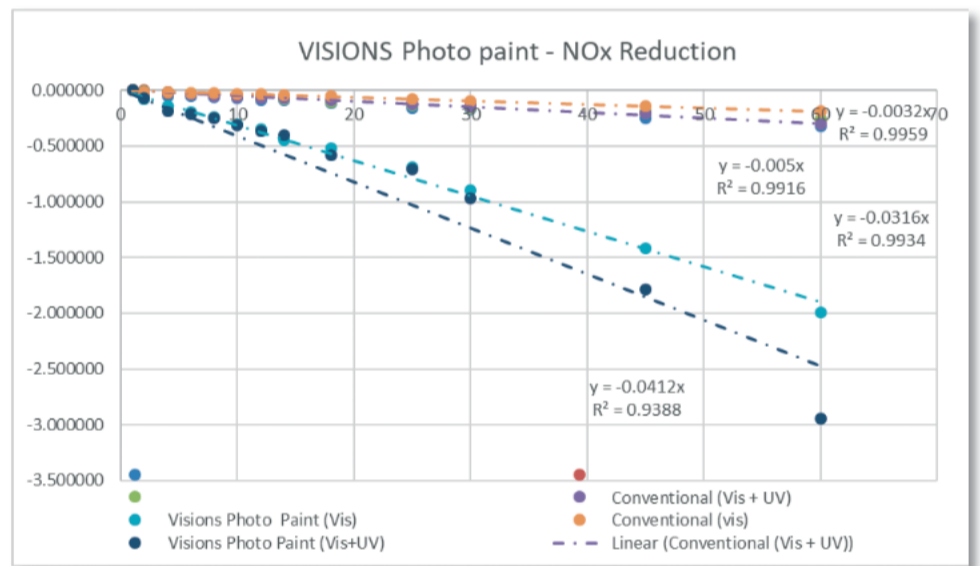
**Total amount:** 1,403,752 Euro (EC Co-funding: 54%)  
**Duration:** Start: 07/09/20 – End: 06/09/23

Real scale application of the **VISIONS photo-paints** (organic & inorganic) were implemented in the frame LIFEVISIONS project in order to estimate their effectiveness to degrade air pollutants as well as to eliminate energy consumption.

The application took place in 2 **Demo- Houses** which are located on the premises of FORTH in Crete and comprise a unique European facility.

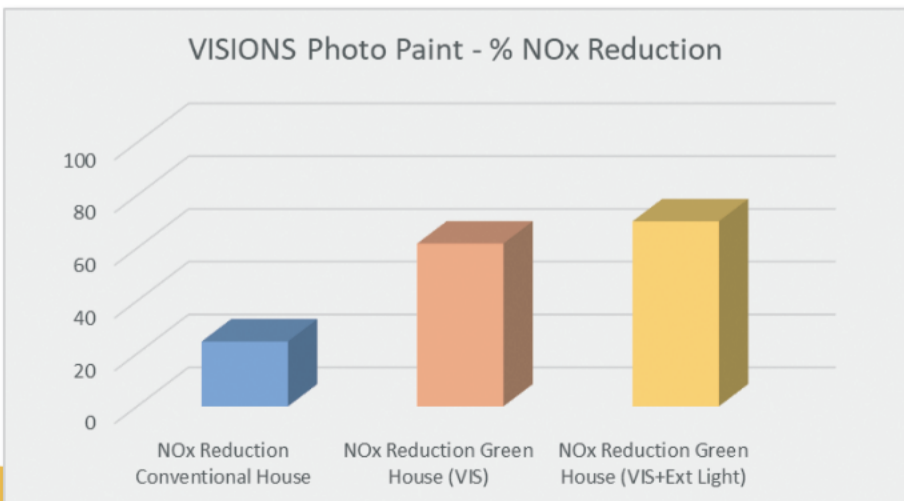
The VISIONS photo-paints were applied on the surface of the interior area in one of the Demo-Houses (ceiling and walls approx. 37m<sup>2</sup>) the so call "**Green House**". The other one was considered as reference: the «**Conventional House**». The two houses are separated by a control room where the monitoring equipment (NO<sub>x</sub>, O<sub>3</sub> and BTEX analyzers) were placed.

Both houses (Green and Conventional) were equipped as follows: Monitoring equipment coupled with data loggers continuously recorded concentration of NO<sub>x</sub>, O<sub>3</sub>, and VOCs, temperature, RH% and light intensity inside each 'house'. Houses were fed with air pollutants in order to achieve the required pollution level (close to real indoor conditions).

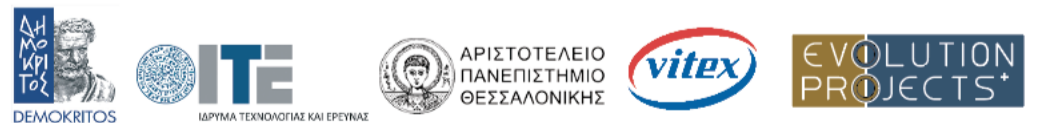


By activating the photocatalytic building material (turn on the light) the pollution level in the 'Green House' was reduced up to 61.7% while in the conventional one up to 24.6%. All side effects (adsorption on walls, photolysis, photocatalysis etc) was also estimated.

Hence, the feasibility of the photocatalytic building materials to reduce the air pollutants introduced in the Demo-House indoor environment were estimated through the comparison of the air quality levels and energy consumption in the two "houses".



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