VISIONS - LIFE19 ENV/GR/000100

InnoVative photocatalytIc paintS
for healthy envirOnment and eNergy Saving

LIFEVISIONS

InnoVative photocatalytIc paintS
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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

Methodology for the development of the VISIONS photocatalytic paint

1 Design and development of the photocatalytic powder:

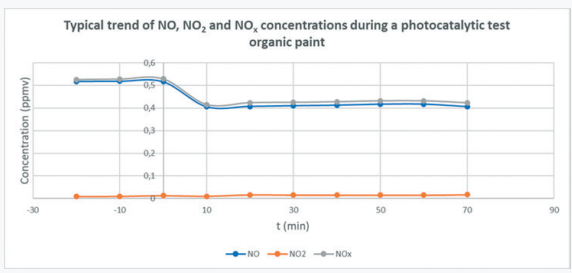
The design and development of the photocatalytic powder was performed with a simple precipitation method by FORTH. The photocatalytic powder based on titanium dioxide with transition metal is activated in the presence of visible light irradiation

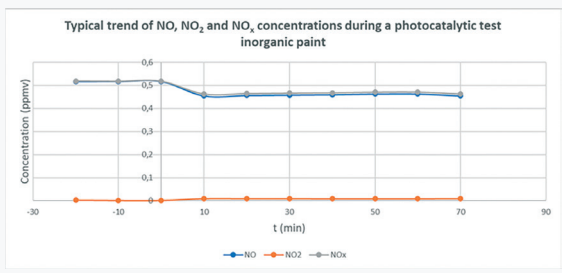
2 Semi-Industrial production of VISIONS Paints:

Semi-Industrial production of VISIONS Paints by mixing the optimized photocatalytic powder with 2 different kinds of paints was deployed by VITEX Industry and FORTH. More specifically, VITEX finalized the organic and inorganic formula and started the production for the real scale application needs.

3 Investigation and testing of the photocatalytic efficiency of VISIONS Paints:

Investigation of the VISIONS paints efficiency to degrade air pollutants was performed in NCSRD's photocatalytic lab reactor following CEN/TC/16980-1:2017. Results presented 21.5% Nitrogen Oxide degradation efficiency in Visible light and 83.5% in UV light for the organic formula while for the inorganic formula showed 12.0% degradation efficiency in Visible light and 66.5% in UV light. These numbers are very promising for an industrial product.

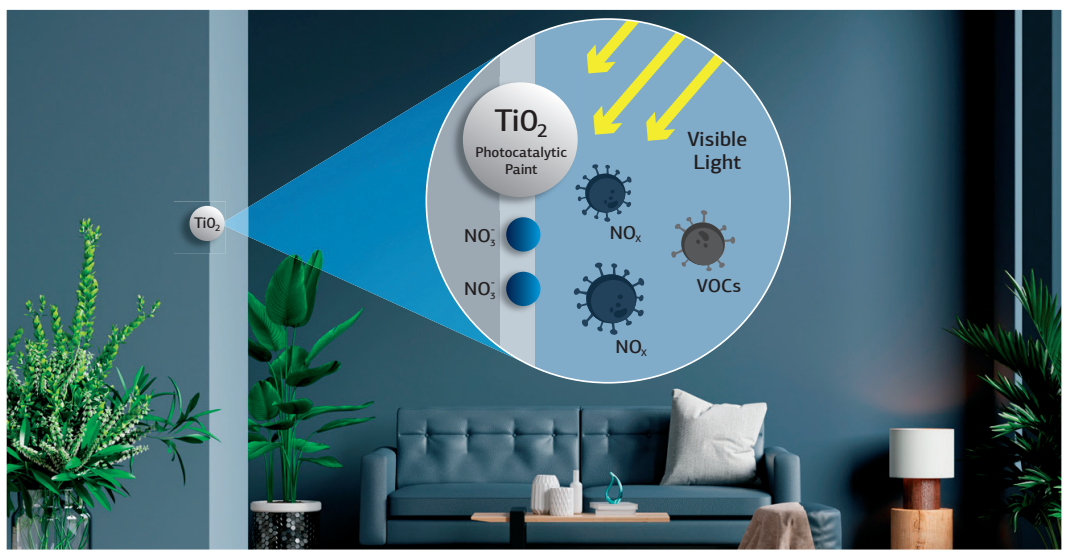




Typical diagrams showing the reduction of NO under Visible light for the organic and inorganic paint

4 Application of the best performing VISIONS Paint at the case study buildings:

The best performing VISIONS paint will be applied at the pilot buildings of the Hellenic Naval Academy at Piraeus as well as the Demo Houses at the FORTH premises in Crete. Indoor air quality is monitored by the appropriate measurement instrumentation.



Partners:

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