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: 06/02/24

Partners:

National Center for Scientific Research DEMOKRITOS (Coordinator)
Foundation of Research and Technology – Hellas
Aristotle University of Thessaloniki
VITEX S.A.
EVOLUTION PROJECTS PLUS

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Contact Person
Thomas Maggos
Email: tmaggos@ipta.demokritos.gr
Tel: +30 2106503716

www.lifevisions.gr
@LifeVisionsGR
@gr_visions
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InnoVative photocatalytIc paintS
for healthy envirOnment and eNergy Saving

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Pict.1 Naval Academy

In the frame of a LIFEVISIONS project, an innovative photocatalytic paint was produced for indoor air quality improvement and energy saving purposes. The photocatalytic efficiency of VISIONS photo-paint was estimated both in lab and real scale applications. Real-scale tests took place in the Hellenic Naval Academy building (pict. 1) where VISIONS photo-paint was evaluated with regards to Indoor Air Quality (IAQ) improvement.

Three pairs of classrooms (one in each floor) were selected for the evaluation of the VISIONS photo-paint. Each pair consisted of a "Green" classroom, where the photo-paint was applied and a "Conventional" one which was paint with a conventional commercial paint.

Both rooms (Green and Conventional) were equipped with NOx and VOCs continues monitoring analyzers while the monitoring duration was approximately 20-30 days in each pair of classrooms.

Hence, the feasibility of the photocatalytic paints to reduce the air pollutants in the Green classrooms of the Naval Academy was estimated through the comparison of the air quality levels in the two classrooms. Results showed an average 20% and 12% lower concentration of NO and Toluene respectively in the green classroom compared to the conventional (fig 2).

Taking into consideration the fact that air quality in indoor microenvironments can be controlled easier than outdoors and the expected results of an applied methodology can be easily quantified in indoor environments, VISIONS is the 'model' for the implementation of an innovative and cost-effective methodology for the reduction of indoor air pollutants concentrations.

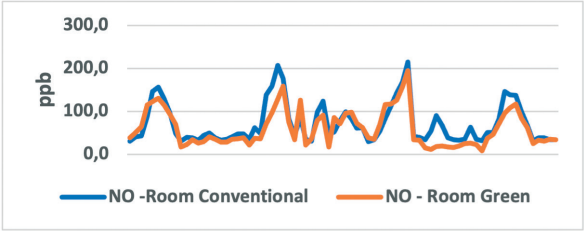

Fig.2 NO variation in Green and Conventional class