

NOON

Nanoparticle-enhanced photochromic coatings for smart windows

LENS

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Project context and objectives

A major growth is expected in the smart windows sector. Smart windows/technologies are those that allow users to control the energy savings and convenience benefits on-demand. It has been reported, for instance, that smart windows may lead to electricity savings of up to about 30% in cooling or heating, with a payback period of a few years.

Our project aimed at a proof of concept, namely at the possibility to harness the nanophotonics enhancement of light-matter interaction in the UV to improve the performances of photochromic coatings. Our findings may change the perspectives of photochromic technology in the smart windows market and also open new application areas in glass architecture, art & design

We believe Europe will highly benefit from novel coating technology. Besides the potential of reaching a global market, it will practically address economic and environmental issues associated with the energy consumption and associated costs for air conditioning in the summer and heating in the cold seasons.