

# Highly Efficient Self-cleaning Coatings

*Based on photo-catalytic materials*



## Positive Impact

Reduced maintenance and cleaning costs.  
Environmental benefits (e.g. improved air quality).  
Extended lifespan of materials and durability.  
Energy savings.



## Initial Validation

Following the ISO standards, experiments have been performed in the laboratory and the results have demonstrated a superior photocatalytic coatings.



## Solution

In general, photocatalytic self-cleaning coating utilizes sunlight and enhances anti-fouling mechanisms. The conventional photocatalysts only uses a small part of the sunlight wavelengths. A coating has been developed which can utilise a much broader wavelength window. This will lead to a significant higher efficiency.



## Problem

Photoactive devices are susceptible to degradation when exposed to environmental conditions such as rain, snow etc.

The challenge lies not only in developing these technologies but also in ensuring their long-term durability.



## Technology

- High-performance photocatalytic coatings with embedded nanoparticles for enhanced photochemical performance.
- Technology to efficiently capture, store and transfer energy from the sunlight to the catalyst in the coating.
- Sunlight absorption energies are tuneable to cover the maximum solar spectrum.



## Call to Action !!!

We are looking for individuals with a passion for coatings, and business development. An educational background in chemistry, physics or chemical engineering is desired for this role!

If you are interested, please reach out to [entrepreneur@hightechxl.com](mailto:entrepreneur@hightechxl.com)



## Potential Markets

There are several potential markets where these coatings are desirable. A few are listed below:

- Solar panels
- Green houses
- Smart windows
- Automotive