

Anti-Fouling by UVC Light

Based on integrated photonics



Positive Impact

Maintain operating performance by eliminating harmful biofouling while sustaining marine life.

Initial Validation



The UVC anti-fouling technology has been validated in real-world cases. Tests with different conditions at varying locations have been successfully conducted over an extended period, e.g., at Maasvlakte. Leading global innovator Philips is offering access to this technology through its licensing programs and is in constant pursuit to optimize the current system by increasing the tests in size and duration and by developing next generations to further improve the usability and durability.



Solution

One of the proven solutions is to completely cover a structure with a light-emitting layer. UVC light is emitted outwards, which in turn completely prevents fouling from adhering to the parent structure. For this solution, Philips developed an innovative UVC emitting coating. The ultra-low level of UVC light eliminates any biofouling that comes in contact with the surface, preventing its progressive growth while the structure's surrounding structure is not impacted.



Problem

Biofouling is the formation of micro-organisms, plants and other marine life on a surface in contact with water. Biofouling drastically impacts structures' performance and can lead to high maintenance costs.

Today's paint-based solutions, such as copper or other hazardous chemicals, harm marine life and are under pressure from governmental regulations. The performance significantly degrades over time.

Companies that work in, around or with water need to find solutions to reduce fouling without harming nature.



Technology

Philips has developed a coating that emits just enough light to eliminate biofouling while withstanding harsh environments such as sea water for many years. This innovative solution allows the UVC transparent layer to be used without a harmful level of UVC light penetrating the



water. This results in perfectly clean surfaces that do not require maintenance over the lifetime of the structure.



Call to Action !!!

We're looking for co-founders to bring this technology to the market. We are looking for technical and businesspeople with experience in UVC technology, including chemical scientists, marine life experts, bioengineers and business developers.

If you are interested, please reach out to entrepreneur@hightechxl.com



Potential Markets

There are several potential markets where this problem is an issue.

- Desalination plants
- Cool water industrial/power plants
- Fish farming systems
- Structures in seawater (pipe systems, buoys)
- Energy systems at sea (windmills, tide/wave-generators)

Excluded: vessels/boats