Outcome of the IHI JU Science and Innovation Panel on ideas submitted for potential IHI topics

Reference number of the idea: N° TI_001227

Advanced indoor air purifier utilizing genetically modified algae and bio-photovoltaic system

Overall opinion

This idea addresses the problem with indoor air pollution by offering a new solution to an important health problem.

According to the European Environment Agency, ischemic heart disease and stroke are the two most common causes of deaths attributable to air pollution (indoor and outdoor) followed by lung diseases and lung cancer (EEA 2021).

The air purifiers of today are usually based on filter techniques (e.g, HEPA-filters). The suggested idea presents a new technology using microalgae that have been genetically modified to increase their resistance and efficacy. The algae are combined with encapsulated cyanobacteria within bio-photovoltaic modules.

This device is designed not only to remove pollutants but is also stated to increase oxygen levels. In contrast to filter techniques, it is also described to be energy self-sufficient and thus offering a contribution to the transition to more green energy sources.

The SIP panel finds that this idea is more orientated towards product development, and as such does not take account of the pre-competitive nature of IHI projects.

At this stage, the currently formulated idea is not yet mature for obtaining a favourable opinion from the SIP.