Summary of the Measurement Report for the Development of the *SolveAir MAX Device*

The task to be performed was to examine the effectiveness of the photocatalytic air disinfection device developed by *SolvElectric Technologies Ltd.* as part of the project. This included participating in the development of test systems suitable for measuring the efficiency of the innovative technical solutions contained in the device, conducting the necessary chemical and microbiological experiments for the optimal design of the equipment, and measuring and validating the disinfecting effect of the developed product.

In the first stage of the first work phase, preliminary experiments necessary for the setup of the test system and laboratory pre-tests of the new photocatalytic coatings were carried out. In the subsequent stage, testing began with the experimental versions of the air purification device. In the first stage of the second work phase, tests were conducted to support the final design of the device. In the second stage of the second work phase, the effectiveness of the finalized *SolveAir MAX* device was evaluated.

The experimental system:

- For the experiments, we used a special test apparatus and air sampling device developed by the colleagues of *SolvElectric Technologies Ltd.* during the project, along with traditional microbiological methods.
- The Escherichia coli JM109 strain was used for the microbiological pre-tests.
- Additional microbiological tests involved other Gram-negative and Gram-positive bacteria, yeast and filamentous fungi strains, and bacteriophages.
- Experiments were conducted with aerosolized microorganism suspensions and outdoor air, using various technical solutions and experimental/technical parameters.
- The experiments were performed in three parallel tests.

Evaluation:

In summary, it can be concluded that, after 3 hours of operation, the tested and finalized *SolveAir MAX* device significantly reduced (by 70-100%) the colony count of all tested microorganism groups (microscopic fungi, bacteria, and viruses) in the experimental space.

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