



Improved Indoor Air Quality for Liebherr Bulgaria

Light Industry

Disinfection of ventilation air in the administration part of the production site of LIEBHERR Bulgaria

| The challenge

Due to the challenges imposed by the epidemic of COVID-19, industrial customers are looking for a reliable way to guarantee the health of their employees and prevent the spread of viruses throughout their premises.

The nature of the virus makes it easy to transfer and travel through the air. Closed spaces with ventilation are especially vulnerable and pose a real risk for spreading the virus among the employees. Liebherr Bulgaria was looking for a safe and effective way to disinfect the ventilation air and thus to prevent an outbreak of the virus on its premises.

Liebherr Bulgaria turned to Veolia for an indoor air quality solution to address this challenge.

| Veolia's solution

The existing Air Handling Unit (AHU) provides ventilation air (flow rate 17 000 m³/h) for the factory's administration.

It is operated in two regimes:

- Summer: supplying 100% fresh air
- Winter: supplying 100% recirculated air

UV-C radiation is a known disinfectant for air, water, and nonporous surfaces. In addition, UV-C radiation has effectively been used for decades to reduce the spread of bacteria, such as tuberculosis.



Plovdiv, Bulgaria



Contract Facts:

Duration: 2 months
Type: Design & Build

≥ 90%

Viruses and bacteria elimination

17 000 m³/h

Flow rate



To produce a sufficient radiation doze for the objective, 20 pcs of UV lamps have been selected (with a view of the geometric configuration, the air velocity, the common viruses' trajectory).

The technical solution and the configuration of the installation components are customs designed by the engineering team of Veolia Solutions Bulgaria – for the specific layout of the AHU and the selected lamps.

| The benefits

Improvement of the indoor air quality due to the successful disinfection of the ventilated air with the deactivation/elimination of $\geq 90\%$ of the "COVID-19" viruses by illuminating the supply air with UV-C radiation, produced by lamps installed in the AHU.

An additional automation solution has been implemented, switching the UV lamps "ON" only in recirculation mode of the AHU (i.e. in winter regime when most of the supply air is from recirculation). This functionality reduces the Client's OPEX by saving electricity and prolonging the lamps' operating lifetime.



- Preventing the spread of diseases
- Increased health standards in the company
- Increased overall health of the employees