



UV-C disinfection technology

Every year, around 37,000 people across Europe die from infectious diseases contracted in a health facility. These are known as health-associated infections (HAI). In America, as many as 99,000 deaths per year can be attributed to HAIs. Healthcare facilities worldwide are therefore faced with the challenge of containing and sustainably eliminating the spread of bacteria, viruses and other harmful microorganisms in the facility environment.

One company that has been addressing the issue of disinfection robotics in hospitals and other healthcare facilities since before the pandemic is UVD Robots, a subsidiary of Blue Ocean Robotics. The product promises to significantly improve infection prevention through its UV-C disinfection technology in combination with the robotic system.

The technologically advanced Model C product is a fully autonomous robotic system that requires no additional human operation while disinfecting premises quickly and without chemicals.

The system is programmed using a card from the facility and then disinfects the configured areas independently. This is possible through the use of highly effective germicidal and at the same time surface-protecting UV-C light with wavelengths of 200 to 300nm. In this way, DNA structures of microorganisms are completely destroyed in a few seconds and the spread of infection is stopped. In order for the robot to disinfect reliably and evenly, it moves independently through the room based on the configured data. Equipped with a laser scanner and 3D cameras, it can move safely around obstacles and thus specifically remove the danger of spatial shadowing. Since UV-C light is harmful to humans, the sensors are also able to detect people in the room and immediately interrupt disinfection.

The UVD Robot Model C is powered by Li-MNC batteries, which provide a long range. In addition, the robot is smart enough to recognise when it's time to start charging and then go to the docking station on its own.

The Model C is operated via a tablet that allows the user to simply send the robot to the desired location during initial cleaning. During the disinfection process, the robot documents the disinfection progress and quality in the individual areas, can create a heat map as well as an exposure map and signals the user as soon as it has completed the disinfection.

INNOVATIVE TECHNOLOGICAL APPROACHES

- ◇ **Company:**
UVD Robots ApS
- ◇ **Product:**
Modell C
- ◇ **Procedure:**
UV-C disinfection
- ◇ **Advantages:**
Fully autonomous

User-friendly

Fast (decontaminates 25m² in 10 minutes)

Eliminates the risk of shadowing and non-disinfected areas

Effective microbial killing of bacteria, fungi and viruses (99.99%)
- ◇ **Website:**
<https://uvd.blue-ocean-robotics.com/>

What does UV-C mean?

UV-C refers to ultraviolet radiation, which is shorter wavelength than UV-A and UV-B rays and is produced naturally by the sun. Artificial UV-C rays in the range between 200 and 280 nm, on the other hand, have been used for several years to combat germs and bacteria, as the process offers the advantage that no chemicals need to be used. In the health sector, they are therefore used to disinfect rooms and work surfaces as well as medical instruments and the ambient air.

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