

## Healthy Ship Design

- **Horizon Europe – Work Programme 2021-2022**
- **Pillar: II Global Challenges & European industrial Competitiveness,**
- **Cluster: Climate, Energy and Mobility**
- **Call: HORIZON-CL5-2021-D6-01-12: Controlling infection on large passenger ships**
- **Aspect: 2. Healthy ship design**

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Prevention and understanding of transmission is our daily task. In the hospital, transmission of microorganisms is a sign of bad quality, and expertise is needed to overcome this. In our view, all this is highly comparable to the ship setting. Only, we have patients and healthcare workers instead of passengers and staff, and patients staying overnight on wards instead of staying overnight on a ship, or patients visiting the out-patient clinics instead of taking a ferry. For many years, we studied prevention of transmission, especially originating from the inanimate environment. We feel that we can bring our knowledge about microorganisms, the accompanying transmission routes, and our knowledge about building a new hospital and its regulations of use when working on a project within this call.

We have the abilities to study various parameters and their influence in an *in vitro* setting using simulation, *i.e.* artificial contamination, for which we will set up a single room with anteroom. The influence of parameters on spreading of microorganisms can be studied in this room and could include at least: positive/negative pressure, temperature, relative humidity, and air exchange rate per hour. These experiments can focus on the numbers of microorganism parts that disperse and can be detected on surfaces in the room, in the surrounding air of the room, and outside this room. These in turn can provide evidence for informing the design and building of new rooms, including rooms on ships.

We are experienced in hospital transmission of microorganisms, and could apply this from the hospital setting to ships. Therefore, we could (co-) develop a work package on this within your submission. Please contact us if you think we are of interest for your project.