**Abstract:** **Virtual Reality Training for Firefighting Scenarios in the Maritime Sector**

Purpose:

Realistic and practical training is indispensable in the education of firefighters. Currently, this is performed using physical representations of hazardous situations in training centers, which implies high costs or is not possible in every case. Virtual Reality (VR) applications can provide a solution to this problem.

Methodology:

Before implementing a prototype of the training simulator, a concept for the demonstrated training scenario was defined based on a real hazardous situation on a container vessel. The necessary components, resources, and 3D models for implementing the training were derived from this information. The implementation was performed using the Unity 3D engine and a Qualisys motion capture system.

Findings:

To provide a realistic VR experience, the implementation of a multi-user team experience is necessary to enable collaborative working in the virtual environment. In addition, necessary tools must be implemented in the software prototype. A supplementary control station enables the manipulation of ongoing training scenarios.

Originality:

This work shows a concept and prototype of a virtual training simulator for maritime firefighters. This simulator can demonstrate hazardous use-cases with minimal risk and reasonable effort. In future research, this work enables the evaluation of the impact of virtual technologies in the professional education of firefighters.