Maritime Autonomy and its impact on future ports

Autonomous Maritime Systems are emerging not just in research but did gradually find their way into industrial applications and commercial products within the last decade. Besides gradually improvement, this emerging technology will have significant impacts on ports and its operations in the future. Starting from an industrial survey conducted among European ports investigating their interest and expectations towards such systems, this presentation will outline the current state of two relevant use cases for ports and how the future waterside operation could look like.

First, the case of unmanned barges for connecting major ports to its hinterland by smaller, currently underutilized channels and inland waterways will be introduced, as investigated by the European Horizon Project AUTOFLEX. This includes insights on transport market effects by maritime autonomy, but also highlights potential changes with regards to a modernization of (overaged) inland waterway vessels, if it shall be used for better and sustainable hinterland traffic.

Secondly, the potential of remote-control solutions for executing port pilotage operations from ashore to improve pilots' occupational safety is outlined and results from recently executed trials for shore-based situational awareness by the help of mixed reality technologies is given.