Consideration of Accident Data of Conventional Inland Ships for the Development of Remotely Operated and Highly Automated Ships

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Abstract

The widespread introduction of automation and assistance systems for inland navigation vessels can only be successful if the safety level of inland navigation is maintained or even improved. This requirement is independent from the degree of automation, e. g. whether ships' operations are supported by assistance systems, ships are remotely operated or navigation tasks are carried out by automation systems. Assessing the risks of conventional inland waterway navigation delivers important information for the development of assistance systems as well as remotely operated and highly automated ships. Automation systems taking over significant roles in ship operation require a different interaction between human operators and automation systems. Consequently, automated systems provide different measures to resolve typical nautical challenges, mitigate risks and prevent accident scenarios. This is to be considered when establishing technical standards and regulations for smart shipping.

Within the project SAFEBin, we perform risk analyses, propose reasonable safety levels as well as suggestions for possible regulations on risk assessment of remotely controlled and automated inland waterway vessels. As a first step of the studies, we analyzed accident reports on inland waterways. In our presentation, we will present the accident statistics and will derive conclusions related to assisted, remotely operated and automated navigation.