

ITEA project results enhancing people's lives

Deep Learning for safe passage

The Port of Rotterdam processes 134,000 vessels every year. To guarantee safe passage of all these vessels throughout the harbour, operators monitor the movement patterns and contact the skippers if required. The detection of all vessels is performed with radar technology. Although they can detect ships from a large distance, radar suffers from reflections, limiting accuracy of positioning and cannot detect very small ships.

Within the ITEA project APPS, camera technology was developed to aid the radar system and make the detection of vessels more robust. Within the project, a novel detection system has been developed. This system uses Artificial Intelligence (AI) to localise ships in the camera video images. To obtain accurate localisation, a Neural Network was trained using Deep Learning.

The results from the APPS project have generated a broad interest from all over the world. ViNotion has further developed the recognition technology for the Dutch Ministry of Infrastructure and Water Management (Rijkswaterstaat) on the "Merwede" in Dordrecht and on a busy canal in Friesland. ViNotion is talking to multiple large harbours for integration of the vessel detection technology in their current operational Vessel Tracking Systems. In such remote locations, a camera-based system can be easily installed and integrated for rapid deployment.

In addition to aiding radar technology, camera-based vessel detection enables a low-cost 24-hour monitoring of waterways. Furthermore, it can be used to monitor bridges and locks and detect access to restricted and dangerous locations. Overall, the APPS technology enables the safe passing of ships on waterways and gives you data insight in usage of the waterways.

ITEA 2 project
APPS

