The use of dedicated Inland Waterway Simulators in IWT education and training

Jörn Josef Boll, M.A.
Head of Project Department Maritieme Academie Harlingen
Board Secretary of the EDINNA network
Maritime Academy Holland

- Co-operation between partners in maritime and IWT education
- Educational programme for students from the age of 12
- Training and courses available for professionals at all levels
- Accredited and supervised by Ministry of Transport / Shipping Inspectorate Ministry of Education
• 9 locations
• 43 education programmes
• 53 special courses
• 2,300 students (2015-2016)
• 4,100 course participants
The use of dedicated Inland Waterway Simulators in IWT education and training
Why IWT Simulators

- Modernizing IWT education and examination
- Variable levels of difficulty/no actual danger to others
- Repeatable and interruptible scenarios (controlled environment)
- Relatively cheap (still a major investment)
Mandatory software and hardware features of a IWT Simulator (i.e.)

Dynamic Models:
Hydrodynamic / Current / Bottom-profile / Wind / Interaction

Visual and Acoustic Model:
Environments / Own Ships / Target Ships / Interaction

Layout:
Equipment of a contemporary IWT Helmstand/
Functional Instructor Station
Hardware features

Instructor Station

Training Bridges

UNECE
Geneva
13.02.2019
Software Features

Interactive Environments

Variety of different IWT Vessels
Standards for simulators in IWT training and examination

“CESNI/QP/Simul” 2017

Establishment of a non-permanent working/expert group on VHINS

Task 1: Preparation of a proposal regarding the technical requirements and functionalities for VHINS

Task 2: Assessment of the necessity for a standard for the accreditation of VHINS

UNECE
Geneva
13.02.2019
Standards for simulators in IWT training and examination “CESNI/QP/Simul”

As laid down in ES-QIN, Edition 2018

Differentiation between Vessel handling Simulators and Radar Simulators

79 standards defining the technical requirements for IWT Simulators (Layout/ Hardware-/ Software functions)

Procedure for the approval of simulators used in examinations

The different simulators should be applicable for different assessments

UNECE
Geneva
13.02.2019
Target groups for Simulator use

**Training Tool** i.e. IWT
- Education and Training
- The Netherlands
- Germany

**Assessment Tool** i.e. Practical Examination
- Praktijkexamen Schipper (NL)
- TOAR –according to NVIC 4-01 (USA)
- France
- Belgium

**Infrastructure testing Tool** i.e.
- Real live tests of (projected) waterway infrastructure
  - Stationsbrug Franeker (NL)
  - City of Groningen (NL)

UNECE
Geneva
13.02.2019
Simulators as training tools

As part of the regular practical training

Progressing level of difficulty

UNECE
Geneva
13.02.2019
Assessment with Simulators

A shortened path for career changers to the Boatmasters license

Program of at least one year with 4 progressively difficult exams

The 3rd exam (first exam without assistance) on the simulator

https://www.youtube.com/watch?v=PthS4Ghyb9c

As part of the “Praktijkexamen Shipper”
Old Bridge in the town of Franeker (NL)
Passage takes ca. 20 min.

UNECE
Geneva
13.02.2019
Infrastructure testing tool

Bridge passage in 6 minutes

UNECE
Geneva
13.02.2019
Infrastructure testing tool

City of Groningen

https://www.youtube.com/watch?v=E-weGUebQDs

UNECE
Geneva
13.02.2019
Thank you very much!

Большое спасибо!