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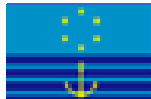


Simulator – an Instrument for Schooling?

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- Members of EDINNA [Education in Inland Navigation] -

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01-2013
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Central Commission for the Navigation of the Rhine

30th of January, 2013 – Round Table: Simulators in Inland Navigation



EDINNA-Partnership-Project: Simulators

- **Netherlands**
 - STC, Rotterdam
 - MA Harlingen
- **Belgium**
 - KTA, Antwerp
- **Italy**
 - CFLI, Venice
- **Germany**
 - Schiffer-BK RHEIN, Duisburg (coordinator)
- **Romania (associated)**
 - CERONAV, Constanza





Project aims:

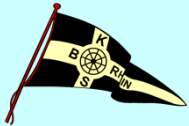
- Investigation on the Status Quo of pedagogical concepts involving simulators in European IWT education and training
- Set-up of an expert group on recommendations for the use of simulators in European IWT education and training
- Possible usage of simulators within „STCIN“
(*harmonized Standards of Training and Certification in Inland Navigation*)



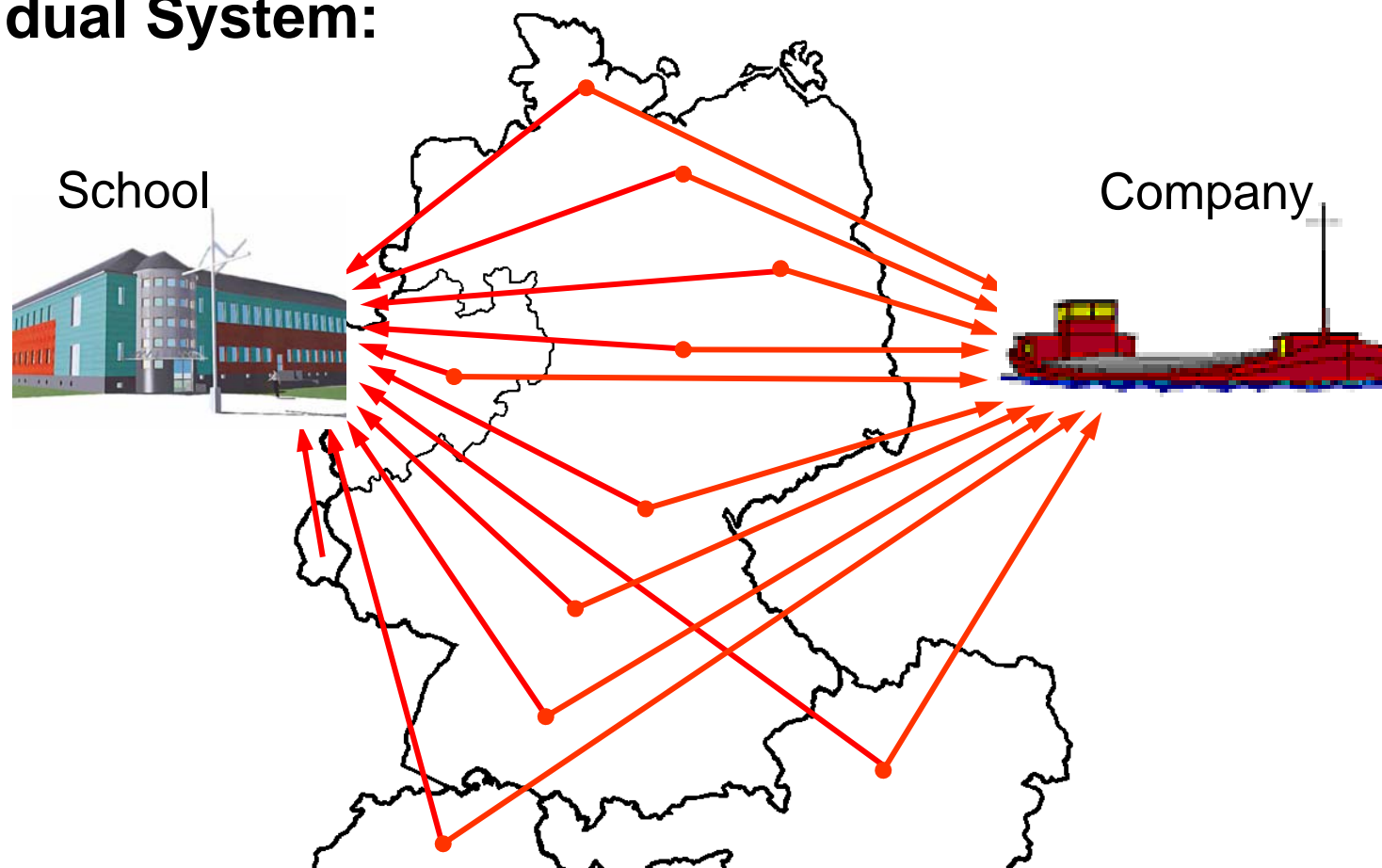
Operational Level



Management Level

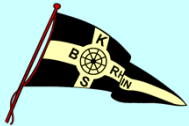


Vocational Training for the Inland Navigation in a dual System:



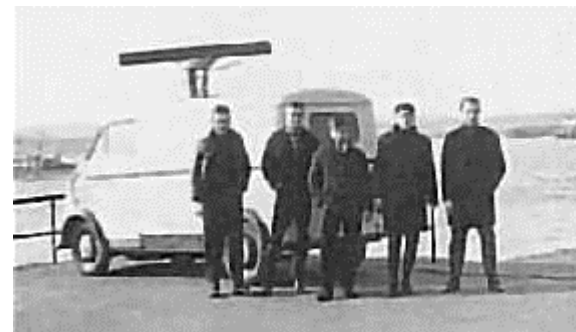
Regular qualification period: 3 years

Reduced qualification period for retrainees: 2 years



Short History of Simulators in Duisburg

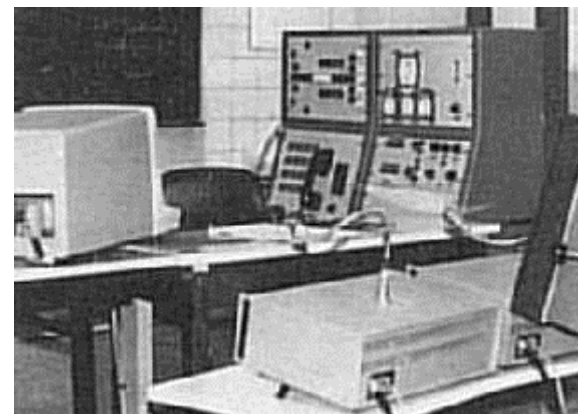
1963 Radar on a van
near the river



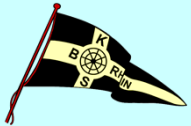
1974 First Radar-Navigation-Simulator in Duisburg



Bridge

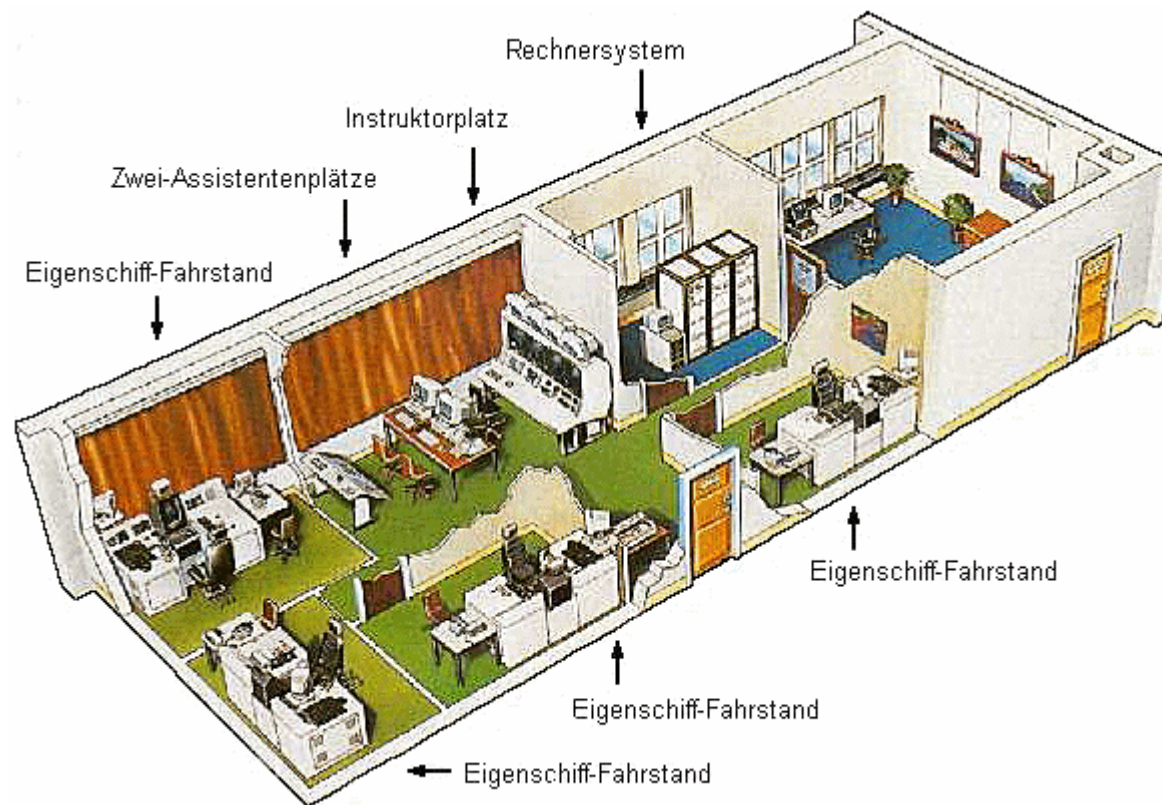


Instructor Station



Short History of Simulators in Duisburg

1991 Radar-Simulator „SAHRA“





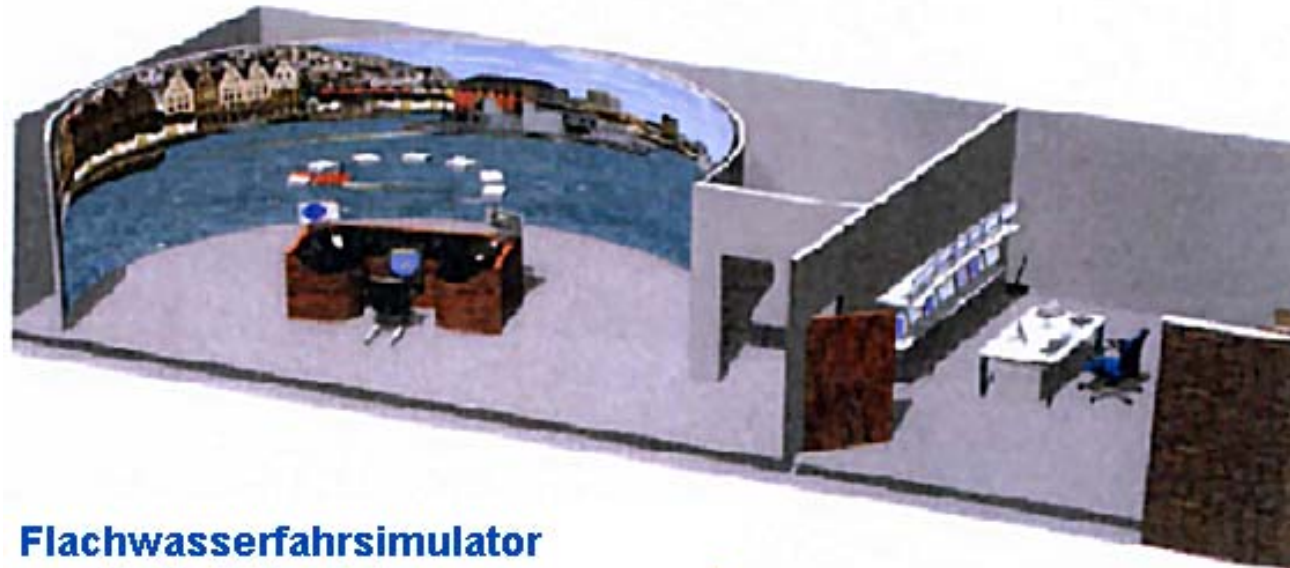
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Short History of Simulators in Duisburg

since 2008 ...



Pau1

Flachwasserfahrtsimulator

SANDRA

Simulator for Advanced Navigation Duisburg
Research and Application



DST



Operator: DST - Development Centre for Ship Technology
and Transport Systems e.V., Duisburg

Diapositive 7

Pau1

Achtung: Logos dürfen niemals verändert, verfremdet, abgeschnitten oder überlagert werden. Bitte lege die Logos deutlich getrennt nebeneinander. Danke!

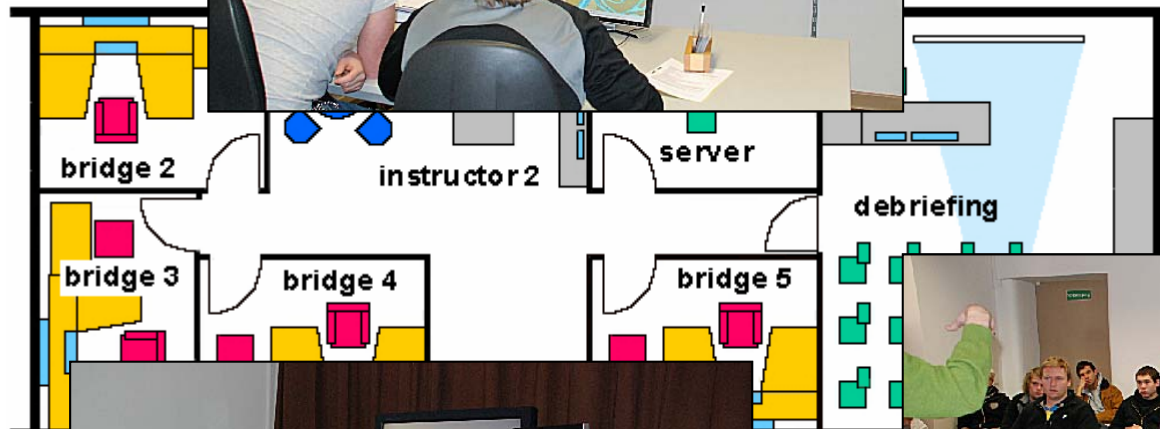
Klaus Paulus; 22/01/2013

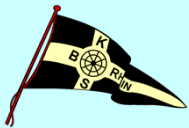


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Simulator – an Instrument for Schooling?



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No	Vocational Action Situations for Boatman on Inland Waterways
1	Informing new employees about the company's structure and organisation
2	Planning and organisation of life and work on board
3	Operational planning of inland waterway vessels
4	Operate and maintain engines and propulsion systems
5	Assessment of the behaviour of vessels while driving and mooring
6	Use of optical and acoustic signals
7	Preparation of transport under legal and economical aspects
8	Operate and maintain technical systems on board
9	Transportation of goods and people
10	Navigation on inland waterways
11	Operate and maintain hydraulical, pneumatical and electrical equipment
12	Use and maintain auxilliary engines
13	Maintain hull and equipment
14	Loading and unloading of inland vessels
15	Response to technical failures
16	Emergency response



Situation No. 10: Navigation on Inland Waterways

Pupils ...

- ... plan to navigate on **waterways** considering water levels and required lock-operations using nautical charts.
- ... follow **traffic regulations** - especially while passing bridges and evasion manoeuvres.
- ... operate **nautical and technical equipment** and use radio communication..
- ... are able to provide and to recognize **sound and light signals**



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Lernziele



radio communication

traffic regulations

waterways

vessel handling

engine handling

RADAR handling

IN-ECDIS, AIS und RIS



Stages

1. Briefing



2. Simulation



3. Debriefing





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I hear ... and I forget,

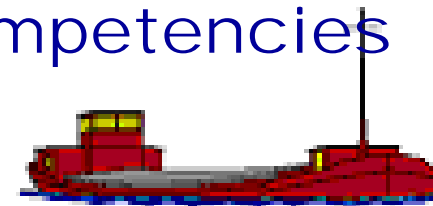
I see ... and I remember,

I do ... and I understand!

(Confucius, 500 B.C.)



sustainable development
of skills and competencies





Simulator – an Instrument for Schooling?

Advantages of simulators for the vocational training:

- ✓ promoting complex empowerment
- ✓ complete actions
- ✓ protected area
- ✓ role clarity in maneuvers (skipper - sailor)
- ✓ adjustable difficulties
- ✓ immediate repetition (focus on learning)
- ✓ quality management
- ✓ brain-friendly training





Internal Examination

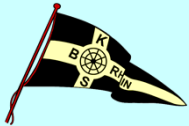


Certificate

Mrs/Mr xxxxxxxx has shown by successfully completing a written and a practical test for the use of RADAR on the shallow-water navigation simulator SANDRA that she/he is familiar with the use of RADAR in inland navigation.

Content:

- Introduction and preparation of the RADAR
- Setting (default setting) and Operation (readjustment under various environmental conditions) of a river RADAR
- Legal framework for RADAR-navigation
- Manoeuvres along different waterways under RADAR
- Image analysis and interpretation



Final Examination

Chamber of Industry and Commerce

Practical Final Examination



Possible Task:

You are on TMS Success. It is 4:30 am. The boatmaster wants to start in twenty minutes. Please prepare the bridge.



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Simulators are very useful for an activity-orientated vocational training.

This is a benefit for the students and thus the entire industry!

Thank you for your attention!