Precise Navigation and Manoeuvring in ports

WP 1.2 Efforts

Tommy Mikkelsen
Marimatech
Partners

- TUHH (Hamburg Technical University)
- HPA (Hamburg Port Authority)
- Tredit
- ThPA (Thessaloniki Port Authority)
- DPC (Dublin Port)
- L&R (Lüttgens & Reimers)
- Force (Force Technology)
- PAH (Port of Le Havre)
Navigation in Ports
Demonstration of Research Results of EFFORTS Project
14-15 September 2009 Hamburg Germany
Objective

Port needs:
• Improved safety and efficiency during docking and manoeuvring in fairways, locks and in ports.

Innovation:
• Software tool to improve situation awareness for Pilot/tug master/VTS, including visualisation of information exchange.
• A low weight PPU, easy-to-use reliable technology in setting the system up and for operation
PPU
Portable Pilot Unit

Navigation in Ports
Demonstration of Research Results of EFFORTS Project
14-15 September 2009 Hamburg Germany
PPU

- Weight ~6 kg
  - Unit 3.8 kg
  - Computer 1.5 kg
  - Bag
- Build in AIS receiver
- Wifi
- UHF / VHF radio modem
- Gyro
- Extended Kalman filter
Scenarios

Navigation in Ports
Demonstration of Research Results of EFFORTS Project
14-15 September 2009 Hamburg Germany
P-ENC test in Hamburg

Navigation in Ports
Demonstration of Research Results of EFFORTS Project
14-15 September 2009 Hamburg Germany
Docking test Dublin

QuickTime™ and a decompressor are needed to see this picture.
Container ship test - pEnc / turning basin / docking

Navigation in Ports
Demonstration of Research Results of EFFORTS Project
14-15 September 2009 Hamburg Germany
Container ship test - pEnc / turning basin / docking
Demonstration of Research Results of EFFORTS Project
14-15 September 2009 Hamburg Germany
Tug - Pilot software

Navigation in Ports
Demonstration of Research Results of EFFORTS Project
14-15 September 2009 Hamburg Germany
Navigation in Ports
Demonstration of Research Results of EFFORTS Project
14-15 September 2009 Hamburg Germany
E-Sea Fix Cat ROT
Thank you

Contact
Tommy Mikkelsen
tgm@marimatech.com