R-Mode Baltic 2

Status Update

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December 7 2021, 25th PA Safe SC meeting of the EUSBSR

R-Mode Baltic 2

Follow-up project of R-Mode Baltic

- R(anging)-Mode
  - Alternative system for Position, Navigation and Timing information

- R-Mode Baltic: Test bed established at the southern Baltic during R-Mode Baltic project

- Goals R-Mode Baltic 2
  - Long-term evaluation MF and VDES R-Mode
  - Implementation and test of new concepts
  - Standardisation of R-Mode

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Progress

- Extension of test bed - 5 additional MF monitor sites; static long-term measurements:
  - Increase performance of transmitters – solve technical issues
  - Evaluate R-Mode long term performance
- Extension of VDES R-Mode test bed in port of Gdynia
  - Static measurements showed impact of weather conditions on performance
- Deployment of 3 R-Mode ready VDES base stations in Fjord of Trondheim
  - evaluation ongoing

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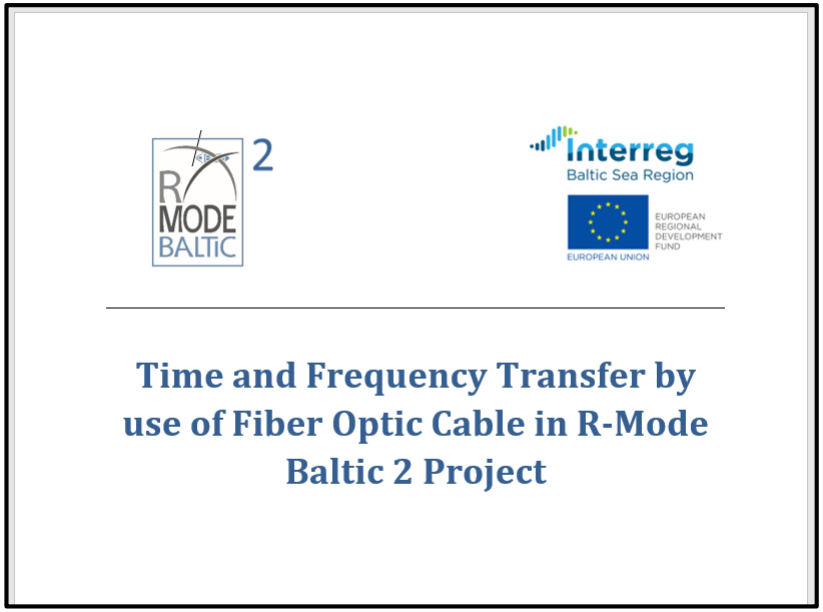
Progress

- Receiver development for improved ranging and positioning with MF and VDES R-Mode signals
  - Estimation of MF R-Mode corrections in real-time
  - Data fusion of different navigation sensors for VDES R-Mode
- Time synchronization experiment between two MF R-Mode sites ongoing
- Concept for time synchronization between R-Mode stations using existing fibre optical network in Poland



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- Challenges
  - Delivery of equipment and components, technical service takes much longer
  - Covid-19 pandemic
  - Online formats of events / meetings

- Project will end in December 2021
- Final online event is planned for 02/2022

- We are looking for opportunities to continue the R-Mode testbed development towards operational system that supports safe navigation at the entire Baltic Sea.

Contact

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Project partner

DLR

BSH Bundesamt für Seeschifffahrt und Hydrographie

WSV.de Wasserstraßen- und Schifffahrtsverwaltung des Bundes

National Institute of Telecommunications

RISE Research Institutes of Sweden

Swedish Maritime Administration

Gutec AB

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