

JOMOPANS WP5 - Measurements & Data Management

JOINT MONITORING PROGRAMME FOR AMBIENT NOISE IN THE NORTH SEA

June 10th – JOMOPANS End-Event

Online

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Interreg
North Sea Region
Jomopans
European Regional Development Fund



EUROPEAN UNION



BUNDESAMT FÜR
SEESCHIFFFAHRT
UND
HYDROGRAPHIE

WP5 – Measurements & Data Management

► OBJECTIVE

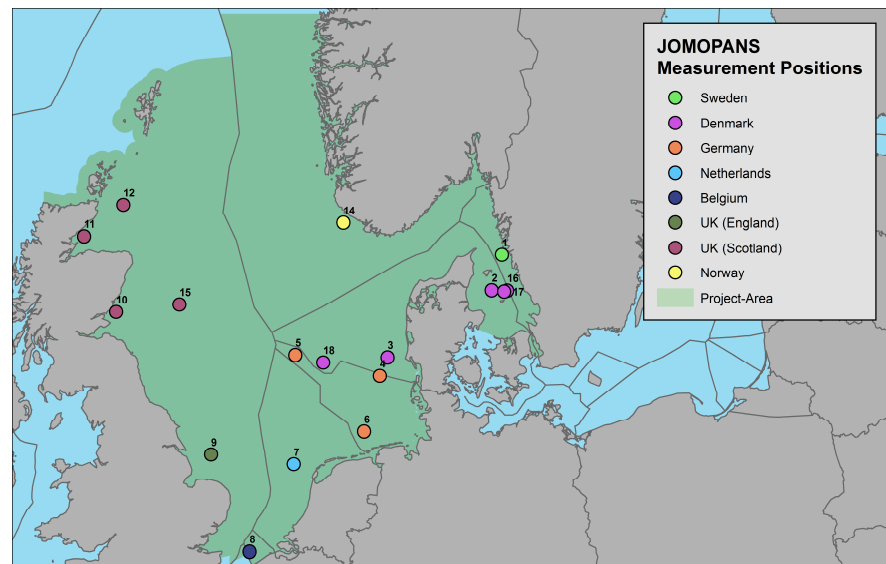
- Development of a framework to establish a long-term joint ambient-noise monitoring using standards and specifications produced within the project
- Input for validation of modelling results

► WP5 – Work areas

- Measurements: Acoustic measurements were made at selected locations, according to a guideline developed in the project and covering one full year
- Data processing: The measured acoustic data were processed in a comparable way and provided for further project work
- Data management and sharing: A data management system was set up to facilitate the workflow between all project activities

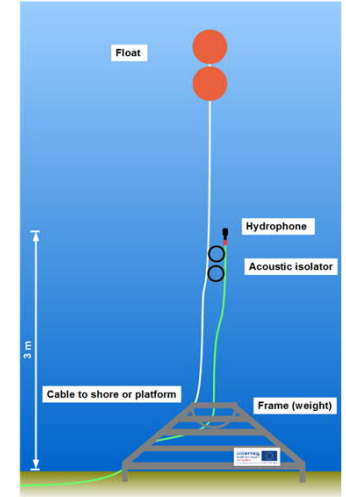
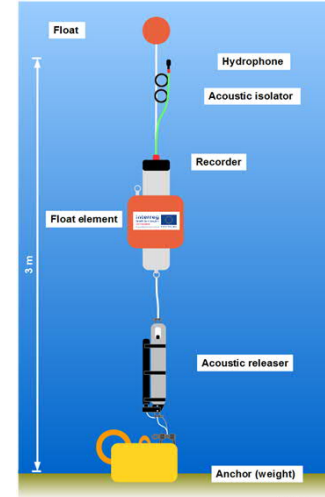
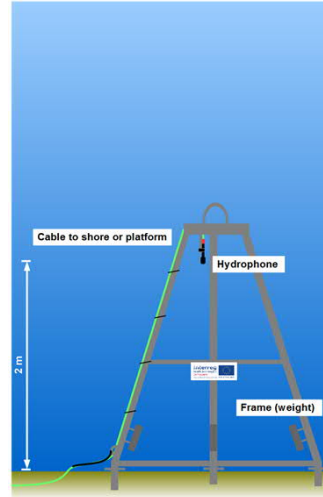
Joint Monitoring

- ▶ Acoustic measurements at 15 locations in the North Sea
- ▶ Nine different measuring institutions
- ▶ Measurements are coordinated jointly and maintained by each partner
- ▶ Measurements should cover a complete calendar year (2019)
- ▶ Consideration of modelling requirements (measured data used for validation of modelling results)



Technical & Logistic Challenges

- ▶ Different hydrophone systems and setups (considering project standards)
- ▶ Cabled and Autonomous stations
- ▶ Measurement settings
- ▶ Deployment, Recovery and Maintenance intervals
- ▶ Calibration!!!



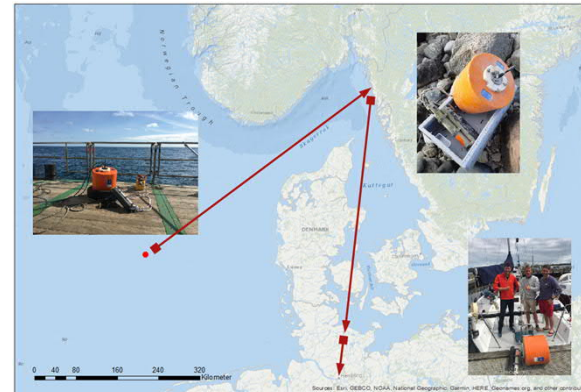
Data processing and sharing

- ▶ Comparable processing methods
 - Ring-test
- ▶ Quality-Control of acoustic data
 - Definition and implementation
- ▶ Data formatting
 - JOMOPANS format
- ▶ Centralized data sharing opportunities
 - During the project and afterwards



Offshore Conditions

- ▶ Stations are affected by several environmental and human impacts
 - Harsh marine North Sea conditions
 - High mechanical forces and corrosion
 - Fishing activities
 - Biofouling, Flow-noise, Self-noise, etc.
- ▶ Lost & found stations
 - Article on JOMOPANS web page



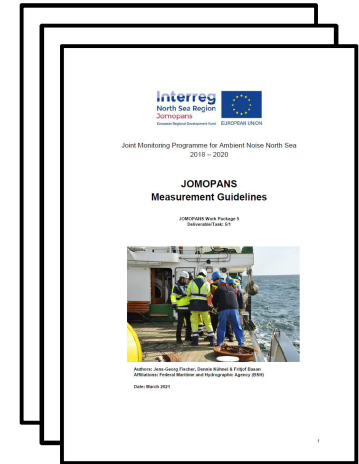
WP5 - Summary and Results

- Implementation of a continuous acoustic measurement over an entire calendar year (2019) in the North Sea
- Framework for future sound monitoring
- Model validation
- Data exchange solution (file format and provision)

Data availability

Station	2019											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sweden - Vinga												
Denmark - Anholt												
Denmark - Horns Reef												
Germany - FINO3												
Germany - ES01												
Germany - FINO1												
Netherlands - West of Texel												
Belgium - Westhinder												
England - Dowsing												
Scotland - Arbroath 10												
Scotland - Helmsdale 5												
Scotland - Moray Firth												
Norway - LoVe												
Norway - Norwegian Trench												
Scotland - Central North Sea												
Denmark - Tango Nord 1												
Denmark - Tango Nord 4												
Denmark - EDNA												

Measurement Guidelines



Report available on
<https://northsearegion.eu/jomopans>

M. Andersson, E. Lalander, A. Norro, J. Tougaard, E. Griffiths, M. Nielsen, L. Hermannsen, E. Edwards, N. Merchant, R. Putland, C. Powell, L.-A. Odegaard, P. Kvadsheim, K. de Jong, L. D. Sivle, N. Kinneging, J. Brinkkemper, R. Snoek, S. Robinson and J. Ward

Going Offshore

