Solutions for the maritime industry, governmental and non-governmental institutions.

CEON
„Made in Bremen“

Environmental protection and safety in shipping

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Bremen Innovativ

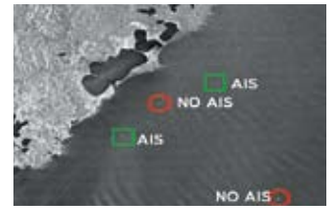
> Risk analyses for offshore wind farms

> World-wide measurement, storing and transmitting of ship emissions

GAUSS Institute – CEON's maritime competence

The institute was founded in 1996 as a non-profit limited liability company by the Federal State of Bremen and the Universities of Applied Sciences of Bremen and Bremerhaven. The team combines the qualifications of master mariners, geographers, coastal zone managers, physicists and GIS engineers. Solutions developed serve the needs of clients from the maritime industry and the marine community, as well as governmental and non-governmental institutions. GAUSS offers a wide range of maritime services including research and development as well as training and services.

> Safety training for offshore wind personnel



> Ship detection with TerraSAR-X and validation with AIS data

Research and development (selected projects)

> DeMARINE Safety and Security will pave the way for the first European GMES core and downstream services with a special focus on the needs of the German user community. The first applications are in the fields of ship detection (or detection of other man-made objects) and improving the forecasting of critical sea conditions, particularly with regard to parametric rolling.

> The projects KOSAS and SEISMESS represent a demonstrator for different AIS related applications. The first application deals with the coordination of satellite based Automatic Identification System (AIS) data and on-board measurements. The latter shows how technical data measured on board ship can be transferred in near real-time and on a global scale for purposes of remote control (e.g. environmental sound ship operation).

> Environmental impacts of fast ships. The project's objective was to evaluate negative environmental impacts of fast ships in the German waters of the North Sea and the Baltic Sea. Ship speed and specific environmental impacts (wash) can easily be monitored by satellite.

> The Quality-Shipping-Campaign, a core initiative of GAUSS Institute, comprises several R&D projects, for example the development of criteria for The Blue Angel Award for environmentally conscious ship operation. In the future remote monitoring offered by satellite technologies may provide a

> Security training for company-, ship-, and port facility security officers

> Development of criteria of the Blue Angel Award

Training and services (selection)

> GAUSS offers classroom lectures and hands-on-courses ranging from security officers' training and tanker shipping training to safety training for Offshore Wind Service Personnel. GAUSS also conducts Risk Analyses for Offshore Wind Farms for nearly all relevant German offshore wind farm enterprises. The risk assessment focuses on the probability of ship and wind turbine collisions taking into account specific meteorological and oceanographic conditions and ship operations.

> Interreg project Baltic Master. GAUSS participation as an external expert resulted in a tool which allows the combination of manifold data for purposes of physical planning and contingency planning at the coastline and on sea.

> GAUSS represents the maritime interests of the Free Hanseatic City of Bremen as the appointed delegate in the Alliance of Maritime Regional Interests in Europe (AMRIE).

Further Information under www.gauss.org