

**Inland waterway vessels upgraded with a view to environmental friendliness  
“finance” their upgrade themselves – surplus of up to EUR 50,000 generated in  
just five years**

## **“Clean” vessels flood the coffers**

**Until now, investing in environmentally friendly technologies was always a costly matter. exomission, a small business located in Troisdorf, near Bonn, has now proven that such investments are economically profitable for the operator.**

The 2,322 t double-hull tanker named TMS RUDOLF DEYMANN is 110 metres long and 11.45 metres wide. The state-of-the-art inland waterway vessel was put into service in March 2013. The tanker was equipped with the environmentally friendly Fuel Water Emulsion technology (FWE) from exomission.

Test stand tests proved that the formation of soot in the engine can be reduced down to the traceability limit (100%) with FWE.

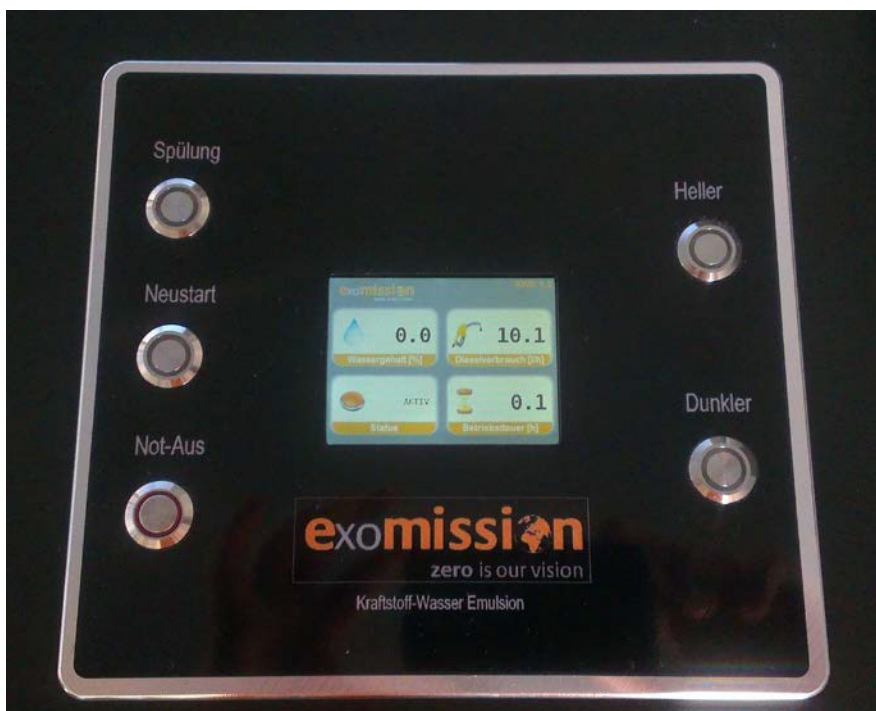
This, in combination with a reduction of nitrogen oxides of up to 30%, is a remarkable result. No other single technology can do this.

Owners of inland waterway vessels receive a state grant of approximately 30% to 50% towards the investment costs for the FWE. The inland waterway vessel can earn the remaining roughly 50% to 70% itself by using the FWE system. As extensive series of measurements on the TMS Rudolf Deymann have shown that, depending on the speed of the vessel and the engine speed, the FWE technology reduces this ship's diesel consumption by 4% to 9% in practical operation. This corresponds to an average advantage in consumption of more than 8 litres of diesel per hour in this case. For a large inland waterway vessel with 4,000 annual operating hours, this corresponds to fuel savings of around 32,000 litres per year, or roughly EUR 22,500. Incidentally, this also results in a reduction of CO<sub>2</sub> emissions of around 85,000 kg per year. Taking all operating costs, maintenance costs and state funding into account, an FWE system can pay for itself completely within two to three years. Depending on the subsidy level, the FWE can generate a sum of EUR 35,000 to EUR 50,000 just five years after its installation.

“Needless to say, this innovative system can also be used in stationary engines, such as combined heat and power units, and, with the appropriate adjustments, also in maritime shipping,” Dipl.-Ing. Uwe Israel explains with a certain pride. Uwe Israel and Dipl.-Ing. Stefan Fischer are the Managing Directors of exomission Umwelttechnik GmbH.



BU: 1) The (FWE) Fuel Water Emulsion system



2) During the trip, the presence and functional capability of the FWE system are indicated to the ship's master only by a shining display on the right-hand side of the instrument panel in the wheelhouse. In addition to the operating state of the FWE, the display also shows the current diesel consumption and water content.