

# ONE STOP SOLUTION

FOR SCRUBBER INSTALLATION



## CombiTrade GmbH

### TIME TO ACT

Due to the new legislation of the International Maritime Organization (IMO) many ships need to be equipped with scrubber units to ensure cleaner air and less SO<sub>2</sub>. Now, it's time to act. Scrubber units are sold out in a lot of areas. Shipyards for advanced facilities and working teams as well as riding crews are booked solid in numerous areas.

**CombiTrade recommends:** Save time and money! Book one of the Combitrade service packages for scrubber retrofit – ideally, combined with your regular class survey.

It is one of the fastest and most inexpensive ways to meet the IMO requirements!

### PACKAGES

Choose which services you need!

**BASIC** ▶ 3D SCANNING

**STANDARD** + ▶ DESIGN AND DRAWING MODIFICATIONS  
▶ PRE-PIPING BY RIDING CREW

**PREMIUM** + ▶ SCRUBBER DELIVERY  
▶ DRY DOCK ARRANGEMENTS  
▶ SUPERVISION OF FINAL INSTALLATION AND TEST TRAIL

### 4 STEPS

#### FROM PLANNING TO COMPLETION

CombiTrade is your competent full-service partner for professional scrubber retrofit. We accompany you throughout the complete project, from planning to completion – in full compliance to the 0.1% sulfur cap for exhaust gas emission.

Our engineering is fast, accurate, cost-reducing and allows to create clash-free products from the 3D scrubber and piping model to the docking.

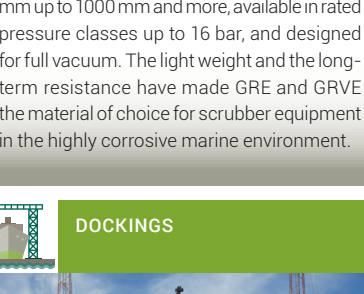


#### ONBOARD SURVEY AND 3D SCANNING



For the onboard survey CombiTrade uses the newest laser scanning technologies. Point cloud data captured by laser scanning can be used as an exact reference of the existing environment. This 3D database contains information about the current state of the facilities and can be analyzed and used as input for engineering without additional trips on site. The application of laser scanning within the project allows wise designed pipe installation.

#### 3D ENGINEERING DRAWING AND DESIGN



Based on the results of the 3D scanning a customized 3D engineering drawing / detailed design will be made by one of our specialized partners.

Of course, we will also take care of the necessary class approval.

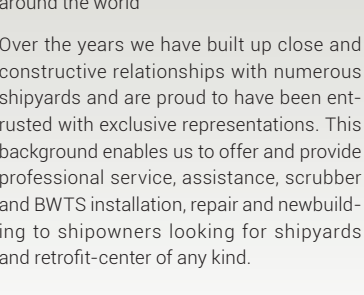
#### PRE-PIPING



The 3D engineering technology is used for scrubber and pipe prefabrication. It results in a more accurate and wise designed installation and saves up to two weeks of expensive docking time.

Special feature: Additionally, CombiTrade offers glass fibre pipe systems. This GRE and GRVE piping is type approved in diameter range 25 mm up to 1000 mm and more, available in rated pressure classes up to 16 bar, and designed for full vacuum. The light weight and the long-term resistance have made GRE and GRVE the material of choice for scrubber equipment in the highly corrosive marine environment.

#### DOCKINGS



We arrange tailor made docking solutions. You appoint the area and we take care of the scrubber delivery. For this measures, you benefit from our global network of best customer service shipyards. We cover all price segments.

### THE BEST CHOICE FOR SCRUBBER INSTALLATION

We are available 24/7 when you are looking for a dock or a workshop, whether for routine matters or in case of emergencies. We assist in the time consuming selection to find the most suitable and competitive facility as well as arranging for all necessary supplies and spare parts. Benefit from our global network.



Professional project management is our core competence, our team is at your side to individually and efficiently assist you with project management. We consider the entire system of the vessel, comply with relevant regulations as well as the customer's and owner's wishes. From this, we develop customer-oriented solutions – efficient, easy and cost-optimized.

We are looking forward to an individual consultation and a customized solution for your project.

### ON THE MAP

Four offices and more than 170 dry and floating docks as well as retrofit-centers all around the world

Over the years we have built up close and constructive relationships with numerous shipyards and are proud to have been entrusted with exclusive representations. This background enables us to offer and provide professional service, assistance, scrubber and BWTS installation, repair and newbuilding to shipowners looking for shipyards and retrofit-center of any kind.



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