

# SCHOTTEL GMBH

## Resource efficiency as a further driving force The EffCheck as an impulse for improvements in operation



„Our marine propulsion systems are manufactured in such a way as to minimize energy consumption and environmental impact. The EffCheck helps us in this respect.”



Stefan Kaul,  
CEO

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**FOUNDED: 1921 in Spay**  
**EMPLOYEES: over 900 worldwide**

SCHOTTEL GmbH is a successful company with global operations in the field of marine engineering and propulsion technology. It develops, designs, manufactures and sells a wide range of different systems. These include azimuth propulsion and manoeuvring systems, as well as complete propulsion systems with power ratings of up to 30 MW for vessels of all types and sizes. A worldwide network of sales and service locations ensures customer proximity.

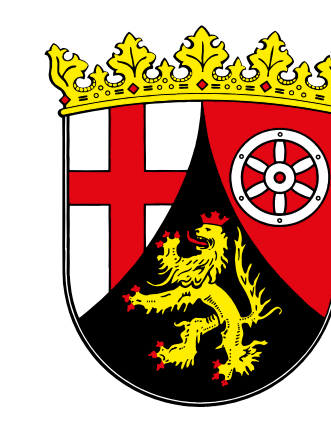
Founded in 1921 by Josef Becker in Spay/Rhine, the SCHOTTEL Group remains an independent family-owned business to this day. In 2015, the production facility relocated to the newly-built site in Dörth. Additional production facilities are located in Wismar (Germany) and Suzhou (China).

With a high level of investment in research and development, the company optimizes its existing products and implements innovative system solutions. The goal of these activities is to improve still further the efficiency and reliability of all propulsion and manoeuvring systems for the benefit of customers. SCHOTTEL cooperates closely with shipowners, yards, ship designers and internationally renowned independent research establishments.

### Potential identified by the EffCheck

Measure	Investment in €	Cost savings in €/a	Amortization
Lighting conversion	13,535	3,077	4.3 years
Compressed air leakage detection	3,170	4,165	0.8 years
Replacement of compressed air membrane pump	8,346	2,462	3.4 years
Optimization of heat distribution using the existing air heaters	115	1,505	Immediate





## EffCheck results

### EXAMPLE 1: LIGHTING CONVERSION

One production shop with high usage was taken as an example to investigate the lighting more closely. The existing lighting – primarily HQL, HRI and T8 lamps – requires 9,100 kWh/a. Replacement of the entire lighting system enables savings of up to two-thirds of the power requirement and power costs.

Not only the lower energy consumption, but also the improved working conditions for employees and compliance with occupational health and safety guidelines, thanks to improved workplace lighting, are arguments in favour of using LEDs. Furthermore, the company reduces annual CO<sub>2</sub> emissions by approximately 5.6 t in this way.

### EXAMPLE 2: REPLACEMENT OF COMPRESSED AIR MEMBRANE PUMP

A compressed air membrane pump is used to ensure the homogeneous consistency of an anti-corrosion agent. It is powered by the central air compressor. Since the anti-corrosion agent has to be circulated around the clock, there is no possibility to turn the compressor off at night or at the weekend.

Replacing the compressed air membrane pump with an electrically-powered membrane pump means that it is now possible to switch the compressor off during work-free periods. This significantly reduces expensive compressed air requirements. Another result is a decimation of the compressed air losses resulting from leaks. This improvement will save almost 25,000 kWh of electricity and 15.3 t of CO<sub>2</sub> annually.

### EFFCHECK – A HOLISTIC APPROACH

Each EffCheck consists of a process-oriented examination of all resources, energy and fluids used in order to identify potential for greater efficiency in terms of material and energy use and to reduce the amount of waste and waste water produced.

## EffCheck Resource efficiency in Rhineland-Palatinate\*

- 70% of consulting costs covered (max. 4,800 euro in total)
- Target group: particularly small and medium-sized companies and municipal enterprises in Rhineland-Palatinate
- Free choice of consultant by your company
- Funded by the German state of Rhineland-Palatinate
- Based on VDI guideline 4075, sheet 1

\* modelled on the ePIUS-Check of the NRW Efficiency Agency

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Ministry of the Environment, Energy, Food and Forestry in Rhineland-Palatinate

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