

YOUR PROPULSION EXPERTS



100
SINCE 1921



SOUTHEAST CONFERENCE TRANSPORTATION SYMPOSIUM

SCHOTTEL EXECUTIVE SUMMARY FEBRUARY 2023

STABILITY

100 YEARS OF SUCCESS

Success Story

1921

Josef Becker (1897–1973) establishes his craftman’s workshop in an old farmhouse in Spay/Germany.



1967

First harbour tug with SCHOTTEL propulsion

1958 – today

First international subsidiary is founded in the Netherlands; 13 more to follow.

1980

Introduction of CAD/CAM

1998 & 1999

Start of production in Suzhou/China and Wismar/Germany

2015

Opening of production site in Dörth/Germany



2021

100 years of SCHOTTEL

1950 – today

Development and construction of the first SCHOTTEL RudderPropeller that becomes a worldwide synonym for 360-degree manoeuvring. Today SCHOTTEL offers nine different types of propulsion systems for various applications.

2007

Acquisition of a 15.4 % share in SCHOTTEL by Frydenbø Industri AS/Norway; 84.6 % still held by family members.

2013

SCHOTTEL Industries GmbH

2018

Expansion of the portfolio with digital products and services

SCHOTTEL Group Structure



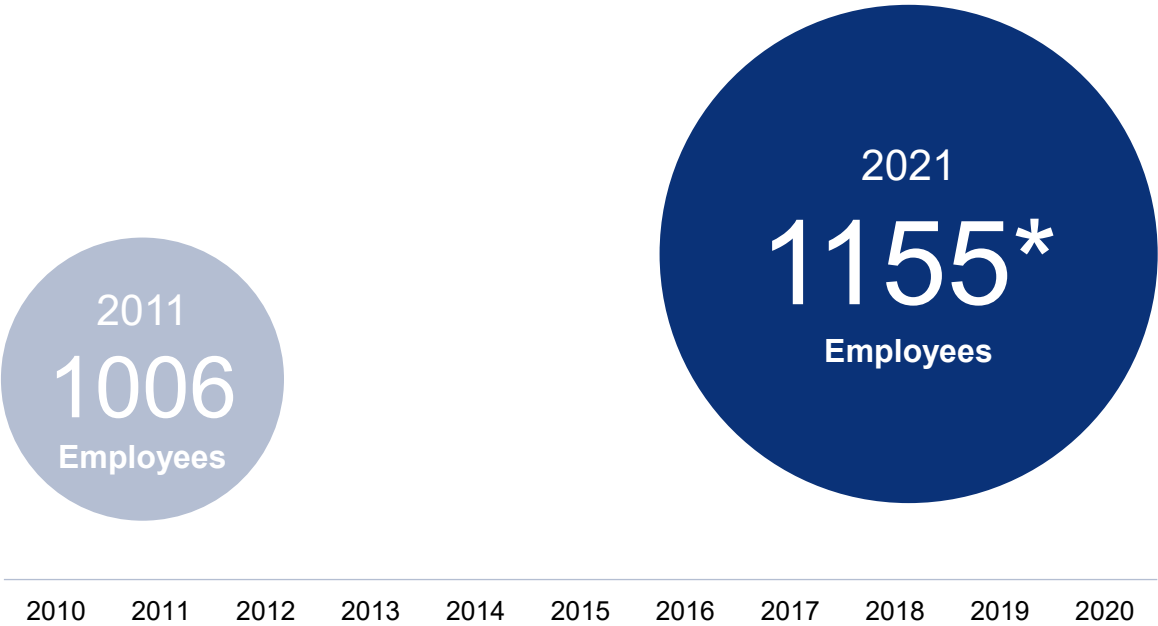
SCHOTTEL GmbH	HW Elektrotechnik GmbH	Wolfgang Preinfalk GmbH	SCHOTTEL HYDRO GmbH	Elkon Elektrik San. ve Tic. A.Ş.	AQUOS SCHOTTEL Marine Technologies GmbH
					
Marine propulsion systems	Automation technology	Gearing and gearboxes	Hydrokinetic and tidal energy	Electric system integration	Marine Technologies

SCHOTTEL Group

Facts & Figures

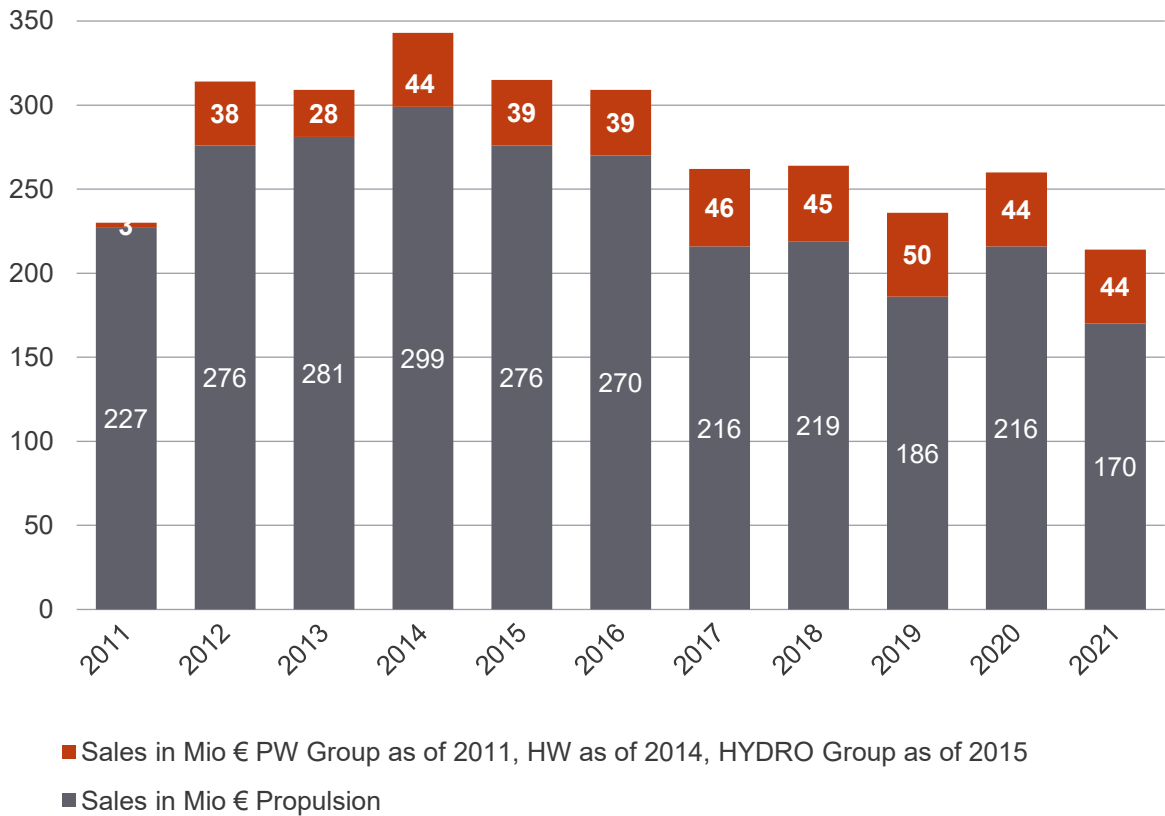


Headcount



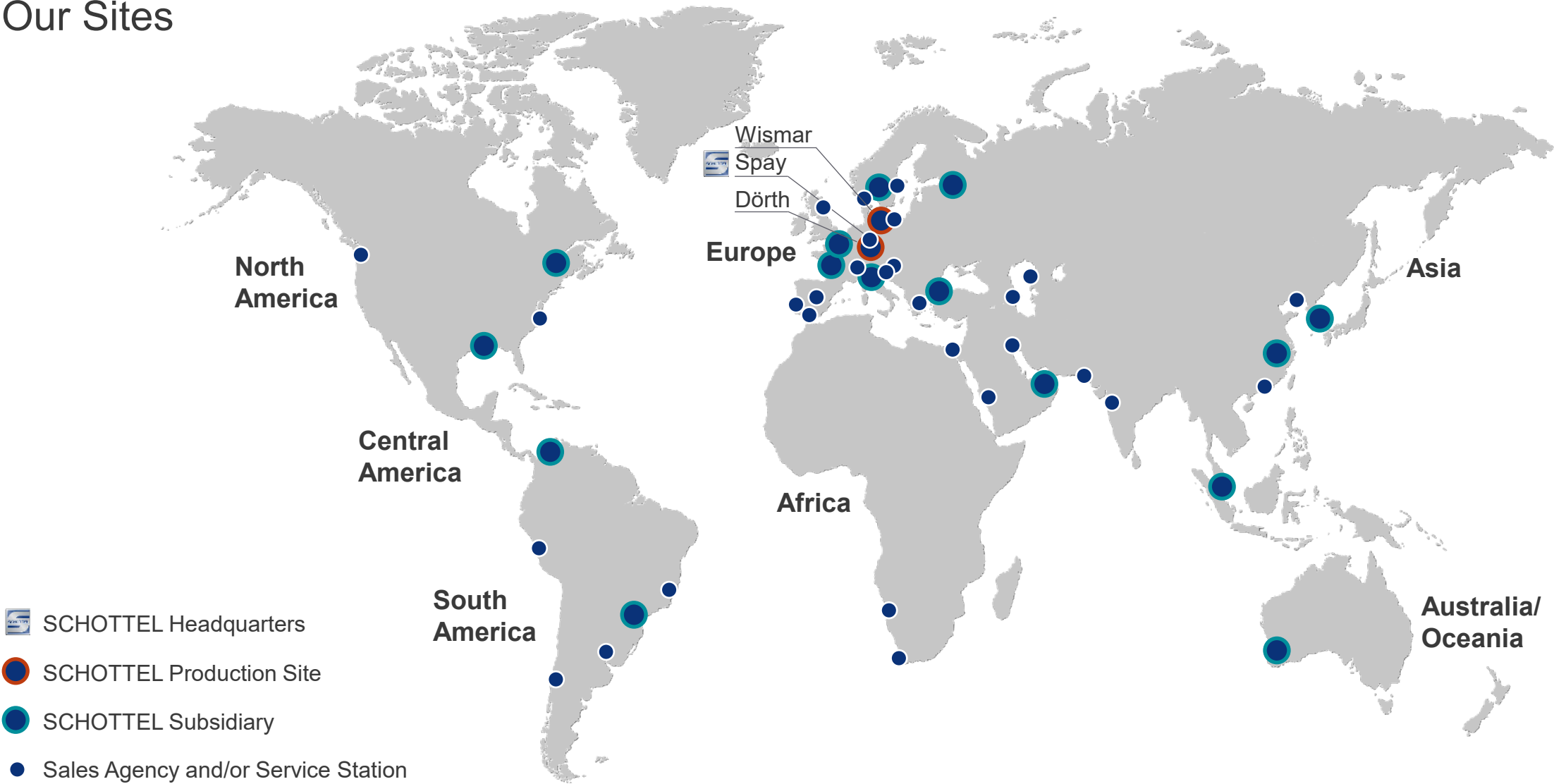
*of which 953 in Germany

Sales



SCHOTTEL Worldwide

Our Sites

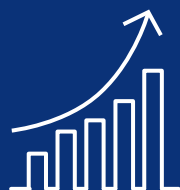


SCHOTTEL Maritime Group

In a nutshell

846

Employees worldwide



Family-owned with long-term, future-orientated strategies

#1

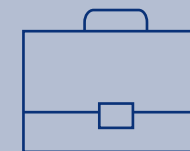
Solid market position in azimuthing propulsion

Global network with

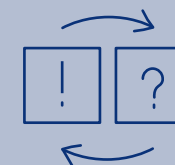


14

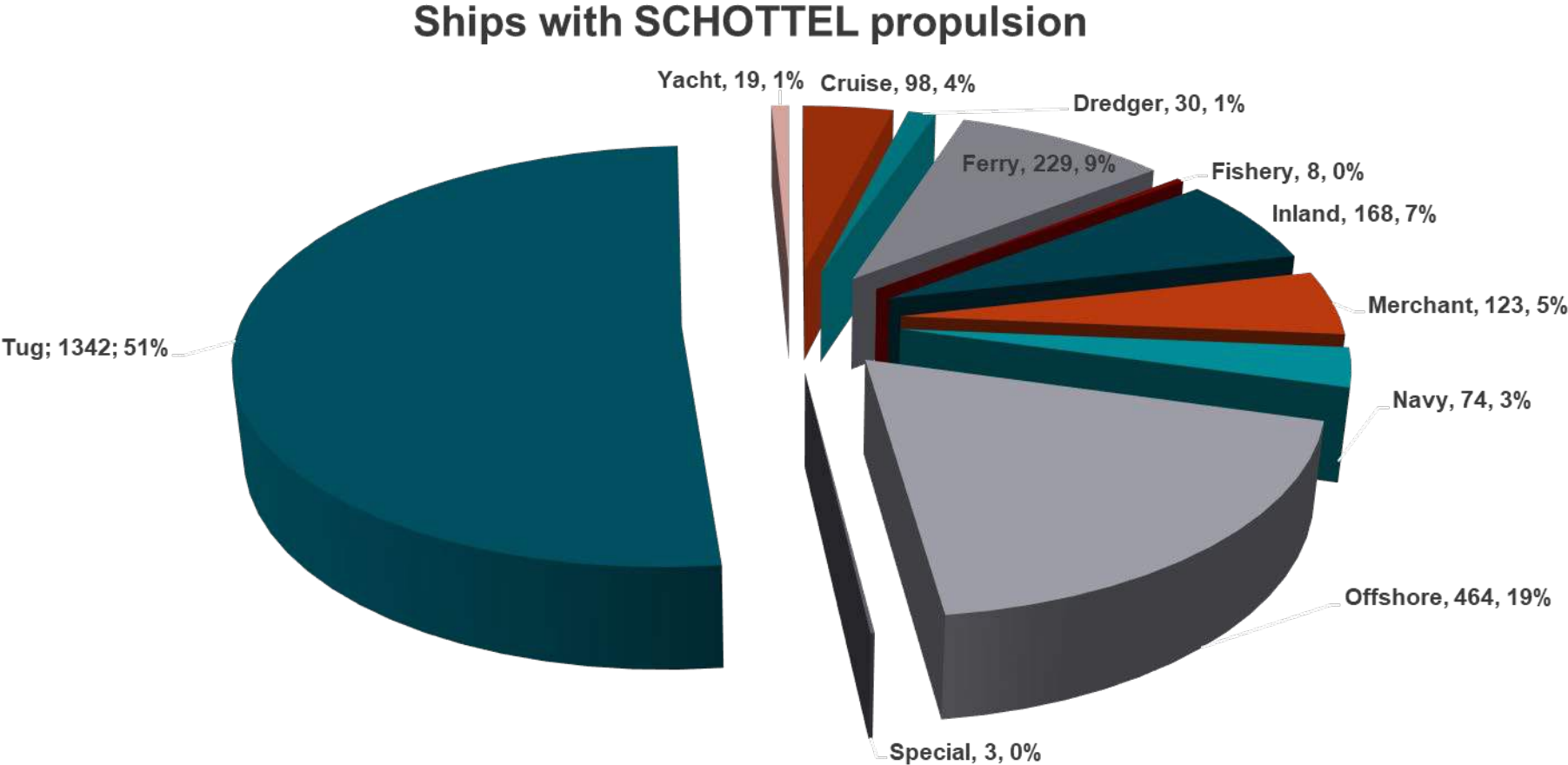
subsidiaries



Broad scope of
job profiles



International
knowledge transfer



SCHOTTEL Facilities



Schottel Factory-Dorth Germany



Schottel Headquarter-Spay Germany



Schottel Factory-Wismar Germany



Schottel Factory-Laudert Germany

Certifications



SCHOTTEL is certified according to DIN EN ISO 9001by ABS, BV, DNV-GL

Schottel in North America

- First entered United States in 1961
- Schottel Inc incorporated in 1997 (Delaware Corp)
- Over 750+ vessels supported in North America today, with over 1800+ pieces of Schottel equipment



Schottel Inc, Houma Louisiana

- Spare parts warehouse with over 5 million in value
- Training facility for customers
- Factory trained 4 Control Engineers
- Factory trained 10 Mechanical Engineers
- 2 contract Service Engineers (1 Canada & 1 US)
- Operation Manager has over 30 years experience in service industry with over 19 years working on propulsion equipment as Service Superintendent
- All commissioning done via domestic engineers
- We only work on Schottel equipment, not engines, gearboxes, etc



SCHOTTEL ECOPELER
SRE

Products

SCHOTTEL EcoPeller SRE

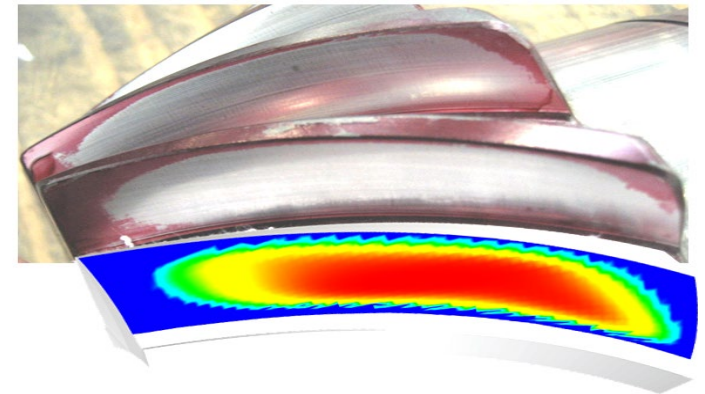
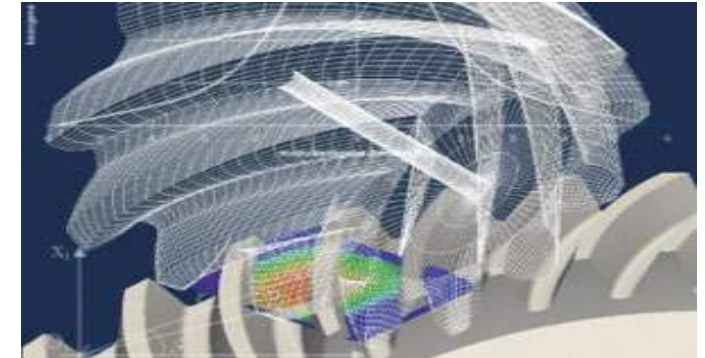


- 1 Top performance in overall efficiency and course stability
- 2 Low operating costs and emissions
- 3 Optimized for open sea and coastal operating conditions



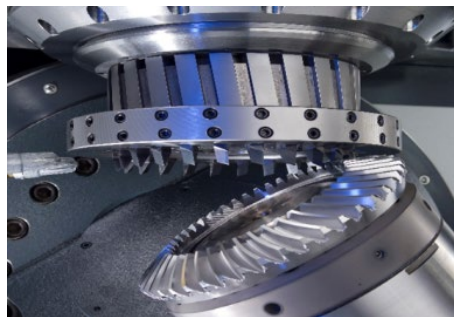
HTG-Bevel Gear Technology

- HTG=High Torque Gear, project of Schottel from 2005 thru 2015
- Patented solution with Technische Universitat Dresden
- Manufacturing method: Free Flank Modification, 5 Axis
- The HTG gear is able to transmit about 15% more torque than a standard bevel gear.
- More torque can be transmitted on a smaller diameter. By this you can gain either a higher safety margin or Reduce the size of the lower gearbox housing and increase the hydrodynamic efficiency due to an improved propeller diameter/ gearbox diameter.



HTG-Bevel Gear Technology

free flank modification

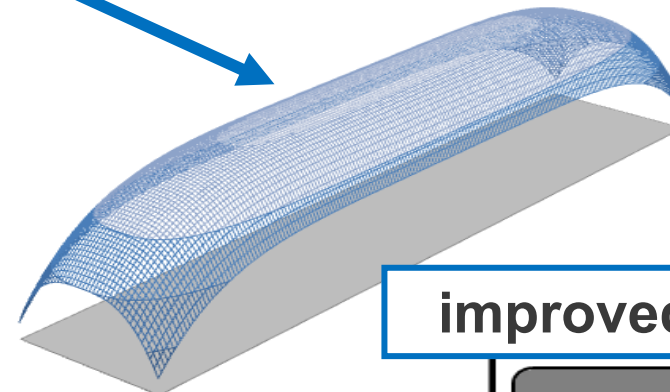
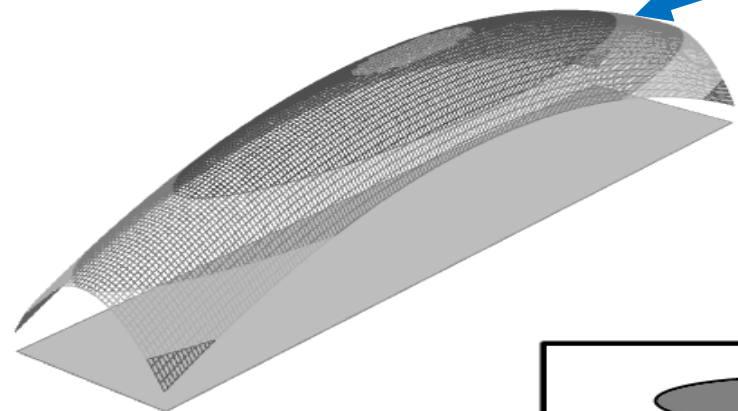


conventional

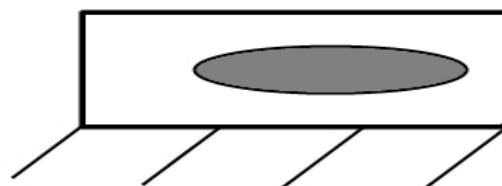
HTG
bigger plateau
equivalent end reliefs



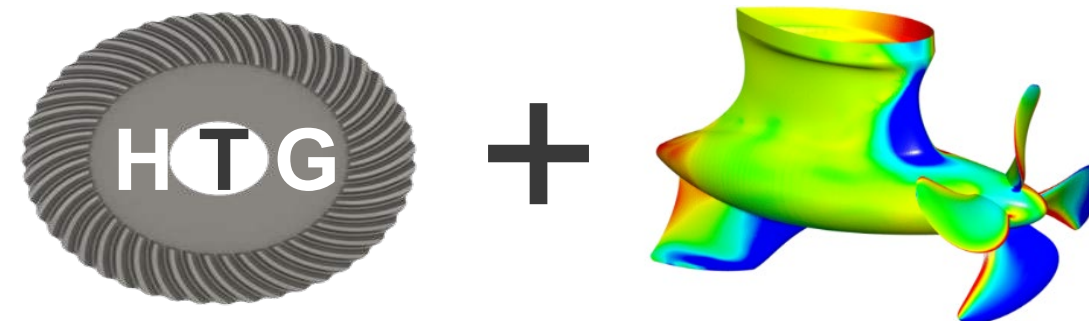
HTG



improved utilization



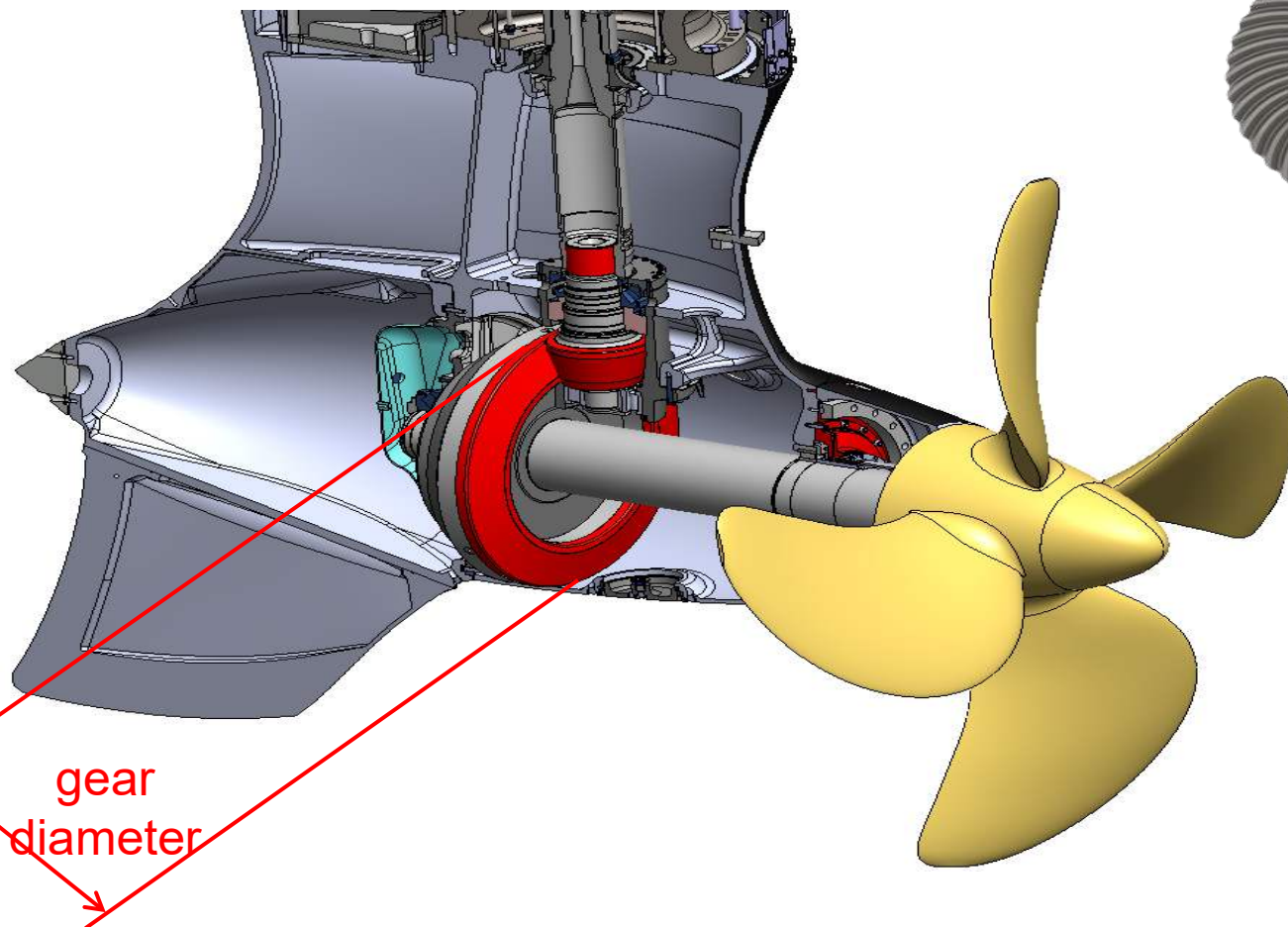
Increased hydrodynamic efficiency by HTG gears



Using HTG gear:

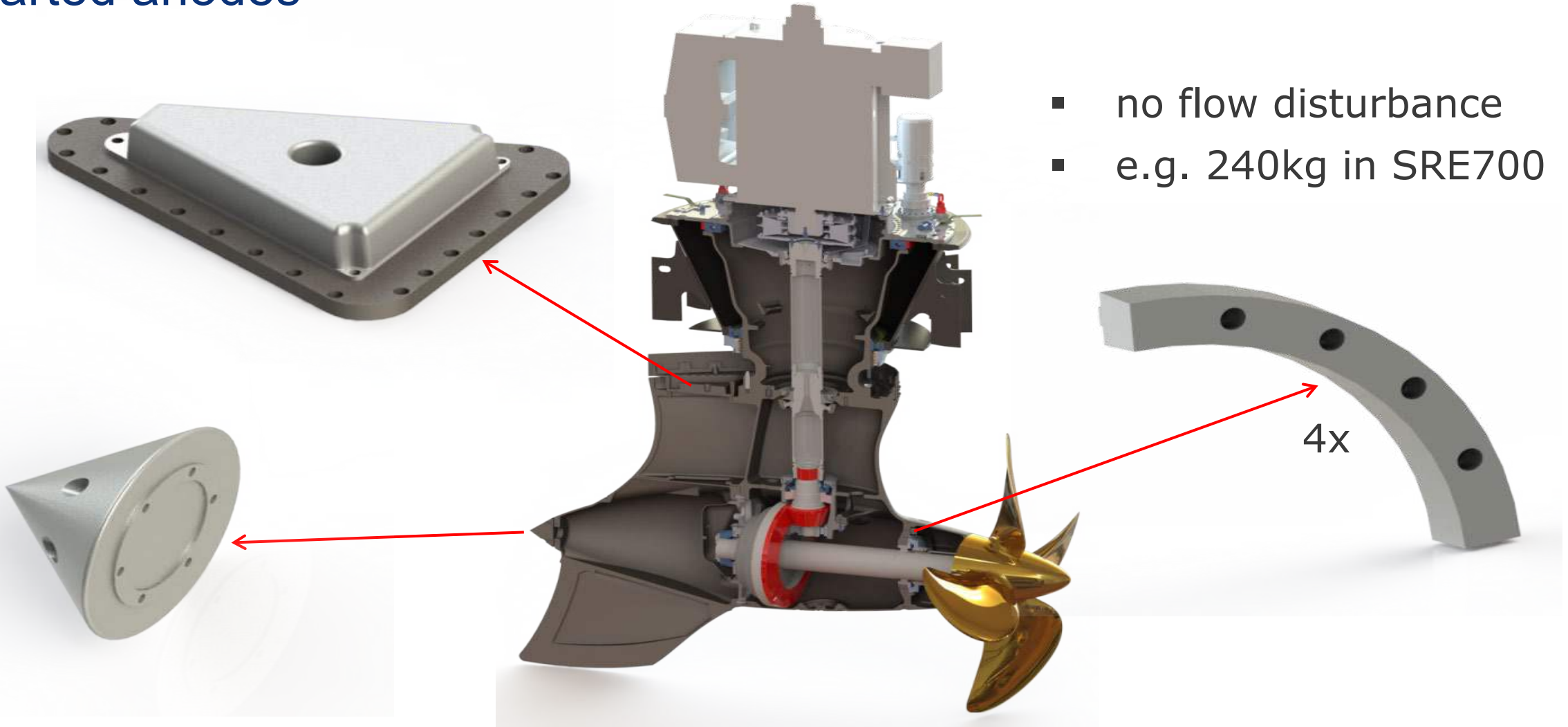
- diameter gain
- increased torque
- allows even better, leaner hydrodynamic shape

=> >1,5% efficiency gain

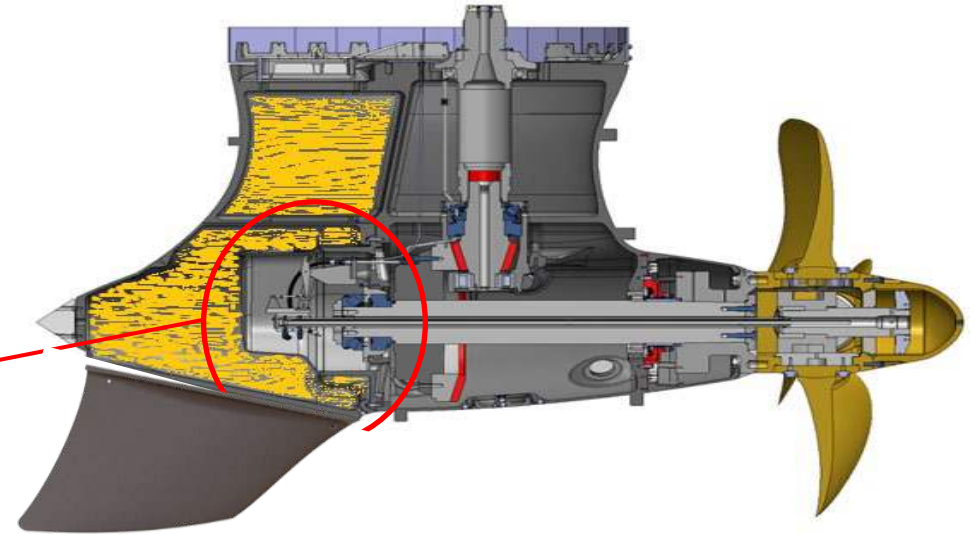
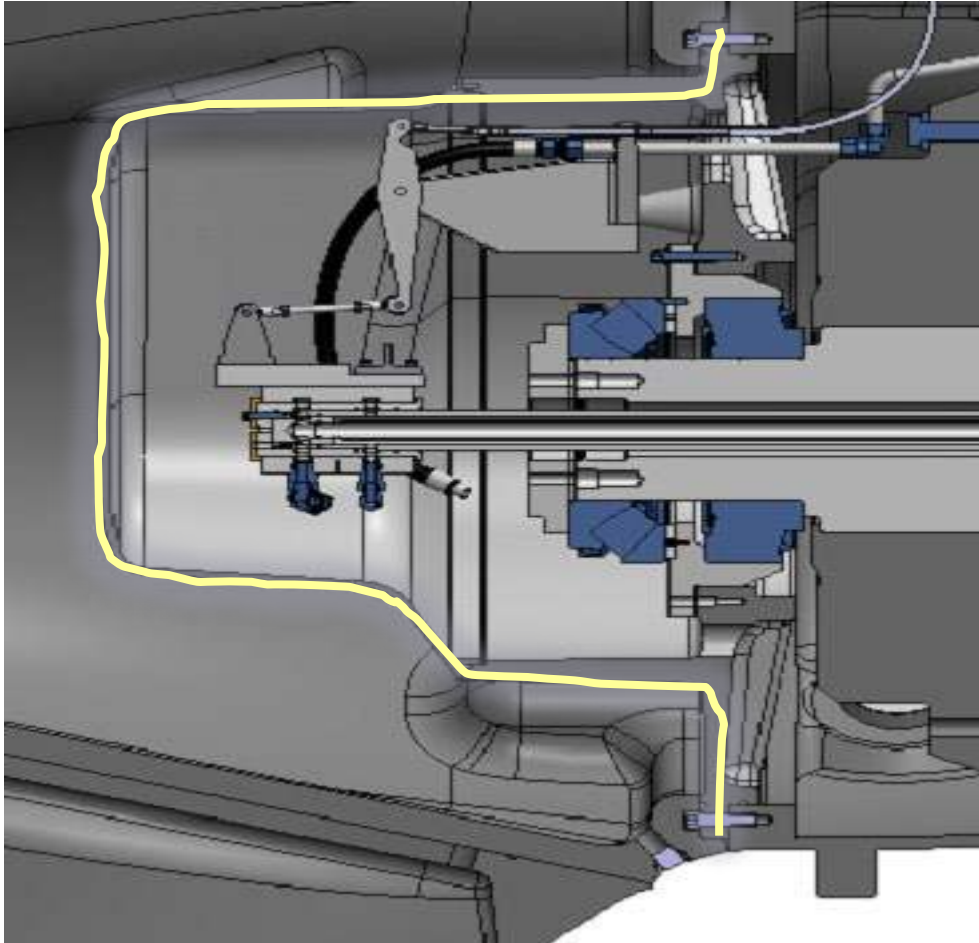


Increased hydrodynamic efficiency by integrated anodes

- no flow disturbance
- e.g. 240kg in SRE700



Environmental Friendly



- reduction of ab. 1500l lub oil
- additional safety against leakage due to grounding

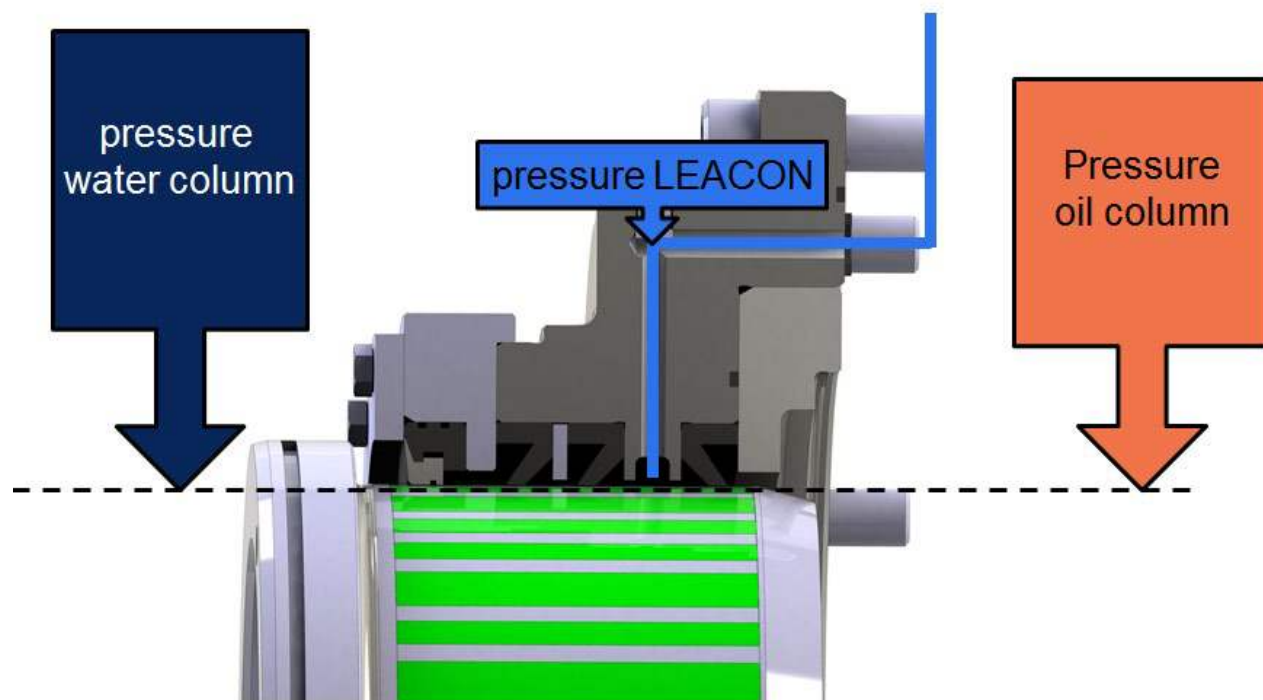
SCHOTTEL LEACON

Environmental friendliness

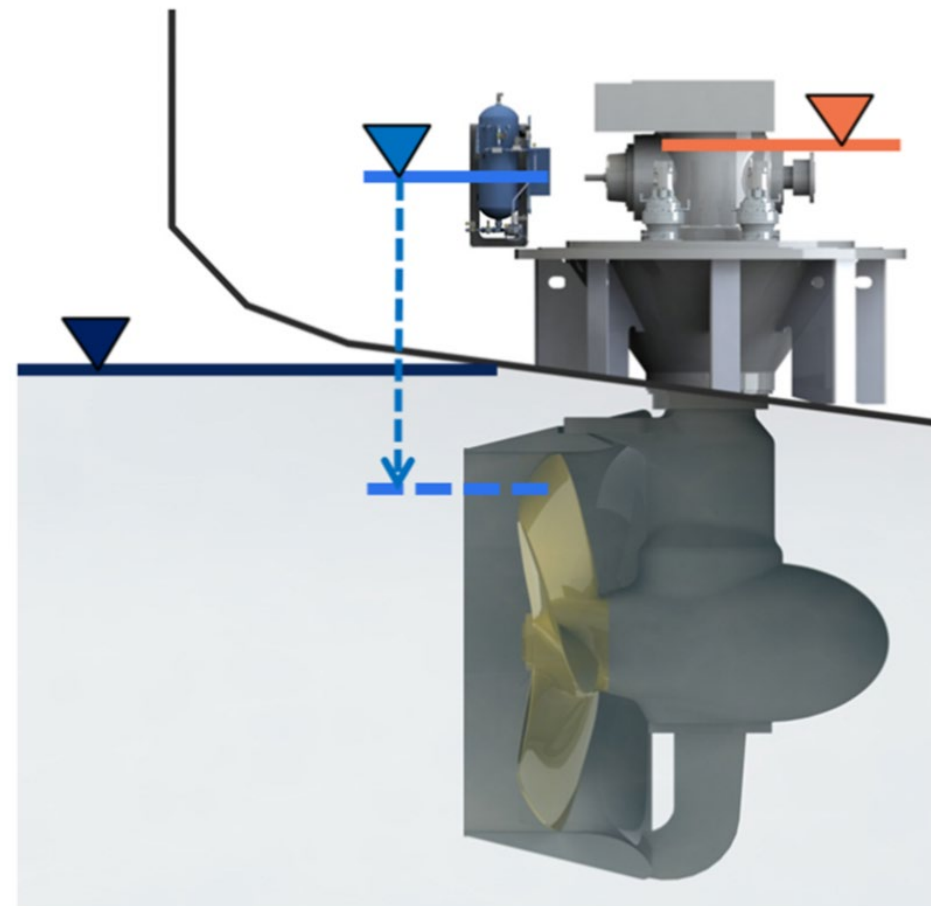


The SCHOTTEL LeaCon sealing system is a type approved sealing system which monitors the propeller and steering shaft seal. The LeaCon system is recognized as a non oil to water interface and complies with the current VGP rules without using EALS

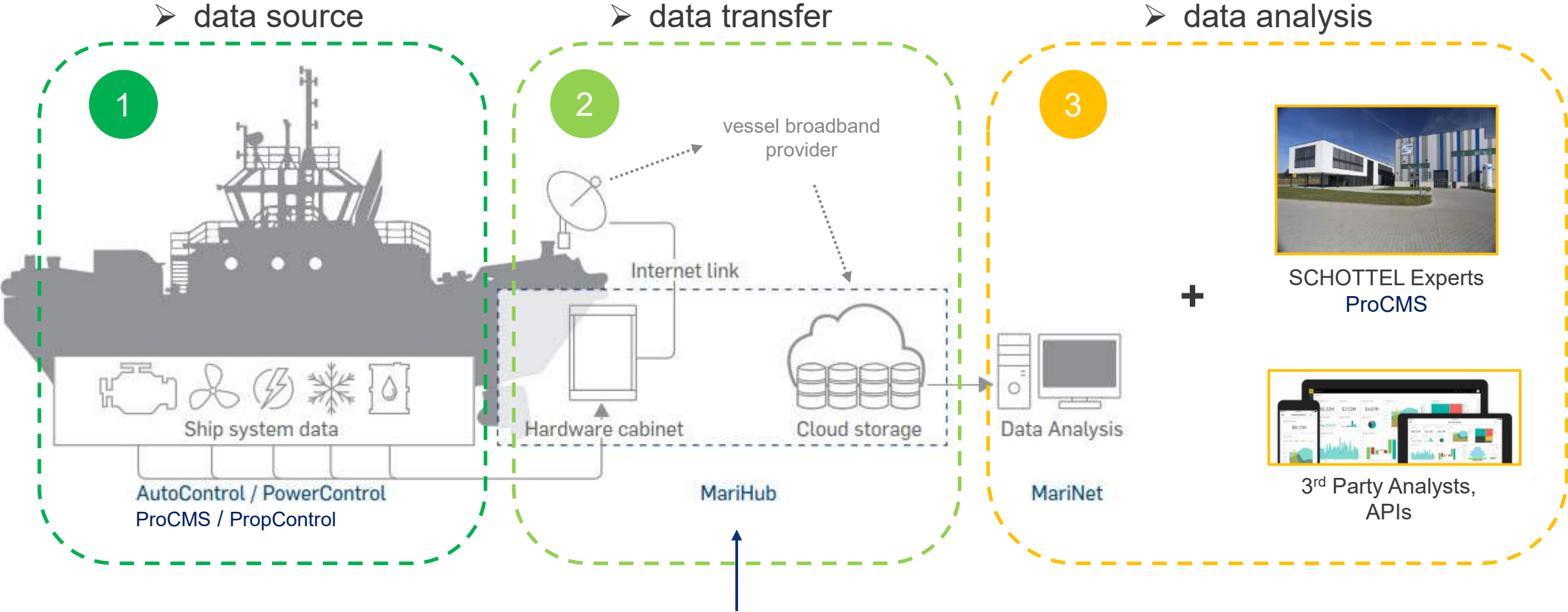
LEACON System



The Vacuum tank has always a lower pressure than the oil or the seawater this way any leakage will be guide to the leakage tank. This reduces the risk of polluting the environment with oil or water contamination of the thruster



ProCMS, MariHub, MariNet



scope of hardware individual to customer needs

Our Quality Promise



100+ worldwide

sales agencies and service stations
for customer proximity

150+ service technicians

for worldwide vessel mobility

Standardized
FAT procedures

Rudderpropeller plant with highest
possible
shop floor quality control

**YOUR
THRUSTER
PARTNER**

for a lifetime

Permanent certification
processes throughout production plants

70+ years
of competence in development
& manufacture of propulsion systems

Expert advice with
a global sales workforce of
90+ specialists

Customer-orientated development with
experienced in-house R&D

Continuous quality check/audit of
100+ key suppliers

