



— WE KEEP YOUR SYSTEM —

< running

WELCOME

to our company and product introduction

TRADITION – in facts & figures



- **1952** – New **foundation** in Schönaich near Stuttgart with the production of tachometers and revolution counters.
- **1971** – Start electronic manufacturing with the production of compact measuring systems based on **processor technologies**.
- **2018** – Move to Gärtringen: a **new building** adapted to the individuality of our products increases flexibility, efficiency and quality to our customers.



PERFORMANCE – key data



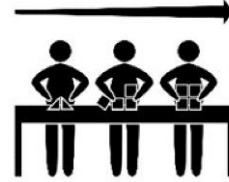
- **Approx. 80 employees creating annual revenue of more than 12M€**
- **Certified accord. quality standard ISO 9001**
- **Headquarter including sales, development, manufacturing, quality and logistic forces**
- **Own service team for on-site retrofit and maintenance operations**
- **Serving on global scale**



CONCEPTION – one source partner

R&D

Hardware,
Software,
Mechanical
engineering



Assembly lines

for electronics
and hardware
systems



**Quality
system** fully
controlled
SMT lines

**>85%
Production
depth**



Manufacture

CNC machinery
for mechanical
components



Software

CPU programming
standard and
customized



KNOW-HOW – by technology



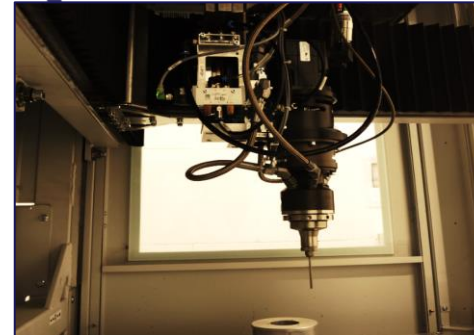
Full automatic SMT lines



CNC machinery



Mechanical precision



2-components potting



Functional test facilities

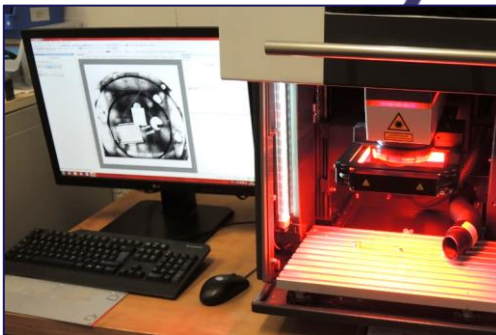
Production lines



Flashing&Final control



Laser mark



Validation test benches

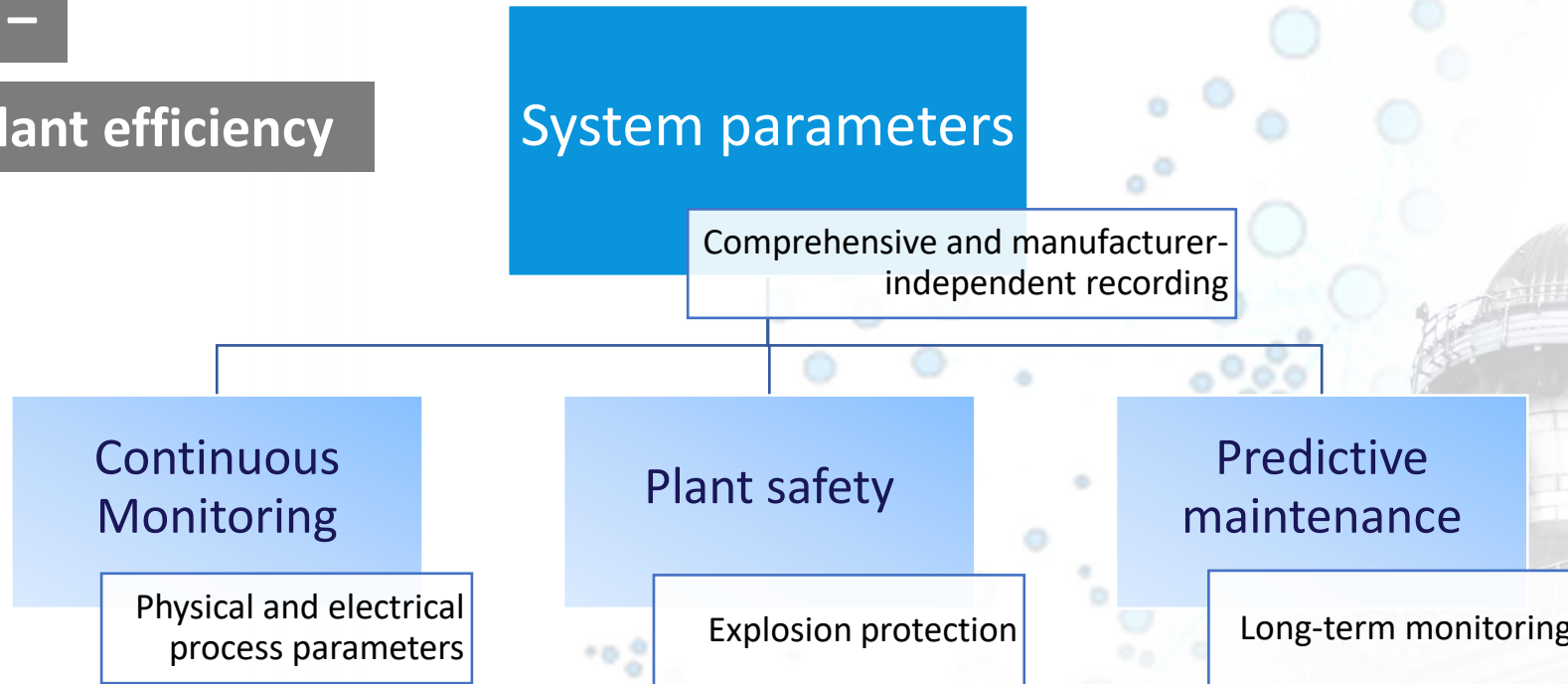


Individual logistics



TECHNOLOGY –

focussed on plant efficiency



- **System integration: various information will be recorded and processed in ECU**
- **Plant data will be analyzed, stored and passed on to external applications:**
 - Standardized interfaces
 - Mass data conditioning
 - Cyber secure communication
 - Flexible and individual parameterization

Sensors



Monitors



Systems



OUR PORTFOLIO – Sensors



**Water in oil and
temperature**



**Frequency
and velocity**



**Distance and
temperature**



**Temperature
surface and invasive**

360° encoders



**CAN encoders
and indicators**



Pressure



OUR PORTFOLIO – Monitors



Analoge
indicators

Digital
indicators

Monitoring
systems

Webbrowser
support systems



OUR PORTFOLIO – Systems



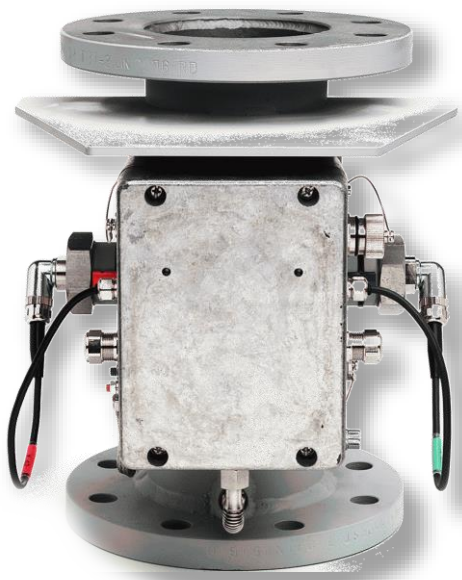
CPS – crankcase protection system



BMS – bearing monitoring system



ESM – engine safety module



OMD – oil mist detector

APPLICATIONS – outstanding performance



exemplary

**Water in oil detection system
in large oil transformer station**



**Bearing distance monitoring
system in marine diesel system**

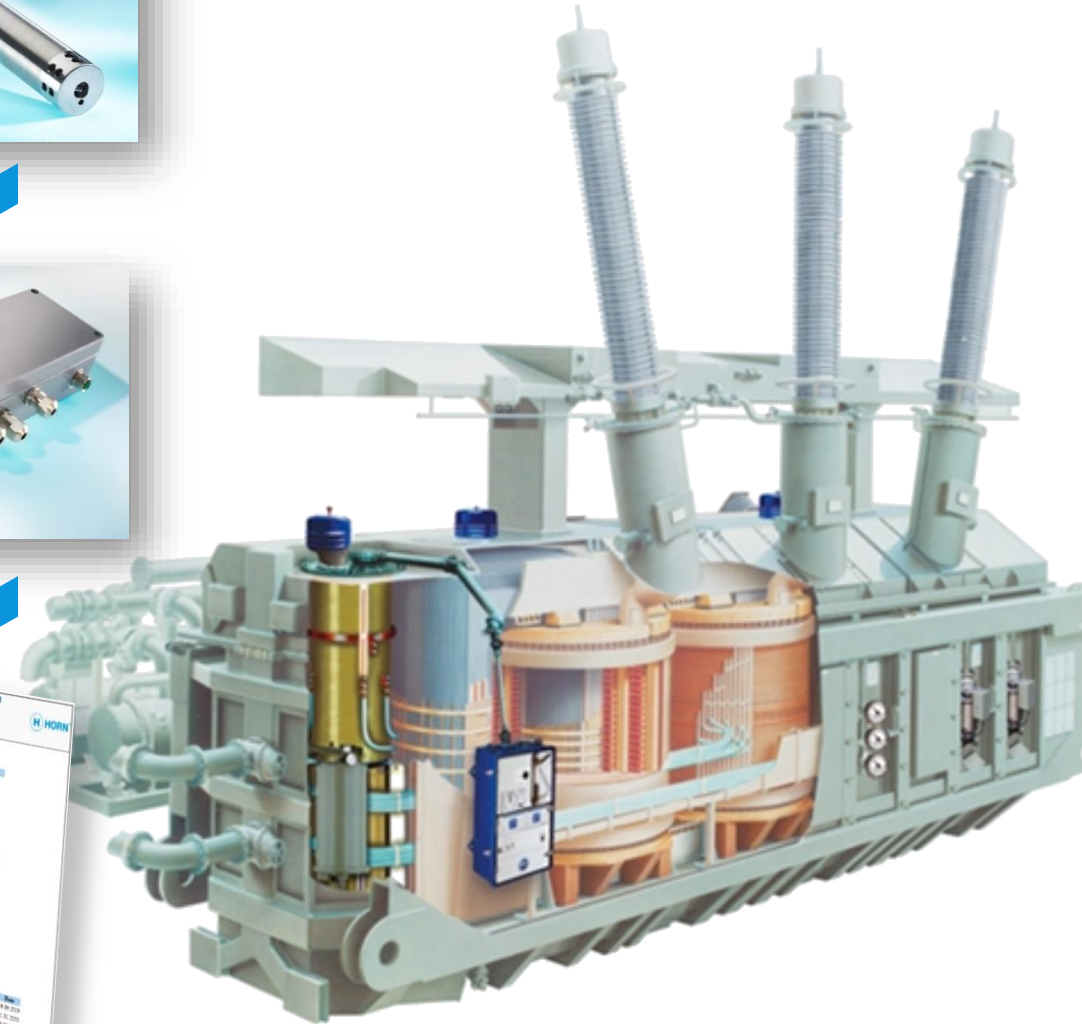


PRODUCT PRESENTATION

Water in oil sensing system

Measuring water activity [aw]: saturation of water in oil in range of 5...95%

- continuous monitoring of humidity and temperature
- algorithm that takes into account natural aging effects of oil
- pre-alert >50%, main alert >90%
- complete data access
- data interface: LAN, CAN, digital I/O (stand-alone)
- **MTP-READY** Module type package
- defined interfaces
- manipulation protection by hardware
- parameterizable by web browser



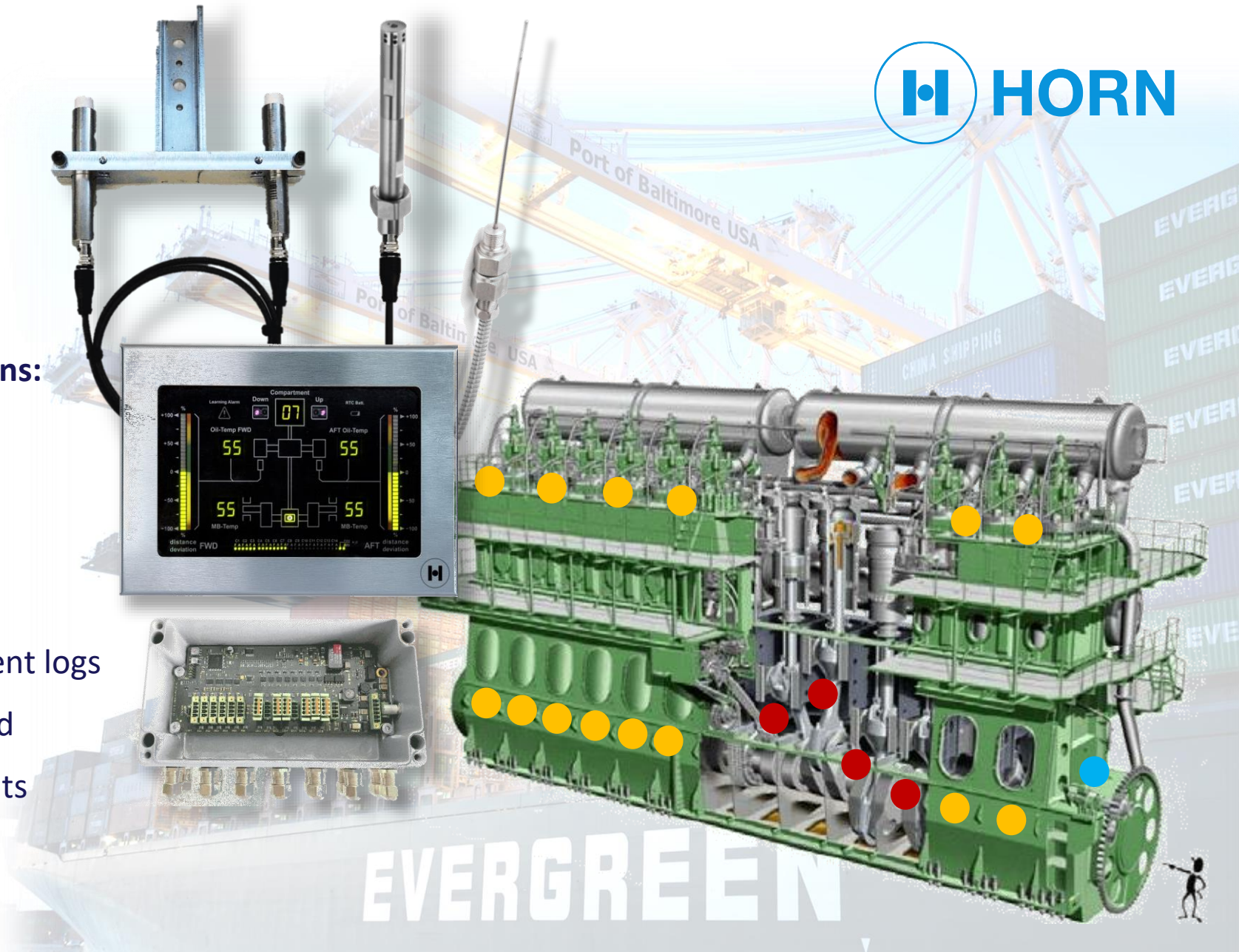
PRODUCT PRESENTATION

Bearing distance and monitoring system

Status monitoring of large power stations:

Friction, oxidation, overheat

- simultaneous analysis of distance, temperature and oil humidity
- up to 72 sensors within 13ms
- long term memory with >10 Mio. event logs
- traceable and manipulation protected
- CanOpen communication, A/D outputs
- designed for rough environmental conditions



QUALITY – Safety during lifetime



**ISO
9001:2015**

- AOI, ICT, humidity moisture level, software flash&verify, 100% EOL
- product validation, ESD protection, ATEX
- multiple classification approvals, MED-audited and approved
- average product lifetime >15 years

**RINA
(IT)**

**CCS
(PRC)**

**BV
(FR)**

**ABS
(USA)**



**LRS
(GB)**

**DNV
(N)**

**GL
(DE)**



REFERENCES – proof of confidence



PERSPECTIVES –

for a successful partnership

Thank you.

www.dr-horn.org

