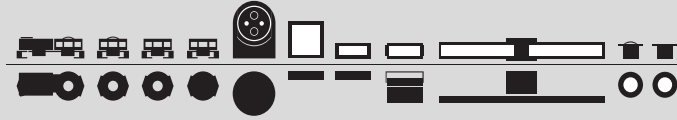


OPTONAVAL
LIGHTING
SOLUTIONS



HELICOPTER VISUAL LANDING AID SYSTEM

SAFE LANDINGS - PRECISION GUIDANCE, CLEAR VISION.



PURPOSE BUILT FOR NAVAL VESSELS

OPTIMAL FOR DAY & NIGHT OPERATIONS

ADVANCED CONTROL & MONITORING

CUTTING-EDGE LED-TECHNOLOGY





OPTONAVAL GMBH

Optonaval GmbH, headquartered in Hamburg - the heart of Germany's maritime industry - was founded with a focus on high technical ambitions. Since its inception, the company has developed and introduced innovative lighting solutions specifically for the marine environment.

As a leading expert in helicopter technical operations, Optonaval supports its customers at every stage of the process, from initial design to project implementation and final acceptance, to ensure safe helicopter operations that meet the latest and highest MIL standards. Optonaval's Helicopter Visual Landing Aid Systems (HVLAS) are specifically tailored for naval vessels, offering customized, reliable systems that guarantee safe and compliant helicopter operations.

Beyond lighting, Optonaval offers integrated data and communication packages to ensure total heli deck control for seamless operations.

OPTONAVAL STANDS FOR

- | A market leading range of products enabling safe helicopter landing in open sea environment
- | Adherence to military standards
- | Comprehensive modular software application
- | Competence in ANVIS applications
- | Perfect combination of proven design and cutting-edge technology
- | Customized project solutions
- | Focus on low maintenance and high availability
- | A dedicated team with more than 15 years of experience in HVLAS design

FULL-SERVICE SOLUTION





COMPLETE RESPONSIBILITY

INNOVATIVE QUALITY

DEDICATED SUPPORT

OVERALL SYSTEM RESPONSIBILITY

Optonaval accept the responsibility for the whole HVLAS on board. Engineering, production and commissioning remains in one hand.

MATCHING QUALITY AND INNOVATION

Each individual Optonaval product meets the highest demands in quality and function. Built with the latest in LED technology, revolutionary sensor and control systems.

MODERNIZATIONS AND REFITS

Upgrades of Naval Vessels are facilitated by using Optonaval's modular equipment. Flexibly integrated, design adopted to customer's standards.

DEDICATED TO CUSTOMER SUPPORT

Comprehensive ILS package on hand. Further on, Optonaval experts are available to analyse and solve any problem. Prepared to assist remotely or on board whenever needed.

MONITORING HELICOPTER OPERATIONS





CONTROL & MONITORING SYSTEM

SURVEILLANCE | SUPPORT | SYSTEM INTEGRATION

Optonaval's software suite enhances the user experience of its Helicopter Visual Landing Aid System, ensuring safe helicopter operations. Designed with a well-organized modular structure, the application allows for easy selection of required features. In addition to its basic functionality, the suite offers customizable modules with numerous features tailored specifically for Naval Vessels:

- | Intuitive graphical user interface, easy to operate, co-designed by helicopter pilots
- | Safe Helicopter Operation Limits (SHOL) can be displayed
- | Easy communication between ship and helicopter
- | Integration of peripheral helicopter service components
- | Interfaced to ship's command system
- | Identification of malfunctions and deviation of standard values
- | Tracking of maintenance history
- | Developed by in-house Engineers



PROVEN DESIGN

BUILT TO ENDURE





DESIGN DRIVEN BY FUNCTION

- | Cutting-edge LED technology, dimmable in 65k steps
- | Focussed on minimized maintenance, equipped with health monitoring sensors
- | Certified equipment according to military standards
- | Withstanding harshest conditions
- | Smart, weight saving cabling
- | Able to operate with Night Vision Goggles
- | Custom designed to Navy's and shipyard's specifications
- | In use at various navies around worldwide, NATO and Non-NATO

COMPREHENSIVE PRODUCT RANGE

- | Glide Path Indicator
- | Horizon Reference System
- | Deck Edge Light
- | Homing Beacon / Flash Light
- | Combined Flood, Deck Edge & Service Light
- | Line-up Light
- | Universal Indicator Light
- | Universal Traffic Light
- | Deck Status Light / Stop&Go Light
- | Overhead Flood Light
- | Control Panel
- | Modular Software Suite
- | Inertial Measurement Unit

GLIDE PATH INDICATOR

SAFE GUIDANCE | FULLY STABILIZED

- | Motion-stabilized glide path according to STANAG 1236
- | Guiding the pilot from up to 5 NM distance, showing the right angle of approach
- | Two redundant light projection units and two integrated inertial measurement units
- | 180° rotating around the vertical axis to adjust to the direction of approach
- | Roll and pitch stabilization $> \pm 45^\circ$
- | Self-aligned, no interface to ship's gyro
- | Design focus on lowest maintenance
- | NVD-FYGR SGSI type





HORIZON REFERENCE SYSTEM

MOTION STABILIZED ASSISTANCE | UNPARALLELED

- | Providing roll motion information to the pilot
- | Oscillating bar with fixed reference lights
- | Stabilized by powerful actuator and own inertial measurement unit
- | Self-aligned, no interface to ship's gyro
- | Counteracts ship's roll motions of up to $\pm 30^\circ$
- | LED-matrix can be combined with wave-off alarms



COMBINED FLOOD, DECK EDGE & SERVICE LIGHT

SKILLFULLY INTEGRATED | UNIQUE DESIGN

- | Deck edge lights and full deck lighting in one unit
- | Evenly and clearly illuminated deck, dazzle-free for the pilot
- | One component for multiple applications, e.g. also as T-Line-Light and Service Light
- | Low maintenance, reducing ILS effort
- | Deckfinder™ can be integrated for guidance of unmanned aircrafts





UNIVERSAL INDICATOR LIGHT

MULTIPLE PURPOSES | STANDARDISED ENGINEERING

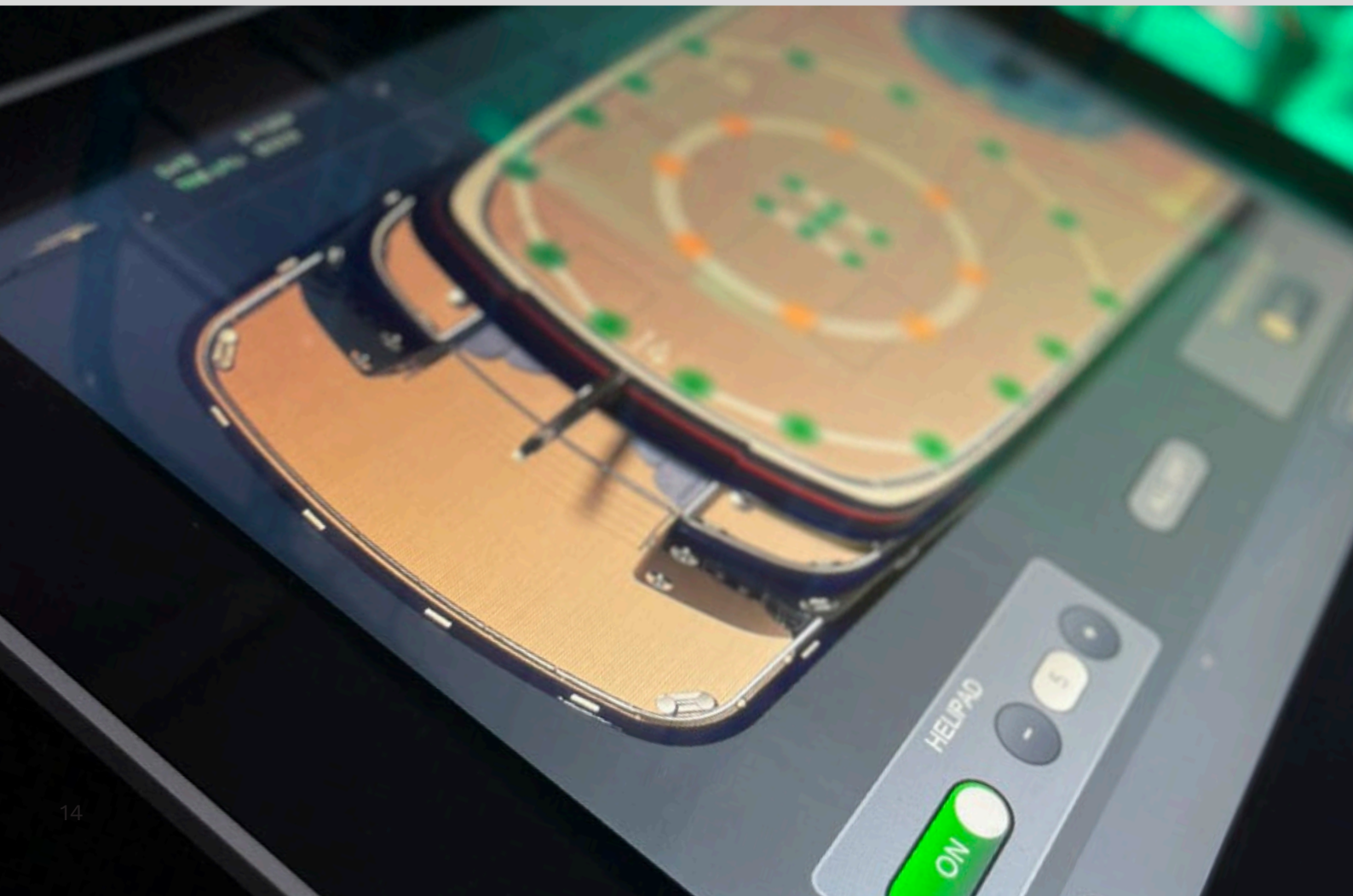
- | Various applications packed in an identical housing
- | Installed as Obstruction Light, Wave-off Light, Homing Beacon, VERTREP or HIFR Light
- | Light colour, intensity and flash rates adapted to the purpose
- | Reducing spare parts and ILS effort
- | Reliable and durable



INTEGRATED HEALTH MONITORING

CONSTANT SURVEILLANCE | MINIMIZING ILS EFFORT.

- | Incorporated sensors in each component
- | Detecting any upcoming degradation
- | Status information while switching on the system
- | Maintenance jobs only when needed
- | Extended life time of the component
- | Significant time and cost savings over the life of the component

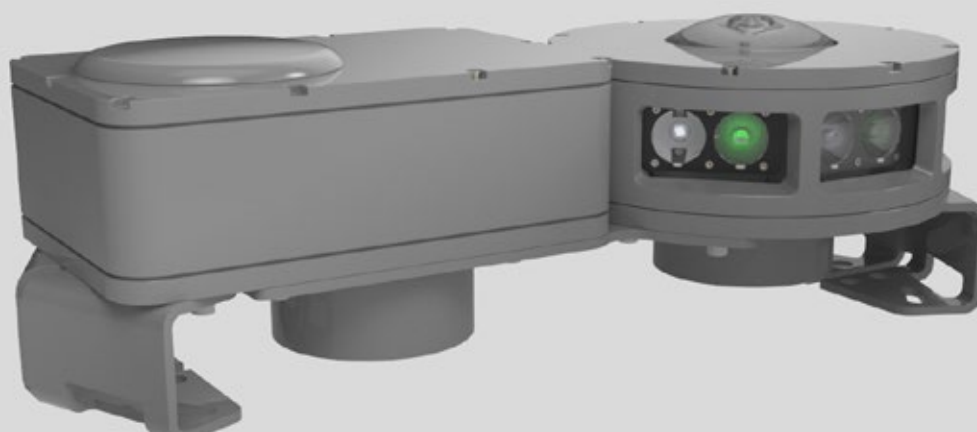




DECK FINDER SYSTEM

AIRBUS DECK FINDER™ SYSTEM

- | The new AIRBUS DFS smoothly integrates into the CFDEL product line
- | Enables safe landing and take-off for UAS and BVLOS operation
- | Optimized seawater resistant aluminium housing
- | DFS consists out of 6 Ground Station Units (GSU)



OPTONAVAL

×


DeckFinder

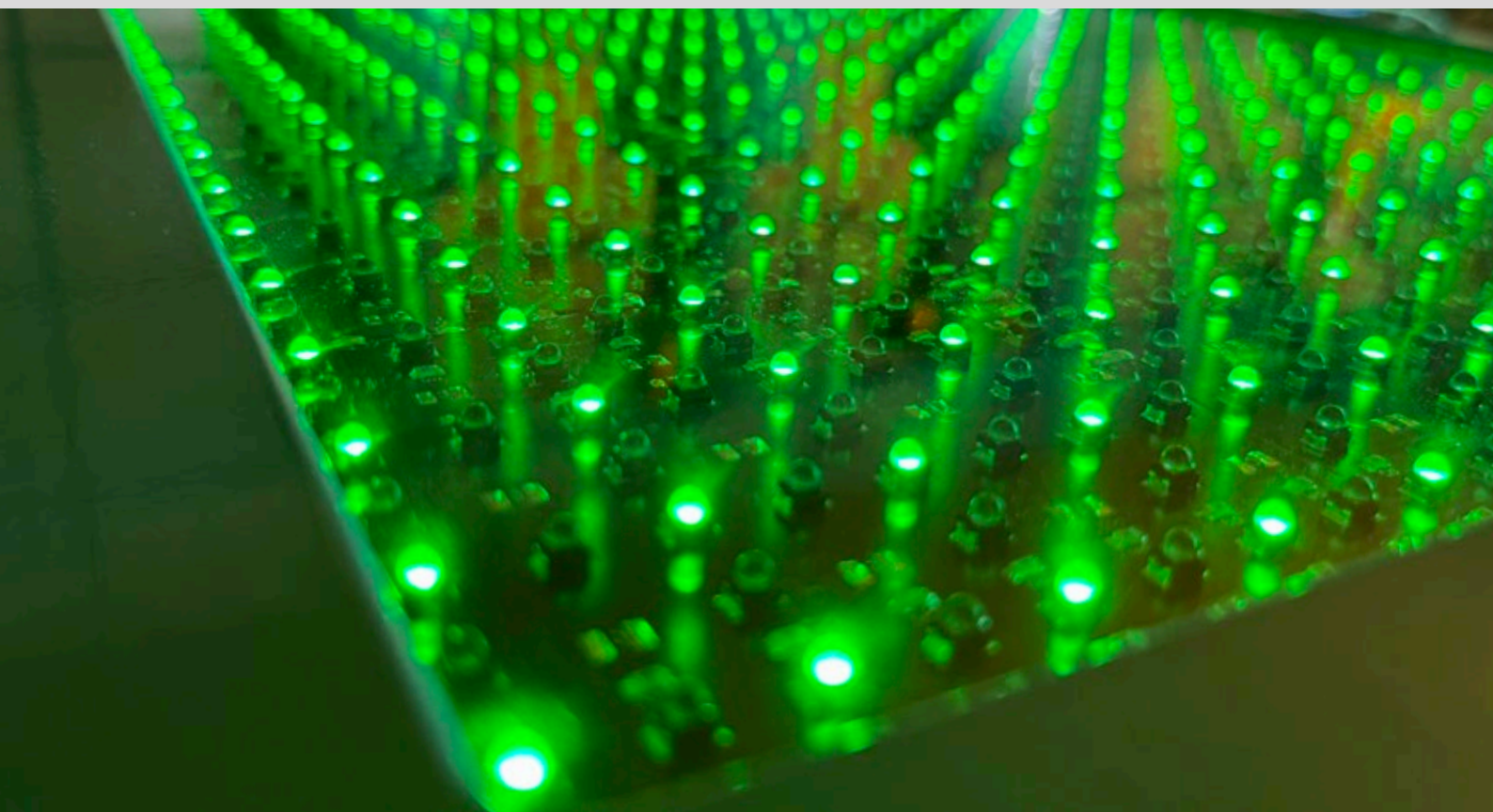
LED TECHNOLOGY

EFFICIENCY | COMPETENCE IN ANVIS / NVG

LED technology is more efficient than traditional lighting due to its superior energy conversion and durability. LEDs (Light Emitting Diodes) use up to 90% less energy than incandescent bulbs.

They also emit light directionally, which means minimal loss in dispersion, unlike fluorescent or incandescent lights. LEDs have a much longer lifespan — up to 25 times longer than traditional bulbs—further lowering costs and waste. This efficiency makes LEDs an environmentally friendly choice, reducing both energy consumption and the need for frequent replacements.

In addition to the inherent efficiency of LED technology, our health monitoring feature maximizes performance and reliability. By continuously tracking key parameters our system can detect early signs of wear or potential faults. As a result, the overall system operates at peak efficiency with fewer interruptions and repairs, reducing operational costs and extending the lifespan of each unit.



LATEST NEWS

STRONG PARTNERSHIP



Optonaval is committed to providing the world's navies with the best HVLA systems on the market. Since our foundation, we have completed numerous successful projects and have satisfied customers worldwide

Recently Optonaval's HVLAS has been selected to be included in the latest German frigate program. All 6 new F126 of the German Navy will be equipped with our latest components. This will support all aircraft operations of this new frigate class.

“For Damen Naval it is always a top priority to identify and choose the leading suppliers of cutting-edge technology”, explains F126 project procurement manager Dirk Henneberg. “We are convinced that Optonaval is offering the best system and, at the same time, we are glad to have identified yet another German supplier as our partner in this ambitious newbuilding programme.”

The Optonaval HVLAS system is specifically designed to meet the operational requirements of the new generation of marine NH90 Helicopters, particularly with an emphasis on Night Vision Operations.



Optonaval GmbH
Stenzelring 18
21107 Hamburg
Germany

+ 49 40 60 94 49 0 - 0
info@optonaval.de
www.optonaval.de

© Optonaval GmbH

ON NAVY Brochure 10/2024



www.optonaval.de