

PRESS RELEASE

VAF INSTRUMENTS' AWARD-WINNING IVY® SYSTEM INDEPENDENTLY CERTIFIED BY VERIFAVIA

*Energy efficiency reporting system enables easy, automated compliance with
EU MRV and IMO DCS regulations*

LONDON, PARIS, & DORDRECHT – 9 October 2017: Verifavia, the world's leading emissions verification company for the transport sector, today announced that it has fully certified VAF Instruments' IVY® Propulsion Performance Management system against the European Union's (EU) Monitoring Reporting and Verification (MRV) regulation requirements.

The award-winning IVY® system has been designed to automatically monitor and report voyages, it significantly streamlines both the EU MRV and IMO DCS compliance processes for fleet managers, shipowners, and operators. In addition, it provides useful insights into the performance of a ship's hull, its propeller, and engine, which ship owners can translate into savings on their vessel operations.

With inbuilt sensors and fuel oil flowmeters, the IVY® system conducts several cross-checks for advanced performance analysis, ensuring accurate fuel oil consumption data is obtained. Ships equipped with the full system will be able to achieve compliance with minimal manual action required.

Erik van Ballegooijen, R&D team coordinator and technical consultant for hydromechanics, VAF Instruments, commented:

“As a market leader in maritime measurement systems, we pride ourselves on providing solutions that enable the shipping industry to obtain actionable insights into a vessel's propulsion performance. We're proud to have been able to optimise IVY® to not only support ship owners and operators in complying with EU MRV and IMO DCS regulations, but also to enable the achievement of tangible fuel savings onboard, resulting in an overall reduction in operational expenditure.”

Over the years, VAF Instruments has developed advanced algorithms capable of automatically interpreting Big Data to create Key Performance Indicators (KPIs) on which decisions for ship performance optimisation can be based. This Performance Management solution by IVY® – which is based on measuring the thrust of a ship's propeller – includes the automatically performed enrichment of Big Data.

To achieve full certification, the IVY® Propulsion Performance Management system had to

undergo a thorough review against the requirements of the EU MRV Regulation 2015/757. In addition, VAF Instruments had to demonstrate that its system meets the MRV data collection requirements and follows the best practices set by the ISO standard 25051 on software engineering.

Nicolas Duchêne, Technical Director, Verifavia Shipping, commented:

“Our experienced team of EU MRV and IMO DCS auditors were impressed with the sophistication, process, and functionality of the IVY® Propulsion Performance Management system. In addition, the VAF instruments team was very efficient and professional throughout the entire certification process, and we have every confidence that their innovative system will accurately and transparently support shipping companies in complying with the EU MRV Regulation but also with the IMO DCS regulation further down the line.”

According to the EU MRV regulation, shipping companies with vessels exceeding 5,000 gross tonnage (GT) and calling at an EU port on or after January 1st 2018 for commercial purposes must report fuel consumption and carbon emissions on all voyages, as well as emissions while at berth. Additional required information includes distance travelled, time spent at sea, details of the cargo carried, transport work, and average energy efficiency expressed in fuel consumption or carbon emissions per distance or per transport work.

In addition, the IMO has outlined a roadmap through to 2023 which is focused on developing a comprehensive strategy for the reduction of GHG emissions from shipping. In April 2015, the IMO's Marine Environment Protection Committee (MEPC) agreed to mandatory requirements for ships to record and report data on their fuel consumption. At MEPC70 in October 2016, it was decided that these requirements would be adopted as modifications to MARPOL Annex VI.

The IVY® system is fully automated, and enables ship owners and operators to easily collect all relevant data required for compliance with the IMO Data Collection System (IMO DCS) and the EU MRV regulations.

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About Verifavia Shipping:

Verifavia Shipping, and Verifavia Shipping Hellas which serves the Greece and Cyprus-based shipping market, strives to be the maritime industry's first choice for the provision of efficient, competitive, and flexible emissions verification information and services worldwide.

By combining its innovative approach and streamlined procedures with the technical expertise and industry knowledge of its team, Verifavia Shipping provides a top-class service that ensures its customers experience a smooth verification journey.

For more information about Verifavia Shipping, visit <http://www.verifavia-shipping.com>. For up-to-date information and news about the MRV Regulation, follow <http://twitter.com/VerifaviaMarine>.

About VAF Instruments:

VAF Instruments' mission is to reduce the environmental impact of fuels and other liquids used and processed by industries. They do so by developing innovative and accurate measurement solutions that create and increase awareness about inefficient operations and show where improvements can be made. Since 1938, VAF Instruments has supplied cutting-edge solutions for fuel efficiency, propulsion performance and environmental compliance. As the

most preferred supplier of the top 100 shipyards worldwide, VAF Instruments is considered as specialist in developing and manufacturing measurement and control systems for the maritime and process industry.

For more information about VAF Instruments, please visit <https://www.vaf.nl/>.

Media enquiries:

Kwilole Chisuse van der Boom:

E: kwilole@blue-comms.com

M: +44 (0) 7885 463 927