

Session 3 – 27 October 2020, 9:00 a.m. U.S. Eastern Time (6 a.m. Pacific, 1 p.m. London)

Speakers: Luigi Francesco Minerva and Francisco Miguel Montero

Position: Senior Project Managers

Affiliation: Maritime Institute Research Netherlands (MARIN), Wageningen, The Netherlands

Presentation Title: MARIN's Work on Hydrofoils

Abstract:

In the past few years, MARIN has carried out two pilot model test campaigns in order to develop the model testing capacities for these kind of craft. This has been driven by a clear industry interest and the development of new technologies that make foiling a more feasible solution than in the past.

As in any pilot project, most of the outcomes of these projects come in the form of important lessons learned. The purpose of this presentation is to share this work and more importantly the lessons learnt to move forward with a combined numerical and experimental approach for the investigation of foiling crafts.

Bios:

Luigi Francesco Minerva is a senior project manager in the Ships department (Division Yachts) at MARIN. He graduated with a MSC Naval Architecture and Marine Engineering from University Federico II of Naples (Italy) in 2012, and has been working in The Netherlands at MARIN since 2013 as a project manager concerning powering aspects (involving design advice, hull form optimization, performance predictions with CFD and/or model testing). Luigi has a deep interest into the ship design from a multidisciplinary point of view and into the possibilities of continuous integration of innovations in the ship design itself. Most of the free time is still spent in the water with watersports such as kitesurf and sailing a beautiful catamaran co-owned with his colleague Francisco Miguel Montero.

Francisco Miguel Montero is also a senior project manager in the Ships department of MARIN. He graduated as a naval architect from the Technical University of Madrid in 2008. After working for 4 years in the Maneuvering and Seakeeping Basin of El Pardo Model Basin, in Madrid, he went to the University Of Michigan (USA) to further his studies in the field of hydrodynamics, with a strong focus on lifting surfaces such as hydrofoils. From 2014 he has been working at MARIN with seakeeping projects and research projects on hydrofoil dynamics.

Speaker: Bruno Bouckaert

Position: Commercial Director

Affiliation: Hull Vane BV, Wageningen, The Netherlands

Presentation Title: Hull Vane®: Applying partial hydrofoiling to improve the performance and seakeeping of ships and boats

Abstract:

Hydrofoils have been used on very light, very fast vessels for over 100 years. Research for America's Cup sailing yachts by hydrodynamicist Peter van Oossanen in the early 2000's led to a patented application of a hydrofoil for displacement ships, called Hull Vane®. This presentation will show how the Hull Vane® is used to improve the efficiency and seakeeping of ships operating in the transitional speed range, essentially by converting (waste) energy of the stern wave into forward thrust. The working principles will be explained, and the application range and the benefits of the Hull Vane® will be illustrated by examples of installations. An insight will be given into how Hull Vane® is optimized for each ship by Computational Fluid Dynamics, and in which cases Hull Vanes are built of steel, aluminium or composite. The application range of three new products will also be briefly introduced: the Dynamic Hull Vane®, the semi-custom Hull Vane® and Foil Assist by Hull Vane, which is a partial hydrofoiling application for fast planing boats.

Bio:

Bruno Bouckaert is the commercial director of Hull Vane BV, a Netherlands-based company specialized in the design, construction and commercialization of submerged wings to improve the performance and seakeeping of ships and boats. He graduated with an MSc Naval Architecture from the University of Ghent (Belgium) in 1999, and was living and working in Portugal and Finland until he moved to The Netherlands in 2004. He has worked for many years as a class surveyor and as an independent naval architect, mainly in the superyacht industry. Since its start in 2014, Bruno has been commercial director of Hull Vane BV. He has a very keen interest in innovation, hydrodynamics and efficiency, and can often be seen on wind- or paddle-powered foiling or planing craft after working hours.

Session 4 – 30 October 2020, 12:00 p.m. U.S. Eastern Time (1pm Tokyo, 3pm Sydney)

Speakers: Kentaro KAI, Kenichi KITABAYASHI and Takeo UI

Position: (see below)

Affiliation: Kawasaki Heavy Industries Ltd, Kobe, Japan.

Presentation Title: Kawasaki Jetfoil Production Restart

Abstract:

The Jetfoil passenger hydrofoil, featuring automatic control, fully submerged foils and waterjet propulsion, was originally developed by Boeing Marine Systems in the 1970's with the first craft launched in 1974. Boeing built a combined total of 26 Model 929-110 and revised design 929-115/117/119 Jetfoils up to 1986. After concluding a license agreement in 1987 to take over Jetfoil manufacturing and sales rights from The Boeing Company, Kawasaki Heavy Industries Ltd (KHI) built 15 Jetfoil model 929-117's between 1989 and 1995. The -117 model was a further refinement of the Jetfoil

design. The majority of the Kawasaki-built Jetfoils were for the Japanese market, however a pair was also delivered to a Spanish operator.

In 2017, KHI restarted production of a new Jetfoil. This latest order represents the first Kawasaki Jetfoil to be manufactured in 25 years. The new craft was launched at the KHI Kobe Works in March 2020 and named 'Seven Island Yui'. Joint owners of this Jetfoil are Tokai Kisen, Co., Ltd. and the Japan Railway Construction, Transport and Technology Agency (JRTT).

The presentation will provide general information about the Kawasaki Jetfoil including its systems, an overview of current Jetfoil services in Japan and the construction story of 'Seven Islands Yui'.

Note: Discussion of some aspects of the Jetfoil will be constrained by Non-Disclosure Agreements between Kawasaki and other companies.

Bios:

Kentaro KAI, born in 1977, graduated from the Department of Commercial Science, Waseda University, Japan in 1999. He joined Kawasaki Heavy Industries Ltd (KHI) the same year where he was assigned to the Business Section of the Sakaide Shipyard. In 2004 he became Assistant Manager of Ship Sales Dept. 1 at the KHI Tokyo Headquarters. In 2010 he was assigned as the Manager of KHI (UK) Ltd before returning to Japan in late 2013 as the Manager of the Business Section of the Sakaide Shipyard. In 2018 he was appointed as Senior Staff Officer of Ship Sales Dept. 2 and most recently, in 2019, became Deputy General Manager, Jetfoil Project Manager Ship Sales Dept. 2.

Kenichi KITABAYASHI, born in 1971, graduated from the Department of Naval Architecture, Faculty of Engineering, Kyusyu University in 1997. He joined Kawasaki Heavy Industries Ltd (KHI) the same year where he was assigned to the Hull Construction Design Section, Ship Design Department, General Technical Office. In 2011 he was assigned as Manager of the Hull Structure Designing Section of the Ship Design Department, Engineering Division of KHI. In 2017 he became Manager of High-Speed Ship Designing Section, Initial Design Department, Engineering Division of KHI.

Takeo UI, born in 1979, graduated from Graduate School of Engineering, Department of Mechanical System Engineering, Nagoya University in 2005. He joined Kawasaki Heavy Industries Ltd (KHI) the same year where he was assigned to Machinery Outfit Design Section of the Engineering Division, Ship & Offshore Structure Company of KHI. In 2012 he was assigned to the Machinery Planning Section of the same division.

Speaker: [Sergey Korolev](#)

Position: Member of the Board, JSC Alexeev Central Hydrofoil Design Bureau

Affiliation: JSC Alexeev Central Hydrofoil Design Bureau

Presentation Title: [Hydrofoils JSC "Alekseev Design Bureau" Overtaking Time](#)

Abstract:

This topic is presented in several sections demonstrating the vision of JSC Alexeev Central Hydrofoil Design Bureau, current achievements of the company and products manufactured, using a video series dedicated to high-speed vessels.

JSC Alexeev Central Hydrofoil Design is a steadily developing enterprise with a strong scientific, engineering and experimental capacity which combines the design, construction, maintenance and modernization of high-speed vessels.

The second part will dwell upon modern high-speed vessels of various passenger capacity and cargo capacity, which allow solving almost any task of providing high-speed transportation on water routes. The focus will be on developing a number of unique projects in the field of high-speed shipbuilding (hydrofoils and ekranoplans) which are characterized by fuel efficiency, passenger and crew comfort, as well as safety.

These projects include the high-speed boats Dolphin, Sagaris and Marlin; river passenger vessel Valdai-45R and marine vessel Kometa 120, which are built commercially in series and deservedly in demand in the Russian Federation and among foreign partners; and river hydrofoil Meteor for 120 passengers laid down in 2019 and prospective hydrofoil Cyclone for 250 passengers.

Promising work on ekranoplans—sea multi-purpose ekranoplane Chaika-2 as well as the development of an ekranoplan for 40 passengers in river and sea versions— will be highlighted separately.

Bio:

Sergey Korolev is a member of the Board of JSC Alexeev Central Hydrofoil Design Bureau.

Higher Education: Saint Petersburg State Electrotechnical University

From 2000 to 2013, he served as a Project Manager engaged in launching various projects, launching new products to markets, as well as holding the position of General Director of various companies.

Working in JSC Alexeev Central Hydrofoil Design Bureau since 2013, he is a member of the company's Top Management, participated in the revival and reorganization of the enterprise and its further innovative development, especially in terms of expanding the product line of speedboats and hydrofoils, as well as the formation of a professional team.

At the same time, he is the author of patents for speedboats, including one of the latest: a high-speed boat on hydro-skis.

Currently he is involved in managing the company's activities and is a co-author of the company's overall development strategy. He represents the interests of the Bureau in the Russian market as well as in the markets of foreign countries, and participates in foreign economic activities and development of the marketing direction. He is the Head and author of multilateral projects with Russian and foreign partners and participant of a number of international events. He is the author of various articles in this industrial sector.