Federation of Model Engineering Societies

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# New Tugs and other working vessels

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Seawork for the Marine Model Engineer This annual show is free to visitors and is a tremendous source of information for the marine model engineer. When collecting resources to show in this newsletter, your editor was offered copies of original line drawings, technical details and possibly all that a marine model engineer could wish for. You just get in touch! “Seawork is a 'one stop shop' for buyers, providing access to the commercial marine and workboat markets. It is the largest European commercial marine exhibition held at the prestigious Mayflower Park venue in Southampton, SO14 2AQ, United Kingdom. For over 21 years Seawork has offered a unique combination of undercover exhibition space, open air demonstrations and floating displays. The exhibition encompasses:

· 18,000m$^2$ of undercover space spread over two purpose-built exhibition halls

· Purpose built pontoons for more than 70 vessels and floating exhibits.

· Demonstrations out on the water

· Quayside area for trailers, large exhibits and outdoor demonstrations

· Excellent conference and meeting facilities

Here are four good reasons to attend: (Suitably adjusted for the Model Engineer)

1. Walk away with a head full of new ideas and concepts to help you in your job (hobby?!).

2. See in-depth examples of how money can be saved in workboat operations. Our packed programme of conferences, events, demos and competitions provide a productive background buzz throughout Seawork's fully occupied exhibition and display areas. (Expands one’s horizons!)

3. Make new contacts (and obtain plans and other resources). - Seawork attracts over 610 exhibitors and 7600 visitors from all over the world.

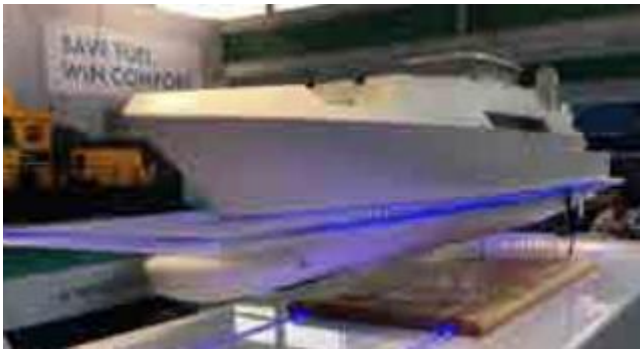
4. Have a great, (free), day out - there is no other event like it! It is the largest international commercial maritime exhibition and business forum held at the prestigious Mayflower Park venue in Southampton.

Some examples of what Seawork 2018 had to offer:

**HULL VANE ENERGY SAVING, IMPROVED SEAKEEPING**

The Hull Vane® is a patented fixed foil located below the stern of a ship, for fuel saving and improved seakeeping. The Hull Vane influences the stern wave pattern and creates

The Hull Vane® was invented by Dr. Ir. Pieter van Oossanen and is protected by patents in all major shipbuilding countries. Established by Van Oossanen, a household name in ship optimisation, Hull Vane B.V. is operating as an independent company since 2014.

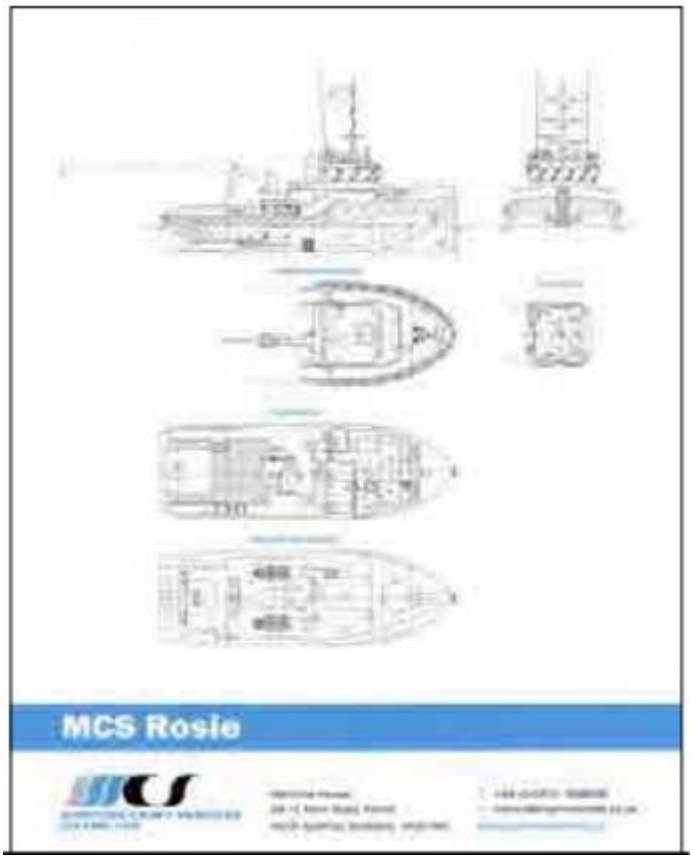


hydrodynamic lift, which is partially oriented forward. This results in a reduction in of the ship's resistance. The performance of the Hull Vane® depends on the ship's length, speed and hull shape in the aft sections, and ranges from 5 to 15% for suitable ships. In specific cases, savings up to 20% are possible. The Hull Vane® was invented by Dr. Ir. Pieter van Oossanen and is protected by patents in all major shipbuilding countries. Established by Van Oossanen, a household name in ship optimisation, Hull Vane B.V. is operating as an independent company since 2014.

**A Damen Shoalbuster 2609 "Rosie"**


Of all the new tugs reported in Maritime Journal it is the Damen Shoalbuster that consistently attracts attention. The reason is that since the first prototype was completed in 1995 the Shoalbuster has become an increasingly popular design that continues to evolve, often in spectacular fashion. This report reinforces that view. Over a period of just a few months several examples of this popular Damen product have been delivered to their owners and each is different and noteworthy. The Shoalbuster was originally designed and developed as a joint project between Damen Marine Services and their neighbours, the Damen Shipyard at Hardinxveld in the Netherlands. The primary aim was to produce a vessel that would enable marine contractors to operate on site in shallow waters, carry out a wide range of lifting, anchor handling and transportation services, yet also have a significant coastal towing capability. Since the introduction of the first vessel 'Shoalbuster', designated the Shoalbuster 2309, development has continued unabated and to date approximately 35 vessels have been built in a variety of sizes (from 19m to 32m in length) and configurations. Throughout the life of the Shoalbuster project the design process has been driven by the needs of Damen's various clients in the dredging and marine civil engineering business

A real breakthrough came in 2004 with the first three tugs of a new Shoalbuster type, the 2609. Although all of the major features of the original shallow draft design were retained, the new tug had a raised foredeck, a redesigned superstructure and more power, all of which were required to enable the vessels to comply with Bureau Veritas classification and meet Dutch Shipping Inspectorate rules for 'Unrestricted' and GMDSS Area 3 operation. These compliances enabled the Shoalbuster 2609 to carry out all of the duties associated with a shallow draft tug but also to undertake deep sea towage operations with contracting plant. Although Shoalbusters of the original design regularly carry out coastal and short sea operations, restrictions placed on maximum distances (in some cases 60 nm) from a safe haven were no longer acceptable to some operators. Named Amstelstroom, Tarka and Camperduin, this first trio built to the 2609 design led to several further orders and the continuing development of seagoing variants.




**Damen Fast Crew Supplier 2610**

Performance

| | |
|---|---|
| Sprint Speed | 26 knots |
| Cruising Speed | 22 knots |

Accommodation

Heated and air conditioned passenger salon with suspension sears for 12 persons with work tables and UK & Euro 230v socket outlets. Galley are with all amenities and a heads compartment with shower. Crew sleeping accommodation in 3 x twin cabins

Main Engines—2 x Caterpillar C32 TTA.

**Eurojack 3923, purpose-built monohull jack up barge**

The NP 497, an EuroJack-Up 3923, is a new multi-purpose jack-up design. With a variable deck load of at least 750 tons, a moonpool of 12×4.7 meter, accommodation for max 12 persons and optional DP2, this EuroJack-Up can be used for a large variety of operations in coastal and offshore regions up to 40 meters water depth.

The first project for the Eurojack 3923 is at Hinkley Point C to construct a new 500 m marine jetty that will be used to bring materials ashore for the construction of the power station.

**Marine Suspension Technology**

Nauti-Craft Marine Technology separates the vessel's hulls from the deck and superstructure via a 'passive reactive' interlinked hydraulic system which provides increased levels of ride comfort, control and stability. Whole body vibration (determined according to ISO 2631-1) is reduced by up to 75% compared to a conventional vessel. This provides the highest levels of protection against personnel injury, long term health effects and operational fatigue.

The Nauti-Craft deck attitude control system enables the deck to remain horizontal in rough seas. This system maintains a stable deck to facilitate a wide variety of marine operations including enhanced boat to structure or boat to boat transfers, accepting containers, crane operations, firing platforms, or any form of marine operations where a stable deck would be an advantage.

***Marine Model Engineers use radio (remote) control, . . . and so a tug in the world's first remote commercial tow:***

The first commercial voyage of a remote-controlled tug took place in June 2018, with the vessel then heading to Marseille for ITS 2018 from 25 to 29 June. Four years after the innovative Giano tug concept was unveiled at ITS 2014 Hamburg, the compact first-of-its type is preparing to tow a cargo-carrying, 10,000 dwt ocean barge on a 400 nm voyage between ports. A full crew complement will be on board the tug, but much of the vessel's operation en route will be carried out from an office in Naples.

For chief designer Dr Ugo Savona, the voyage will be the culmination of the three-phase project to bring his design to reality and the market as a ship-handling and escort tug he believes is more stable and more manoeuvrable than anything else that is currently operating. The first phase saw Giano built and, in 2015, take to the water. Phase two has seen extensive testing and a succession of client tug masters, skippers and pilots spending time behind the controls - quickly, according to Savona, getting to grips with its operational simplicity.

The remote-controlled commercial voyage will be the third phase, relying on what Savona refers to as 'small data' direct machine-to-machine connectivity by internet, with enhanced cyber security, rather than via third-party servers.

Another feature built into the 24m design is in-line twin thrusters at the bow and stern - albeit an idea previously used on a tug in 1874. This maximises the tug's stability and manoeuvrability, allowing full bollard pull in any direction and athwartship bollard pull at 100 per cent power.

The result is a tug invulnerable to girting, says Savona, and one that can achieve 70 tonnes of bollard pull on all towing points with just 10 degrees of list. The tug has also been certified by Lloyd's Register as being in compliance with the new, revised IMO code covering impact stability passed at MSC 97 and coming into force on 1 January 2020.

. . . And in conclusion, marine model engineers, sail, sail safely! Container ship waiting to be pulled off!