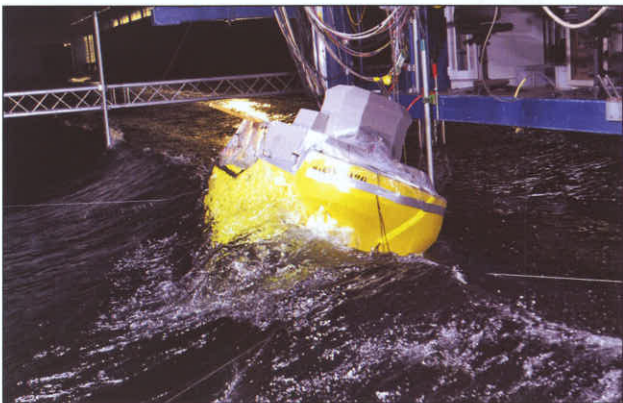


Three million euro project concludes

The Dutch MARIN organisation's SAFETUG project on tug performance in waves concludes during ITS 2010. From the very start, the SAFETUG project has been closely associated with the biennial event. ITS 2002 in Bilbao gave the first opportunity to discuss with potential participants the start of a joint project on tugs operating in waves. It was due to the oil majors (BP in particular) that the project had its kick-off meeting in 2004.

Issues addressed were the performance and safety of tugs in exposed conditions.

A huge amount of information was collected on tugs sailing at speed and low speed in various wave conditions and operating modes (such as active escorting, direct towing, stand-by, close in to offshore vessels etc). Ultimate wave conditions and tug-vessel interactions, as well as possible ventilation behaviour, was also investigated. A start was made on winch and tug design improvements.



Since then a follow up project was started at ITS 2008 Singapore. It focused on tug design for minimising roll motions (the limiting motion in higher wave conditions) and improved and extended winch modelling. The latter created possibilities to determine offshore downtime operation and the rationalisation of winch specifications (hydraulic or electric). Further attention was given to the human operator limits through investigations on a motion platform simulating tug operations in waves. The underlying tug modelling in the simulator is based on the earlier SAFETUG study results of tugs operating in waves.

The full set of data will only be distributed in public in 2012 at the earliest due to project agreements, however the project members are believed to be already using the data in various projects ranging from design, to operation. The large group of participants involved ascertain that the knowledge gained will soon find its way to the industry in general.

The SAFETUG group will continue to exist as a 'tug operation platform' sharing its experience in the use of the produced software and data as well as in real-life operations. It is believed that the SAFETUG website, which includes alongside the data and software a tug 'Wikipedia', will contribute to the further exchange and definition of common studies within

this unique cross-industry group. It has been recognised by all members as a platform contributing to bringing the tug industry to increase its value for money.

In an impressive list of over 30 top industry names, the SAFETUG participants include eight oil majors, Bureau Veritas, Lloyd's Register and ABS amongst the class societies, no less than 10 of the world's leading tug operators and all the pre-eminent tug designers such as Damen, Robert Allan Ltd, Wärtsilä and Worldwise Marine. The balance is made up by vital equipment manufacturers such as Markey, Rolls-Royce and Voith.

● MARIN: Stand no 74



Palfinger systems GmbH of Salzburg, Austria has incorporated Palfinger systems (USA) Inc in Missouri City, Texas, less than 20 miles south-east of central Houston and well served by several adjacent local airports. This is the third new Palfinger systems sales- and service-company following the establishment of Palfinger systems Turkey in October 2008 and Palfinger systems (SEA) Pte Ltd in March 2009.

Aimed at playing a leading role in developing and supporting the marine crane manufacturer's business in both the USA and Canada, the new US facility will be led by its regional director, Don Gollott.

"We are committed to our customers and have a long term focus. We want a local presence to be able to communicate closely and give the best possible support.

"The marine business is worldwide and that is why we are establishing global footprints in strategic global locations," said Michel van Wees, Palfinger systems' managing director.

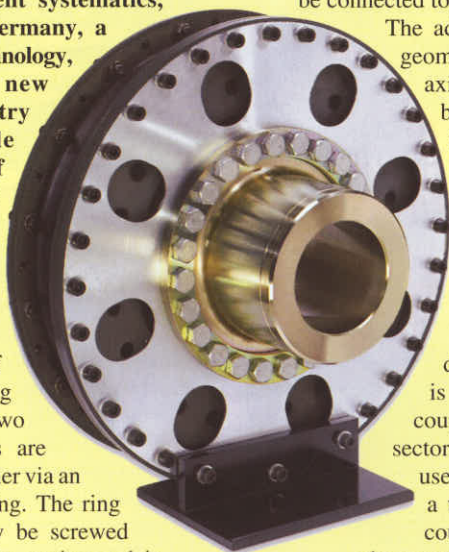
A leading supplier, Palfinger systems offers cranes for the most diverse and arduous applications with a range that comprises foldable knuckle boom cranes, including heavy duty versions and both stiff and telescopic boom cranes. All safety components are hydraulically controlled. No electrical system is required to establish the safety requirement of the classification societies or local directives. This guarantees ease of maintenance and a very high level of safety.

● Palfinger systems: Stand no 18

Coupling with superior characteristics

Using modern simulation methods and suitable development systematics, Stromag AG of Germany, a specialist in drivetech technology, has developed a new diaphragm geometry for highly-flexible couplings. One of the advantages of the new geometry is reduced axial stiffness.

Stromag's series TRI-R couplings consist of one or several ring elements, whereby two metal circular rings are connected to each other via an elastomer circular ring. The ring element can directly be screwed to the flywheel of an engine and is connected to the hub via a diaphragm.



Accordingly designed, two shafts can also be connected to each other.

The advantage of this new geometry is the reduced axial stiffness which is based on the fact that, in case of offset, less reaction forces are led into the drive line and there is no loss of endurance strength.

An additional benefit of this new diaphragm geometry, is that cooling of the coupling in the inner sector is improved. The user now has available a technically optimised coupling with superior characteristics.

● Stromag: Stand no 100