

Turn-key mooring solutions secure quick turnarounds

Terminal operators are increasingly turning to management systems capable of handling the full range of LNG carrier berthing functions

Today, demand for LNG berth management systems is high, with jetty owners and operators recognising the benefits that these systems can provide. With ever-increasing vessel sizes, represented by the new Q-flex and Q-max carrier classes, safety has become an issue of even greater concern, particularly during intricate docking operations. An integrated vessel monitoring solution can allow jetties to accommodate these larger LNG carriers without the need to undertake costly infrastructure modifications.

A leading supplier of jetty management systems, Strainstall AMTS Ltd, reports that its most recent contract success is in line with the substantial progress achieved with its turn-key mooring solutions in 2006. This latest contract, which is valued at over £500,000, is for a complete Berthmanager system for the Costa Azul LNG terminal which Saipem is building in Mexico for Sempra. The Strainstall package includes remote computer-controlled quick release mooring hooks, mooring load monitoring, vessel approach monitoring and a complete Metocean system.

"The strong commercial success we achieved in 2005 has been repeated over the past 12 months," confirms Chris Forgan, Strainstall AMTS technical sales manager. "The LNG market, in which Strainstall holds a significant position, looks set to continue expanding for the foreseeable future.

"Experience has shown that clients much prefer working with a single supplier who can meet all their needs and offer bespoke packages," Mr Forgan reports. "Examples of this are the new Sagunto and Reganosa LNG import terminal projects in Spain. In meeting the needs of the operators of these facilities, we consulted in-depth with Tractebel, the engineering, procurement and construction contractor at both sites, and the terminal owners in order to provide them with a comprehensive,



The Berthmanager display unit's modular design enables it to be easily upgraded and serviced on site

custom-made system that matched their specific requirements and was suitable for all working conditions."

Strainstall continues to develop and fine-tune its full range of products. The company equipment subject to the latest upgrade is the large-digit display unit supplied as part of an overall berthing system. The new design is of modular construction, enabling the display to be easily upgraded and serviced once it has been deployed on a project location. The modular approach also makes the units far simpler to install and yields a further advantage - a design which can be customised to the varying market requirements.

The UK is amongst the new sectors embracing Strainstall's LNG berth management system technology. Although many of the company's mooring packages are currently in operation in this country, none was utilised in the LNG sector until Strainstall equipment was specified for Excelebrate Energy's brand-new Teeside GasPort facility which went into operation in February this year.

Excelebrate Energy has been backed by local partner, Murphy Group, in the construction of the



specialist terminal, which progressed from the concept design stage to becoming a functioning complex in only 12 months. GasPort is also only the UK's second operational LNG import facility.

“Strainstall was able to offer quick design turnarounds and fast deliveries, enabling the highly technical contracts to be completed in a timely and efficient manner,” points out Chris Forgan. “In addition to this project, we are currently supplying a complete mooring system to another new UK import terminal, the Dragon LNG complex at Milford Haven in south west Wales, which is due onstream later in this year.”

A prime current focus for Strainstall's technicians is the imminent arrival of the large Q-flex and Q-max ships of 210,000m³ and 265,000m³ respectively. There is pressure to handle the port visits of these giants to a timescale that does not differ much from that in which a conventional size ship of 150,000m³ is turned around.

Against this background, terminals particularly need to be able to monitor a number of parameters during a docking operation. These include speed of approach and fender impact speed, environmental and oceanographic data, mooring line tensions, the movement of the hull once moored and movement of the loading arms.

Systems for these much larger ships need to be integrated into a user-friendly, human/machine interface to allow easy monitoring and logging of data. This data often needs to be transmitted to port offices, tablet PCs, pagers or EEx-certified displays at other locations on the jetty and/or vessel via telemetry or fibre optics.

Strainstall's fully integrated Berthmanager system is based on over 40 years of experience



Strainstall markets Stevens quick-release mooring hooks

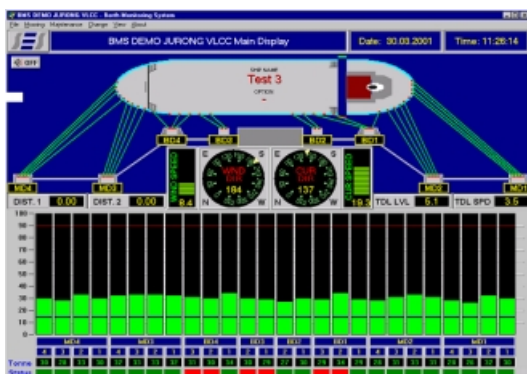
in load and force measurement, and is designed to assist mooring masters by providing surveillance of mooring and vessel-related parameters during the approach to the jetty and while moored. All values are processed and presented on a PC-based control room display; this provides graphics and lists all critical data.

To date, Strainstall has supplied over 100 BerthManager systems worldwide, including all the mooring monitoring equipment for Japan's many gas import terminals. The company continues to hold a 100 per cent share of the Japanese market, through the securing of a contract to provide a new system for the latest expansion at the Nihon LNG terminal.

“We are also continuing to refine the design of our Stevens quick-release mooring hooks, the selection of sensors, also data transmission and management systems that we employ. Our user-friendly displays also help to keep Strainstall at the forefront of developments,” concludes Chris Forgan.

Additionally, Strainstall is working with its sister company, FenderCare, to support an integrated mooring solutions initiative. This liaison will enable customers to source additional items such as fenders, deck mooring equipment, quayside furniture and specialised mooring ropes from a single supplier, once again helping the design and specifications for each terminal to be optimised.

In addition to its jetty systems, Strainstall continues to develop its StressAlert hull stress monitoring system for LNG carriers, to provide a master with real-time data on the stresses to which a ship is being subjected during both cargo handling operations and during a voyage. [LNG](#)



The PC-based control room display system not only presents mooring loads, weather conditions and oceanographic parameters but also detects any drift off