# Ship Repair Newsletter

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**Issue No:1313**
**Date: July 23rd 2010**

# Shipyard equipment

**GIBDOCK:** First use of an advanced blasting technology has enabled Gibdock to redeliver three Danish-owned containerships that required full hull blasting and coating ahead of schedule. The Gibraltar yard undertook blasting and painting for all three ships within the owner's time requirements of 29 days. However, Joe Corvelli, Gibdock Chief Executive, said that the introduction of 'Envirobot' Ultra High Pressure (UHP) Robotic System from Chariot Robotics on the third ship made a discernable difference to work-rates.

"The way the Envirobots work in any position on the hull offers clear scheduling advantages," said Mr Corvelli. "We will certainly look to use this technology again."
Widely used for high profile cruise ship, oil tankers and above ground storage tanks, the Envirobot is equally appropriate across a range of vessels. Operated by an individual, the robot uses patented magnetic air gap technology which allows it to sweep or full blast, back and forth across the hull's flat bottom, vertical sides, bow and stern shapes equally. The UHP Envirobot was used to blast 2,000 $m^2$ of hull underwater in the ship's mid-section, with wetblasting used on the curved bow and stern sections.

"The UHP standard is perfect and there is no flash rust due to the combination of vacuum and warming of the steel during the process, which causes the residual water to evaporate quickly," said Mr Corvelli. "What impressed us was the reliability of the Chariot Robotics equipment. This has been an issue with some UHP systems in the past."
The System cleans using the energy of water striking the hull's surface, operating at pressures as high 55,000 p.s.i. As no abrasives are used in the process, dust pollution does not occur and the need to dispose of spent abrasives is eliminated.

Gibdock Production Director, John Taylor, said that redelivery of the third ship had been achieved in fewer hours than her predecessors. "The technique helped us a lot," he said. "Not only was work quicker overall, but we were able to avoid the need to dispose of grit with this ship." "What we have done is to recover all of the effluent (water, paint and corrosion) using a straightforward water treatment, which allows us to deliver a surface that is ready for coating immediately after blasting," said Bruno Vasconcelos Bruxelas. General Manager, Chariot Robotics – Portugal. "There is simply no other equipment out there that allows you to do this."

Mr Corvelli said the benefits of using the UHP approach fitted with Gibdock's strategy to adopt environmentally friendly technologies. "The robotic hydroblasting complements the wetblasting technique we use elsewhere, in that the two are compatible and operations can carry on simultaneously, overall speeding up the job."

"While the wetblasting approach limits dust, the robotic UHP is even more environmentally friendly as there is no grit in its process at all," said Mr Taylor. "Therefore, total grit disposal for the job is lowered. The combination of techniques allows us to complete the job sooner."