

Evolution from design

From an African swamp-rig to the UK's most powerful rig, Prime Drilling's custom approach is helping it grow rapidly. International sales and service director Ralf Kiesow talks to *TW*

Wenden, Germany-based Prime Drilling's HDD rigs and equipment have evolved over the last 30 years. Its first customers were large companies, which had requirements for rigs with special features, so the company's designers took a step-by-step approach from the start.

PRODUCT EVOLUTION

Prime Drilling manufactures standard drill rigs from 30t to 600t force. The company deals with many large international HDD contractors and, while the company offers standard products, for those who want some special features on their rig, a team of eight designers is at hand to provide new solutions.



Recently, the company designed an 800t unit. This particular customer wanted to own the strongest rig on his continent as he is tendering for a big job.

A few months ago the company built a couple of pipe pushers, which assist drilling rigs at the pull-in operation. The pusher grabs the pipe and pushes it into the borehole. A unique clamp system ensures that the insulation of the pipe would not be dam-

aged. This system even has a 50% safety margin in the available clamping power.

After 18 months of design and testing, the company's engineers knew exactly after how much push-force the pipe would start sliding in the clamping device. This would be the point at which the clamping 'shells' would interfere with the insulation. The company has rated its devices 50% below that border-line, so that its customers will not have any risk of a faulty insulation. The unit can also work in combination with a tunnelling machine.

For two-and-a-half years Prime Drilling has been building drilling rigs for the oil-and-gas industry. These rigs can drill at angles up to

*Multipurpose
HDD rig with
integrated pipe
pusher*

Near right:
Prime Drilling
developed a
modified rig to
drain gas from
coal seams



Far right:
compact rig for
drilling in
confined spaces



Near right:
PD500 rig on
crawler tracks



Far right: frame-
mounted PD500



90° with a special pipe-loading system. The system complies with the highest safety standards of Australia, the US and Russia.

Prime Drilling is building these units up to 500t with a rack-and-pinion drive, which has the advantage of more power for the pilot hole. Especially for operations at entry angles of 45°, the rack-and-pinion system has a lot

of advantages and enables the contractor to drill longer holes.

One-and-a-half years ago the company built a swamp-rig for Africa. This rig was designed to work in a swamp area on a large oil pipeline project.

It was located far from civilization, where all the equipment had to be brought in on waterways or through the swamp. The rig is

able to sail independently through the swamp and along water channels instead of having to loading it onto barges, which is a riskier and more time-consuming method. It is claimed to be the only rig with such a capability worldwide. The company also built a multi-purpose HDD rig that also works as a pipe-pusher for the same customer.

In March this year Prime Drilling delivered the UK's most powerful HDD rig. This is a 400t machine with 150,000Nm of torque. It was delivered fitted with the Tier 4 engine, which is ahead of current EU emissions regulations.

MEETING DEMAND

Drilling and pipeline contractors are focused more and more on reliable and robust technology that is easy to maintain without excessive reliance on electronics.

Prime Drilling's machines can be maintained and repaired without the need for too much manufac- ►

turer assistance, it says. The company uses worldwide operating brands for its components, so that every customer can purchase spare parts in local markets.

More and more people in the industry understand that a low investment is only cheap at first sight. If you do the maths on the lifetime cost of the equipment, more expensive equipment would have been a better deal.

Prime Drilling has gradually enlarged its production facility and number of staff and will go on step by step, as its range of products grows wider.

2013 was one of the company's best years so far and 2014 looks equally good, the firm says. As long as it follows its philosophy, that the customer gets more than he expects, Prime Drilling can look at a full order book for 2014. ▀