

Energy Profile talks to Global Marine Systems Ltd's CEO Gabriel Ruhan about what it will take for the wind industry to meet the RO targets



Global Marine Systems is a marine technology and engineering company, specialising in the maintenance of submarine telecom cables. It also has the capability to leverage its resources for telecom and power cable installation. GMS works in four distinct markets: telecomms; renewable energy; the oil and gas industry; and defence. Global Marine has its headquarters in the UK with regional offices in Asia and the US.

"Our heritage is in the telecomms industry – we've been laying cables under the sea for over 150 years. We can trace our history back to British Telecom Marine and Cable and Wireless Marine. We started installing offshore power cables as part of a diversification away from just being reliant on the telecomms industry – we felt that there was an opportunity to translate lots of the things we had learnt over those many years installing telecom cables across into the power industry.

"Our first commercially sized project was Horns Rev, and of course, this year we have just done Horns Rev 2. We've been

# PLANNING AHEAD



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laying cables on the seabed for a long time, and we've been laying power cables to offshore wind farms for over ten years.

“Having diversified, we now find ourselves in a rapidly expanding industry where there aren't many people who have the level of expertise and equipment necessary for laying cables on the seabed.”

That move into offshore wind farms shows Global Marine has considerable confidence in the growth prospects of the offshore wind industry, but is the industry fully matured? “From our perspective – the marine engineering part of the equation – we really need some sort of stable development of the market.

“What I mean is that the rapid increase in offshore wind farms is driving the need for equipment and, indeed, people that haven't traditionally been doing this type of work. So the type of equipment simply doesn't exist in anything like the numbers that are going to be required.

“If I need to pick up 7,000 tonnes of cable and lay it in one piece in shallow water and perhaps 50-60km out into deepwater – that's never been done before. So that requires us to build new assets to tackle this type of work.”

For Global Marine to make the sort of investment needed, that must also be reciprocated elsewhere in terms of concrete commitments. “Building a cable ship is not only a serious investment in the region of £60m, it takes two to three years depending on the availability of slots at a shipyard. So in order for me to make that investment, and to be able to respond to these requirements, we need to be certain

that those vessels will be fully utilised.

“A cable ship has a lifespan of maybe 35 to 30 years. The difficulty I have in such forecasting stems from the fact that, on the surface, there is quite generous support for offshore wind development at the moment, but the current system of Renewable Obligations certification, which has been doubled for offshore wind farms, runs out around 2014.

“There's uncertainty over what's going to replace that, if anything, and in my view, if something doesn't replace it, then we probably won't continue building offshore wind farms at anything like the rate that has been predicted. As a result we will have made huge investments that won't be used in 2014.

“What's needed is more certainty about the regime that is going to exist and a firm commitment because of the investments that are required to build the necessary infrastructure. This can't be a short-term commitment.

“I don't think the commitment goes far enough for the types of financial investment that Global Marine will have to make to meet these targets.”

What about the RO timeline – is that realistic? “There's lots of predictions out there – you will have seen 70,000 jobs being touted, 33GW of electricity by 2020. Let's consider what this means when it is

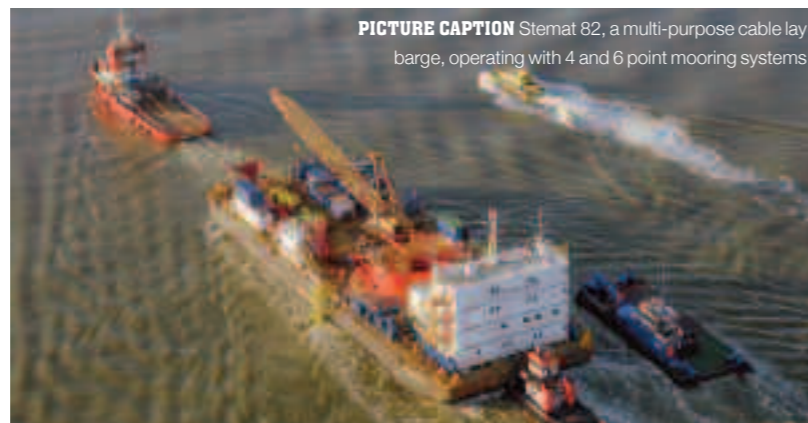
translated into the sort of things that are in my forward-looking business plan...

“If you think in generous terms that all the offshore turbines are going to be 5MW, then 6,000 individual turbine structures need to be built between now and 2020. Then consider the amount of cable that will be required – it comes out at about 7,000km to connect all of those turbines together in their individual fields. Not forgetting the export cables to transport that power back to the grid.

“That equates to about three days by the time you've collected the cable and installed it and made an allowance for disruptions caused by bad weather. So that's three days to do each of those inter-turbine cables. It works out at about 19,000 installation days, which is a stretch even if we were to work all year round, which is not always possible because of the weather. We also have to bear in mind that a lot of the targets laid out by the government are back-end loaded, ie, they won't start until about 2014.

“The UK market alone would need ten inter-turbine cable lay vessels to meet those targets. And they don't exist. Somebody is going to have to make huge investments in the long term to make this possible.

“There's a similar picture if I go through the same maths for collecting cables – we don't manufacture in the UK – we've lost



**PICTURE CAPTION** Stemat 82, a multi-purpose cable lay barge, operating with 4 and 6 point mooring systems



**PICTURE CAPTION**

TOP The Wave Sentinel was converted in 1999 as a cable lay and multi-purpose vessel  
 BOTTOM CS Sovereign is a multi-role DP2 vessel capable of undertaking both cable maintenance and installation. See her in action online

that capability, so we have to transit to another European country that does manufacture. Loading 7,000 tonnes of cable can take a long time. So by the time you have transited, loaded the cable, transited back and installed an export cable, that's probably an eight or nine-month project. Just in the UK, that's a requirement for four or five vessels.

"Admittedly we are a very resourceful nation, but I am sounding a warning. When I go to conferences I hear a lot of discussion about manufacturing turbines and lots about manufacturing jack-up vessels to be able to get the turbines into the place, but ours is a very particular speciality. Global Marine is a rare breed – there are not many people who install cables under the sea.

"Realistically we would have to be doing 15 times the work we are doing today in order to meet these targets, and I don't see where the assets or resources are going to come from in order to get it done.

"We know that it's hard to get people that have any sort of experience and that's where I think Global Marine has an advantage over our competitors in that

we've been handling cables for a long time, albeit a slightly different product. But there isn't a sufficient workforce out there that will be able to do this sort of work. How do we go about training enough people to man these vessels? We've seen contractors that have taken on this work and have failed to get it done because of lack of equipment and experience. The answer is that we probably won't meet the targets which have been set."

It's not all bad news however – Global Marine has recently won an important contract. "We are doing all the inter-array cables on the London Array project. The project has been some way coming yes, but this is partly down to the economic climate, combined with a change of heart by some of the original investors that has slowed the process down.

"The only difference with London Array is the scale. It experienced the same planning hold-ups and environmental impact surveys that it had to get past, but despite the media attention it has received, I think it has been a successful journey to fruition."

So will all future farms be of a similar size

to London Array? "I've seen some activity in China where wind farms could be potentially bigger than London Array, but realistically the turbines will get bigger but the size of the farms will continue to be scaled to the available environment."

Wind farms still experience some opposition from the public, do you see that improving? "That has been a problem, but less so out at sea. You do still see very active opponents. I saw a letter in a newspaper from a man who was convinced that since the farm had been built offshore, it was windier on the promenade! Yes there are technical issues with sonar, so there is always going to be a group of users that object to changes in their environment, but there are less with offshore. The quality of the wind is much better at sea and we can probably evolve the turbines to be more efficient." **ep**

**About Gabriel Ruhan**

Gabriel Ruhan is Global Marine's Chief Executive Officer and is dedicated to delivering the company's business plan. He has extensive business experience and, prior to joining Global Marine Systems in 2004, spent three years consolidating the US-based IT hosting and outsourcing business NaviSite. Gabriel is adept at handling the challenges of realigning corporate strategy whilst maintaining tactical momentum and puts this into effect in each of the sectors Global Marine operates in.