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Under the Sea

Global Marine Systems Limited is an international leader in the installation and maintenance of submarine cables. It has played an integral part in the burgeoning telecommunications industry since inception, and these days impacts the wider subsea cable markets globally.

Images by Ben Lister

"If you had to physically represent the internet, it actually sits on a million kilometres of subsea cable underneath the ocean."
- Ian Douglas

In 1850, the very first subsea copper cable was laid between England and France by a small paddle-driven steam tug called the Goliath. The task was undertaken by Global Marine's predecessor and it was an event that marked the start of the submarine cable industry. More than 160 years on, the underwater networks are a vital component to the world's financial, political and social make-up. It is up to Global Marine to engineer, install, maintain, and repair the cables.

"We have been very much in the telecom space ever since then," Global Marine's CEO Ian Douglas says, "from the days of the telegraph right through coaxial telephone, and then into the area of fibre optic, which of course was really when the subsea cable came into its own. The internet lives on subsea fibre cable. If you had to physically represent the internet, it actually sits on a million kilometres of cable underneath the ocean.

"We have laid about 300,000 kilometres of it since the dawn of fibre optics, which was in the 90s. So that's about 23 per cent of all of the fibre which is out there in the ocean today. We are also entrusted to maintain that cable on behalf of many of the telecom companies around the world. Even though we do our best to protect these cables, you do get fishermen dragging them up, you get ships' anchors going across them, and you get various other things damaging them such as earthquakes and subsea volcanoes.

"We are the guys who get called out to go into the middle of the ocean to repair those cables on behalf of our customers. As of now, we have done more than a third of all of those maintenance operations around the world."

Ian says he is often met with frazzled but curious looks when he tells people what he does for a living. "It's a question I get asked probably every time I go to dinner with people," he laughs. "People often puzzle about how we do it, especially when you consider that some of the cables are eight kilometres below the water surface out in the middle of the sea."

Global Marine has a number of fully staffed ships based in different parts of the ocean, as well as facilities on land. On being alerted to a fault in a cable, personnel from the closest base are required to leave port within 24 hours and transit to the fault location to fix the problem. All subsea cable locations are kept on ›

a highly accurate chart database held by Global Marine and once the fault's whereabouts has been identified a remotely operated vehicle (ROV), which is tethered to the vessel, is sent down into the ocean to retrieve the cable. It then brings one end of it up to the surface to be inspected.

"Obviously, because you are in water depths of up to many thousands of metres you don't have sufficient slack in the cable to bring it up to the ship, as you want it to be very tight to the seabed," Ian explains. "So we will cut the cable, bring one end up and test that. For example, if we are in the middle of the North Atlantic repairing a cable between the US and UK then we will bring the cable on board and we will test it to the US. If we can confirm that side of the system is okay then we will leave that cable on a buoy in the middle of the ocean. We will then send the ROV back down again, pick up the other end and then test that cable back to the terminal station in England to find the location of the fault. The fault should be reasonably close to the vessel and we will then pick up cable to clear the fault and any further damage that has been rendered by water penetration. We will then splice a new piece of cable onto the cable from the UK.

"We will then sail towards where we've left the other end and pick up the cable from the buoy. So we've got two ends of cable on the ship. One has got a couple of miles of new cable attached to it, and then we have got the cable which is attached to the US. We do a final splice to link the two ends together and then we lower that back down to the sea bed and bury it, if additional cable protection is required. This is often done in appalling weather in the middle of the ocean under quite significant time constraints with literally miles of ocean below us.

"It's not easy and of course you have got to put the cable back on the seabed in a controlled manner and you have to know exactly where it is because there might be a fault on that cable in the future and you need to be able to find it effectively. That's what's great about our business because it is interesting. When we get to take people on board the ships they are often flabbergasted by the technology of what's involved and they don't really equate using their internet connections at home to having these cables underneath the ocean."

Ian has been with Global Marine since 1995, becoming a board director in 2006 before being appointed CEO in January 2012. His role includes the coordination and support of a number of key joint ventures with partners such as Huawei Technologies, China Telecom, SingTel and others—and he is currently based in Singapore. Ian is also one of only a handful of western businesspeople to receive the Friendship Award—the highest honour presented by the Chinese government for contributions to China.

"The cooperation between Nexans and Global Marine has been constructive throughout the project from first contact to system delivery. Together, we have ensured a successful delivery of yet another challenging project." - Ragnvald Graff, Sales & Marketing Director, Nexans

Global Gets more than 50 per cent of its revenue from Asia. Ian believes it is in recognition of the company's capabilities and extensive track record that organisations on the other side of the world, such as in China, want to partner with Global Marine, which is headquartered in the UK. His experience in Asia has given him, and other company managers, a truly international perspective on operations, which has been of ample benefit.

"I was the guy who moved us into the oil and gas sector in China and we took a lot of those lessons out of that to help us to really build a new business outside of Asia. There were quite a lot of technical and commercial lessons we learned there. Because we were so strong in Asia, we became the first choice for some of the major oil and gas players in other parts of the world.

"We built a track record in oil and gas in Asia, having previously built our position there based on our track record in telecoms built in the west. That has been really positive for us. I think we will continue to actively develop business in the Asia–Pacific region. If you look at what we do—telephone and power cables—they are really linked to population and GDP growth.

"You can imagine that as a country starts to develop and industrialise, people want the most basic of services such as clean water. Then it is power and aspiring to have electrical goods, followed by a connection to the World Wide Web. That is why there has been huge growth in internet penetration in some of the developing markets, which has been very important. For us, having a legacy in Asia has really helped us to take advantage of the growth in those markets."

"We want to make sure that we have the right systems in place, retain smart people, and also make sure that we have got the right assets for the company going forward."
- Ian Douglas

The future of Global Marine looks positive as Ian and his team commit to doing all they can to remain the first choice provider in the telecoms and other offshore industries.

"We are never going to be the cheapest so it is all about the quality of what we deliver," Ian says. "We certainly see ourselves continuing to invest in our assets but our people are absolutely key. It is all about the knowledge which we build up and how we can continue to develop our people. We want to make sure that we have the right systems in place, retain smart people, and also make sure that we have got the right assets for the company going forward.

"We are quite a specialist business so to a degree we have to grow our own expertise. We have an in-house training school for some of the activities which we do, and that trains a lot of our people in the fleet. The school also offers external courses and is frequented by students globally. In terms of the younger guys, we've introduced a graduate training scheme—the first one we have ever had—which we launched in 2014.

"This is quite a changing marketplace. Technology never stands still and certainly the challenge for us in the next few years will be to bring the right assets forward. Any decision we make today about a ship, we would still be living with that ship 25 years later, so it is important to get it right. For a relatively small company based in Essex, the UK, I think we definitely punch above our weight in terms of the impact that we have around the world."