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Moderator questions in Bold, Respondents in Regular text.

KEY: Unable to decipher = (inaudible + timecode), **Phonetic spelling** (ph) + timecode), **Missed word** = (mw + timecode), **Talking over each other** = (talking over each other + timecode).

Stephen Kane: Thanks, Carl, you made it easy to follow that one. Well, good afternoon everybody, my name is Stephen Kane, and thank you very much to Invest NI, to our principal speakers for setting the scene on what's going on out there, and (inaudible 00.21) for allowing us to come along and give you a snippet of what we've been up to at Ridgeway in recent years. This very quick overview will give you a feel of who we are, the product we entered into the global marine market with, and the journey that we're currently on to establish ourselves throughout the UK, Ireland, and now within Europe and beyond. So, first of all, Ridgeway, we were established in 1969 in Ridgeway Street in Belfast, where two gents, one of which was my dad, set up a supply chain company to hire and sell access equipment to work safely at height to the local construction subcontracting trade such as painters. Humbled beginnings during a very turbulent time in Belfast, and brave for these two budding engineers and entrepreneurs who wanted to make a difference, from there developed a much-needed supply chain to building and construction businesses within the north of Ireland where we sourced products from the UK, Europe, and the USA. And we focused on added-value products and services that had innovative benefits, this is the theme throughout our business. We provided local stock, with that little bit of water, called the REC, to give people the product when they wanted it with the expertise they needed. The business then grew into Dublin in the 80s, and we set up a depot in England in Chelmsford, and we focused on first to market products and services during that time. We grew this business during the 70, 80s, 90s, and noughties, and we enjoyed building a divisional structure with world-class manufacturing, promoting these innovative products, and the concept of looking at lifetime costs and best value, this is core to our business ethos.

I joined this journey in the early 90s to plan the succession of the founders of the business and to give some new blood and energy and to build the team, some of the guys are in the room today and I'm very proud of what we've achieved so far. So, what is all this about, about rock bags, how does it link Filter Units, Japan offshore wind, and Invest NI here you ask? Well, some twelve years ago, a gentleman called Sam Knox from Invest NI knocked on my door, he's in the room here, and along with a couple of Japanese gentlemen to talk about a product called filter units. They were touring Europe and had been advised by an engineering company, construction company, here, that they should be talking to Ridgeway. Great to get recommendations from your customers, and obviously I was intrigued and couldn't wait to see what they had to offer. So, the product, a filter unit, what is it? In layman's terms, it's a bag of stones, but we very quickly learned this was no ordinary bag of stones, it was a very strong, very capable civil engineering solution to underwater scour protection and the protection of subsea structures and assets, it had massive potential. Developed originally for the great Akashi Bridge where you require a filtration layer around the caissons and foundations, the stones were washing away and the Japanese invented a system to take those stones, encapsulate them in a bag structure and provide an engineered solution, quite ingenious. Ridgeway? Well, we had many years of experience working with a thing called

gabions, and for those that don't really know what they are, they're essentially a mesh metal cage filled with stones and used for land reinforcement, preferably primarily above ground. We were very quick to see the underwater benefits of these filter units compared to the gabions in river applications and in particular establish how we could use these products into new markets such as the renewable sector and in particular flood alleviation.

Japanese started to get very excited at this. The performance and environmental attributes of the product along with an extensive track record of successful case studies in Japan amongst very, very challenging weather conditions such as south typhoons, gave us massive confidence with this supplier and manufacturer and was definitely worth investing the time in. We didn't know it at the time, but we had really started the climb of a cultural mountain with our new Japanese friends, we were excited, we learnt a lot about sashimi and shogi, they learnt a lot about Guinness, Irish crack and banter, it was a good relationship. Taking on board the Japanese's experience and the success they had in their domestic market, we invested time, learning and applying real-life problems in offshore marine in relation to the renewables and the development of offshore wind farms in the UK, which were gaining massive momentum and experience at that time, coming mostly from oil and gas. The momentum started to build very quickly, and we could apply the Japanese products and capability to real practical solutions such as scour protection, J-tube and CPS stabilisation, sea bed preparation, protection for cable and pipeline crossings, and cable and pipeline protection and pinning. But the journey needed to begin because we have to move away from these lovely graphical animations to real projects and opportunities. Of course, it isn't that simple to enter a market as offshore with such a simple solution without hard work. Educating ourselves and our prospective customers was the start of a massive journey with a lot of travel across the UK, Europe, and further afield. Understanding also traditional methods of subsea protection as it stood like rock dump, concrete mattress or the CPS protection that all had proven track records coming from oil and gas.

This was a critical path for us as we understood we would be facing tough competition and a resistance to change from the market with a long-term view this was going to be a longer journey. For example, we are a very, very small wee company from Belfast, how on earth are we going to get to knock on the door with the big boys and players out there, that was the challenge, but it's all possible. We had a product that no one ever had heard of from a country that most engineers that we went to talk to had limited knowledge and respect of the Japanese culture, technical capability, and in particular their risk-averse ethos and culture. We also believed at that time that we'd eventually get our opportunity and work with those rock dumping and mattress companies and they would recognise it as a good solution, maybe even used in combination with their own methods. From our market feedback in the UK and Ireland in those early days, our customers had already started to rename the filter unit as rock bags, we went along with it, we rolled with it. It was an uphill battle because the Japanese manufacturer was very reluctant to have their baby renamed, but they trusted us to respect their track record and develop the sales opportunities. Our hunger for learning about the industry, meeting the big players, and establishing really good social networks and relationships was our driving force, and at the same time all this was happening, of course, the Belfast port assembly site was kicking off, and that was another massive opportunity for Ridgeway, not only because we're literally right across the road from the 50-acre site, but also it gave us an

opportunity to sell our wares and build a relationship with these big boys. To get the job done, work ethic here has marked its stamp well and truly on visiting contractors over those projects involved in mega projects and has led to continued orders, not just for us but also some of the speakers here today.

We very much look forward to the future plans for Belfast and get some more work done on our doorstep. Of course, you have to prove yourself in this game, we talked about investing, putting your hand in your pocket is key. Our Japanese manufacturer had the foresight to actually patent the ideas of how the filter unit rock bags could be used offshore, and this has been hugely important as we've actually seen some people try to copy the product using cheaper plastics, fishing net technology with no testing or track record, extremely dangerous. We have learnt in an offshore, confidence in lifting and shifting is absolutely paramount. Japan has invested heavily and proven the strength characteristics and environmental safety of their products with a future-focused on innovation and sustainability. We were also quick to see the need for local European-wide testing, we had to get our CE marking, and LOLER testing. Also, we looked at some significant tests costing lots of money on hydraulic modelling at HR Wallingford to compare our product versus (inaudible 09.23) and on a monopile structure, reach tested Intertech in Germany for environmental lead sheet results, Lloyds British pull test to destruction and anchor and drop tests. Now the good stuff. Along this journey we're on, we've had really some luck, but some significant successes for which I'll give you a few examples. This one here is at Teesside EDF Energy, it's actually a world-first for the rock bag to be a proven solution for scour protection of an offshore wind and on a pile structure. In relatively shallow water depths of around eleven metres, the conditions were really challenging for the client's design (inaudible 10.06). Using traditional rock armour, the calcs just didn't work out, and they needed a solution to secure and cope with a one and one-hundred-year return period.

Wave heights were estimated, believe it or not, at up to eighteen and a half metres, and the pressure was on to get a solution, and fast. They had booked a vessel, which you see there in the slide, the (inaudible 10.25) responder, 130 metres long, and it was on its way. Using a combination of group eight-tonne and four-tonne units, and stability calcs, they were acceptable to the designer, to the client. Also, we did additional work on wavelength formula and dry-land testing. The works contractor that was engaged took us to the site, gave us a contract, and said, 'Right, let's mobilise, let's get you on-site.' To put this into perspective, as we mobilised the site, the site was the size of two football pitches with several thousand tonnes of stone and a filling contract site at Sunderland, a whole new ballgame for Ridgeway. A fast-track programme of delivery to make sure that we had filled bags (inaudible 11.09) to meet the sea install. That was almost ten years ago, a huge learning curve on working in the global offshore wind market, and also all the things that go with it that Carl referred to such as the paperwork and health and safety, the logistics, and actually local challenge as just being new kids in town working our way from home, we learned a lot and we're very hands-on. But despite these challenges, we completed the programme two weeks early, we left the contractor, went back to Belfast, and he went on to do his thing and put the bags in the sea. By the way, for those of you that can remember late March 2013, we had record storms hitting the east coast of England, we had snowdrifts in the mountain where we pulled the snow-, where we pulled the stone from, and these storms had sea tested the install to the max, never mind the one and one hundred year return.

The survey that was undertaken in late summer to assess the damage or condition of the sea bed proved that the rock bags did not move, the scour damage was negligible, this is quite remarkable if compared to other methods of protection. This is a real demonstration of lifetime cost, and something that we hope that this industry starts to consider more in the future development of subsea assets. Lessons learnt from this, you need good people around you, open communication, and you focus particularly on what you can do. Moving on to another monopile scour protection job with EON, this one here was mobbed out of Belfast, and we were working with our good friends at Doyle Shipping Group, who are here today, to provide professional handling services to Van Oord, our customer. Establishing good local supply chains are absolutely crucial for this type of rock bag business as we have now set up filling capability and capacity at most UK and Irish boat ports, moving into Europe. We're normally engaged with the marines work contractor on the cable or scour protection works and sometimes we are actually engaged by the client now, which is remarkable again given the size of our business. Another monopile scour protection job following the success of EDF at Teesside and the growing strength of the awareness of what a rock bag was capable of doing has led to significant projects overseas, for example, this one here Formosa and Yunlin in Taiwan, which were done with Boskalis and Seaway 7. These are huge projects, as you can see. Moving on to cable protection-related work, CPS protection is a highly emotive subject of much discussion at the moment, particularly cable damage linked to transmission laws and larger repair bills. It's an ongoing issue within the industry for the round 1.2 projects and also looking ahead to future projects.

We're delighted to see that rock bags are now recognised as a cost-effective solution to helping with some of these issues. A job with Orsted Race Bank for more CPS stabilisation just off the east coast of England, EDF Energy cable protection stabilisation at the Saint-Nazaire project in France, we're currently working on that at the moment, just off the Bay of Biscay, using rock bags for cable pinning and protection of the array cables due to the fact they couldn't actually trench them or bury them in that area. Another one with EON was, which was really good, was our Rampion, we mobilised out of Southampton, which for those of you probably are aware, it's an extremely busy port with-, demanding huge logistical challenges, we're delighted to, to be involved in this project for the CPS protection. An electricity cable project here with SSE using a UTROV, Utility ROV, for the install, and you can see from the photograph the sort of quality you're getting down there at reasonable depths. It's usually quite difficult for us to get photographs from our clients and subcontractors, but we're delighted to be able to use these today. Another project closer to home was on the Shannon Estuary with ESB working with Prysmian for an install of bags to pre, pre rectify the landing of the cable on, on to the ground, on to the land. As the project moves further offshore into deeper water, and we've talked about the, the forthcoming of the floating wind, we're delighted to be involved with the WindFloat project and we recognise that talking to WindFloat tier one and tier two contractors that they see rock bags as providing a very effective and economic solution. Another job with Cobra, a floating project out in Kincardine off the east coast of Scotland near Aberdeen to provide export cable for the high directional drilling points. We've now been an exclusive-, exclusively responsible for the UK and Ireland for some twelve years with our Japanese partner.

Our future direction is key now. In September 2021, we purchased the full European business from Japan and are now responsible for some 27 companies as well as Africa. We've established the dealer network in key areas such as Italy, France, Germany, Netherlands, Poland, Czech Republic, Sweden, and actually have two live filling sites now in Norway, in Bergen and Stavanger to service our oil and gas clients and look forward to the growing renewables markets in these countries. We hope to have local manufacture of the rock bags with the Japanese here in Europe, hopefully Northern Ireland, that would be great as the demand starts to grow again. Not touched on today, but our involvement in the civil engineering projects such as flood alleviation and river protection works is ongoing and spreading right throughout Europe as climate change infrastructure becomes central to government plans and investment. The protection of subsea assets and the world's sea bed as the-, as the sea-, I beg your pardon. The protection of subsea assets as the world's seabed becomes more congested with innovative means for energy transmission and storage will be central to our focus and to our delivery and we'll always keep it real and down to earth at Ridgeway, as our plan always has been, to offer an exceptional service for a unique (inaudible 17.36) product. We will tell each inquiry how many bags do you want, where and when do you want them, that's what we do, thank you very much for listening on our journey. Captions by www.takenote.co