Aqua Comms Submission

International Connectivity for Telecommunications Consultation ("Consultation")

27 November 2020

Aqua Comms DAC welcomes the steps being taken by The Department of Communications, Climate Action and Environment to focus on the importance of International Connectivity for Telecommunications in Ireland and to be given a chance to respond to this Consultation

Responses are below. Any items highlighted in ***RED*** are commercially sensitive. Aqua Comms DAC does not consent to the disclosure of this information to any third party. It is considered that such disclosure could be adverse to the interests of Aqua Comms DAC. Aqua Comms DAC requires to be consulted prior to any decision to disclose such information to any third party or made public as part of the Consultation.

Question 1

"Is there sufficient capacity and diversity of routes available to meet current and future demand over the next 5 years (or over a longer timeframe if that information is available)?"

There are currently 19 submarine cables linking the Island of Ireland to the outside world. 12 of these submarine cables land in the Republic of Ireland with another 3 in the licence application process. All but six have been in operation for twenty years or more and are close to the end of their design lives (20-25 years) which suggests that they will be taken out of service in the foreseeable future.

Only 3 of these 12 submarine cables connecting to the Republic of Ireland are on the transatlantic route - GTT Atlantic (Canada, UK and Ireland operational since 2001 and estimated to retire within the next 5 years), GTT Express (Canada, UK & Ireland operational since 2015), AEC-1 (US & Ireland operational since 2016) with the other 9 connecting the Republic of Ireland with the UK across the Irish Sea.

None of these cables connect Ireland directly to other European Union countries. As an Island, without future investment in diverse submarine cables connecting Ireland to routes beyond the UK, Ireland will remain overly dependant on the UK for its capacity requirements.

Another transatlantic cable between Ireland, Denmark and the US (AEC-2) has been in the installation Foreshore Licensing process since 26 October 2018. The AEC-2 cable was issued a Foreshore Licence (FS006889) by the Department of Housing, Planning and Local Government on 6th February 2020. The developer proceeded with its plan to commence installation between 17th and 20th May 2020, and mobilised both a specialised cable laying ship and specialist personnel to carry out the installation at substantial cost. Following the initiation of third party legal proceedings on 6th May 2020, the Minister conceded to an Order on 5th June 2020 quashing the Minister's decision to grant the licence, and remitting the matter to the Minister to be considered and determined in accordance with law. It is anticipated that this application will go to consultation again by the end of 2020. The remainder of the 7,800km AEC-2 cable connecting Denmark and the US has been completed (without the landing in Ireland) and became operational in November 2020.

We are aware of two other cables currently planning to have a landing in Republic of Ireland (IRIS which will connect Galway with Iceland (survey license was issued in September 2020 but yet to apply for installation license) and Celtic Norse (application process hasn't commenced) which is planning to connect Norway with Iceland, Scotland and Ireland. Both of these cables are planning an operational date of late 2022. Given our recent experience (of which the industry is well aware) the proposed operational dates for both cables will be challenging to meet given our current regulatory timelines for license grant.

To future proof the hugely important ICT business in Ireland, we need to ensure that there more availability of capacity and diversity of routes to meet growing demands over the next 5 to 10 years.

Please provide current capacity of international links (in absolute terms and percentage of fibre cable used/free at present) and plans for future capacity over the next 5 years (or over a longer timeframe if available).

Question 2

"What are the key challenges and commercial barriers that exist in the development of international connectivity in Ireland?"

Industry wide Challenges.

The cost of building a submarine fibre cable and corresponding funding remains the industry's biggest challenge. Of the 60+ systems currently planned to be completed by 2023, it is likely than less than 50% will secure the necessary financing and of those projects that do get funding it is estimated that more than 50% of those will be backed by one or more of the cash rich content providers.

On the supply side the industry is also currently struggling with a number of limitations. A shortage of specialist cable laying vessels, specialist shore end installation personnel and lead times in cable manufacture.

The number of vessels capable of installing such cables is limited, requiring one or more years of advance planning to carry out an installation. Currently all of the major contractors' vessels are booked up two or three years in advance, covering projects across the globe. A number of these projects have similar investors who can direct the contractors building the cable where to assign vessels.

It is difficult for a small island like Ireland to compete with more profitable cable routes to secure both funding and ship availability with the current uncertainty of the Irish regulatory system.

Specific Irish Challenges

Regulatory Timelines.

For Ireland, the biggest challenge remains the lack of a clearly defined and published process detailing clear timelines to secure a cable landing in Ireland. Without this, investors cannot plan and resource cable builds. This linked with the scarcity of vessels means that if investors want to avoid substantial standby costs and delays then Ireland is not currently an attractive option.

Ireland's ability to compete for submarine cable investment is contingent on the regulatory environment applicable to the sector changing, including the process for both planning for cable landing stations and the Foreshore licencing, so that it becomes **clear, transparent, consistently applied, efficient and timely** – indeed best in class. What is required is a **clearly defined and published process, applied equally to all with clear timelines,** allowing investors to plan and resource accurately, thereby minimizing potential delays and associated costs.

Such a process would greatly assist submarine cables landing in Ireland to compete on a level playing field vis-a-vis the rest of Europe where the processes and timelines are more clearly defined and reliable.

Draft procedural guidance as to the conduct of Foreshore License applications for Submarine Cable laying activities have been prepared by the Foreshore Unit and shared with interested parties at a meeting for the cable industry in Ireland on 25th February 2020. This was a great opportunity for both the Foreshore Unit and the Department of Communications to give the industry a briefing on the Marine Strategy and to hear directly the concerns of the industry. One of the main points of feedback from the industry is that the draft guidance do not have agreed timelines. The draft guidance has not progressed since that meeting. It is essential that this gets finalised, timelines agreed, and is published so that the industry can rely on it in relation to timing and managing these strategic projects, and rebuild confidence in Ireland as being an attractive location for both transatlantic and regional capacity projects.

Regulatory Expertise

In addition to requiring clarity on timelines for issuing of licenses, there is also a requirement to have adequately resourced and experienced personnel to deal with applications. This extends beyond just the Foreshore Unit but also the various prescribed bodies who provide an invaluable part of the consultation process.

Response times have been remarkably inconsistent for prescribed bodies' input. In one application, we had to wait over 100 days for a response from a prescribed body. In contrast, in the UK, for example, developers have powers to set deadlines for responses from consultees as long as they meet a certain minimum timeframe. The Foreshore Unit requires the ability to ensure that prescribed public bodies respond within the prescribed period and thus avoid unnecessary delays in the application process.

Once consultations are completed and a licence has been approved in principle by the Minister, there is further uncertainty as to the time it takes for the licence to be issued. The expected timeframe from Minister approval to license is between 2-4 months. Licenses for Submarine Cables compete within the CSSO with other projects and having dedicated internal or external costs could readily shorten this timeframe. (The Crown Estate uses external specialist legal resources for this reason). After the license is finally signed by both the Minister and the Applicant, there is then a 90-day period in which the grant of the license can be challenged.

The importance of a having a clear, timely and robust international telecommunications permitting system has never been more key for Ireland. The recent experience of the last two issued foreshore licenses for installation of submarine cables that were approved has exposed the resourcing and skills challenges within the Foreshore Unit with the Minster conceding to quash his own decision to grant a license for the last such case.

This has had an extremely damaging and negative effect on the industry given that in addition to there being no clear timeline in which you will be granted a license in Ireland that, even when granted, the Minister may still take the decision to agree to the quashing of his own license grant.

We welcome the recent actions of the Foreshore Unit to engage external experts to advise on the preparation of Marine License Vetting Committee Report for submarine cables. This is critical to ensure that the approval request that goes to the Minister has addressed all of the necessary environmental concerns.

Planning Permission and Foreshore Licensing

At the moment there are different regulatory regimes touching the various aspects of a cable build. There is no clear oversight and potential overlapping remit at times. The distinct aspects of the overall project are comprised of (a) building a cable landing station (CLS – local authority planning permission); (b) building the beach man hole (BMH); (c) connecting BMH to the CLS (Fronthaul – local authority road opening licenses); (d) connecting the CLS to service provider hubs (backhaul – local authority road opening licenses) and (e) installing the submarine fibre cable in Irish Territorial Waters (foreshore licence).

While these are all part of the overall Project, they are subject to different regulatory regimes and different approval timelines.

The preferred position (based on recent caselaw) is that an EIA/AA should be carried out for the project as a whole, and because the assessment is to be carried out prior to the grant of development consent and the

carrying out of the works, this does not permit parts of the project to proceed without the other parts. Due to the silo nature of the different regulatory regimes, this doesn't work with the result that parts of the project proceed without the other.

This has resulted in a less than streamlined approach to the important environmental legislation. It also doesn't work from an overall project perspective.

We note that the Maritime Area and Foreshore (Amendment) Bill intends to streamline the marine consent process through aligning the foreshore consent system with the planning system and providing for a single Environmental Impact Assessment for projects. It will also provide a coherent mechanism to facilitate and manage development in the EEZ and on the continental shelf. This is a great development as currently cable projects require planning permission for onshore buildings and a foreshore licence for the marine element. However, we would caveat that this move could also be problematic as while it has potential for improvements it also has potential for appeal through the planning board, which is a remedy currently not available under the foreshore act.

Marine users should feel confident that decisions made on applications for projects will be robust in the face of challenge, provided they are made in accordance with the policy framework set out in the marine spatial plan. We would ask that consideration be made for a conjoined marine and land process that incorporates the various requirements of EU regulations on the environment, clarifying the requirement for a screening for appropriate assessment (AA), but that does not necessary involve a public consultation and appeal process**. It would be akin to an extension of Telecom Code powers to the marine environment.**

Interaction with other sectors and, in particular, Offshore Wind Farms

We welcome the acknowledgment that submarine fibre cables increasingly underpin economic and social activity across a whole range of sectors.

The successful development and co-existence of multiple sectors will be important for the future of connectivity to Ireland. The presence of a clear but flexible plan that facilitates the competing demand for space on the seabed will be vital to this effort.

Submarine fibre cables in situ may conflict/interact unintentionally with other sectors that make contact with the ocean floor – such as fishing/dredging, laying of electricity transmission cables, oil exploration. Considerable care is taken in planning new cable routes to ensure that other marine interests, including industry assets and conservation sites, are avoided wherever possible or that coexistence measures are incorporated. For the most part cables are benign and have managed to peacefully co-exist with other seabed users until the more recent focus on offshore windfarms.

It is going to be important to establish a protocol with other seabed users and in particular wind energy due to its necessary exclusion zones, and interconnecting mesh network between turbines. They cannot be sited near submarine fibre cables, as this will significantly impede our ability to quickly, safely and efficiently repair in the event of an outage.

It is imperative, to ensure the continuing ability to access telecommunications cables is maintained to ensure that repair and remedial work can be undertaken safely, quickly and cost effectively.

The possibility of designated zones for cable assets has been mooted in the past as a possible solution. However, we are not necessarily convinced that this is the correct strategy as it will result in a concentration of cables into predefined corridors which creates an unacceptable disaster recovery risk. One incident could have a catastrophic impact on national connectivity. Our preferred approach would be an open national consultative process of planned development over time with the relevant national bodies.

Question 3

"What measures are required, including actions by the State, to alleviate the key challenges and commercial barriers in the development of international connectivity in Ireland?"

Greater industry engagement by the Government Stakeholders and understanding of the requirements of the Submarine Cable Industry is key to develop a robust and attractive environment in Ireland for international connectivity. A clear commitment by Government to datacentres and diverse, low latency connectivity to US, Europe and other locations is key.

At the moment there are a number of different government departments and agencies (Department of Housing, Local Government and Heritage; Department of Business, Enterprise and Innovation; Department of the Environment, Climate and Communications; Department of Agriculture, Food and the Marine, Comreg, IDA etc) all having an interest in submarine fibre cables but there is no overall cohesive plan or policy for proactively marking Ireland as an attractive location for such investment and for all the already defined and accepted investment that follows good connectivity.

This plan/policy needs to have the local authorities aligned with Government objectives in this area so that all local authorities (who control planning, road opening licenses etc) are equally aligned with Government policy. From our experience, the level of engagement and understanding within local authorities varies hugely from county to county and an approach similar to the Government policy on national broadband and digital infrastructure, where local authorities have broad band officers, should be considered.

The funding for today's capital-intensive submarine cable development boom is coming from the internet giants such as Facebook, Google, Microsoft and Amazon. Across all global regions, content providers added capacity at a compound annual rate of at least 75% between 2013 and 2017. This is a similar approach for Ireland. The investment of these content providers in submarine cables are for their own personal use and they do not generally have capacity available for other parties on their systems. It is important for Ireland that there is still capacity available in Ireland from non-content providers in order to continue to attract other businesses requiring such capacity. While these content providers can afford to absorb the increased costs that the uncertainty of the Irish system currently involves, in order to continue to attract the traditional telecoms and other non-content providers to invest in Ireland then there needs to be a clear defined process across all government departments to assist in this and continue to attract non-content provider investment. Equally such content providers are major investors in Ireland and can easily re-route a submarine cable away from Ireland if it considers the regulatory environment too complex and uncertain. This is clearly demonstrated by the recent decision of Apple to relocate its datacentre from Athenry.

This Consultation Paper is a great start to ensuring a more targeted approach to attracting investment of international connectivity and having a task force or agency targeted with promoting Ireland and managing investors through the process would be invaluable.

An enhanced Foreshore Licensing system which treats submarine cables as critical national infrastructure, with telecom code powers for licenced operators would crucially assist submarine cables landing in Ireland to compete on a level playing field vis-a-vis the rest of Europe where the process and timeline to land submarine cables are more clearly defined, operated in a more straightforward way and are ultimately less restrictive.

Resourcing of the Foreshore Unit appears to be a challenge. Given the multiple different sectors for which the Foreshore Unit caters, and their competing issues and timelines, dedicated resources for submarine cables (as in the UK and US) would be hugely beneficial to both the Foreshore Unit (in which expertise and efficiency would accrete) and the industry (which might rely on such expertise and efficiency). This should extend beyond just the Foreshore Unit and into the prescribed bodies whose observations are required as part of the licensing structure together with the CSSO who is involved in drafting the applicable licenses.

We appreciate the recent efforts of the Foreshore Unit to elevate submarine fibre cables to Tier 1 classification and also the appointment of a submarine fibre cable liaison resource. However, that in itself is not enough given that we are now competing directly for the time of the same resources within the Foreshore Unit with major offshore wind farm projects. We would like to see additional appropriately skilled resources available to support the good work that the team at the Foreshore Units is doing to try and get permitting in place for Tier 1 infrastructure and, in particular, submarine fibre cables. This recommendation would extend to having the prescribed bodies properly resourced to be able to respond within prescribed periods.

As previously mentioned, it is going to be important to establish a protocol with other seabed users and in particular wind energy. maintain our ability to quickly, safely and efficiently repair in the event of an outage.

Question 4

"Given that the most recently deployed and planned submarine cables on transatlantic routes have landed on the west coast of Ireland, are there likely to be any issues with onward connectivity from the landing station to service provider hubs and data centres?"

There is only currently one cable (AEC1 – 2016) which lands on the west coast of Ireland but there are three additional planned cables (AEC2 – application to install filed in 2018), IRIS (survey license granted in September 2020), Celtic Norse (permitting not commenced).
Gas Networks Ireland (GNI) through its subsidiary Aurora Telecom has been building a national trunk fibre network, but in general high capacity carrier grade connectivity outside of the Dublin metro area is poor. Currently where available fibre is limited and relatively expensive when compared to European averages.

We believe that by mandating that all new major road and rail network development should incorporate dedicated telecom ducting along the side that would be open source and available on a common infrastructure basis to all carrier, Government could rapidly address some of the issues of regional connectivity.

Question 5

"How do you think Ireland is positioned when compared to other countries with best practice international connectivity?"

From our experience, until there is a published process and timeline, Ireland is going to struggle to compete with the rest of Europe where the processes and timelines are more clearly defined and adhered to and ultimately less restrictive.

The lack of clarity around the timeline to obtain a foreshore license in Ireland is having a damaging impact on Ireland. This is not about making the process easier or quicker, as we recognise the importance of complying with all environmental and legal requirements, but what is urgently required is certainty around timelines and certainty around the approach to the foreshore licensing regime in Ireland.

Historically, Britain's submarine cable systems dominated the important North Atlantic market. All the early trans-Atlantic cables from the US landed in the UK and helped it to become one of the world's most successful digital economies. Ireland became dependant on the UK for international connectivity via a number of links across the Irish Sea.

The recent past has seen a change in this dynamic, with new cables geographically spread across Europe, with landings from Spain in the south and Denmark in the north. Ireland could potentially be the landing site for three of the next six future transatlantic cables. There is also potential to link into additional developments in Iceland, Norway and Asia, solidifying Ireland as a digital nexus in the North Atlantic and the gateway to North America. This has become more challenging given the recent uncertainty around the licensing regime in Ireland and has introduced a level of nervousness for developers, investors and contractors.

Other European countries such as Denmark have begun to fight for the opportunity to replace the UK as the dominant player in submarine fibre cables and for datacentres , and through agencies such as "Invest in Denmark" who are actively involved in promoting Denmark as both a location for submarine fibre cables and data centres and have attempted to remove barriers to entry, streamline application procedures and remove fee structures like the annual foreshore licence fee to drive competition. In order to remain competitive, Ireland needs to follow suit and to have a similar focussed understanding of the importance of submarine fibre cables to the Irish economy.

The NMPF consultation document noted the importance of Telecommunications Cables to national defence in the relevant section. However, there is no elaboration on how they would be defended in the event of increased risk. As an industry, the general approach to defence protection is to not advertise the presence of submarine

fibre cables in the first place. We would indicate their general position on fisheries charts, noting however that cable landing stations tend to be non-descript buildings that blend into the landscape. The current planning and marine licence application process requires the publication of detailed plans of the cable landing station, along with cable route maps and associated documentation. We feel this creates a security risk that could be exploited by terrorists or state actors wishing to disrupt global telecommunications. It should be mitigated against as part of the new NMPF, possibly with a closed application process via Government-only review. The impact of the current COVID-19 pandemic has highlighted the importance of connectivity and any interruption to supply would be highly disruptive.

Other countries (most notably UK which is also an Island) operate a national critical infrastructure committee, and have a strategic approach in place (agreed with submarine cable owners) in regard to how it will manage any natural or targeted action that results in a substantial loss of submarine fibre connectivity to the Island of UK. Given Ireland's position as an island, it would be important that such a strategic initiative would also be employed by the Irish Government. The loss of even one or two cables at the same time, could have a catastrophic impact for capacity in Ireland.

Aside from the context of specific licence applications, and based on our other European and International experience, we know that engagement with the relevant departments on licensing is key. For example, we have regular engagement with The Crown Estates (in person and by phone): likewise in Denmark and the US. In addition, each of these entities run regular industry-specific events to inform stakeholders. The Crown Estates has an annual outreach for wind, minerals and cables which not only reassures the industry of their commitment to consult and involve industry in their processes but also allows the industry to come together and address challenges of co-existence in territorial waters of multiple cables and other activities and installations such as fishing, wind farms and pipelines.

We welcome the initiative of the Foreshore Unit to schedule an subsea cable liaison officer and to have organised an industry wide event in February 2020 and would hope that this will continue to be expanded under the new Principal Officer of the Foreshore Unit.

Question 6

"How can Ireland position itself as the preferred location to land submarine fibre optic cables in Europe?"

1. The planning process in Ireland for cable landing stations, as with many other areas of development, can be lengthy and challenging (heavily dependent on local perceptions etc.). Given the importance of submarine cables to Ireland's infrastructure, we believe that the Cable Landing Stations and associated cabling should be considered critical pieces of national infrastructure and any application for planning approval should be adjudicated on that basis, via the Strategic Infrastructure Development Act or a similar fast-track approval process.

   This would reflect Government policy in relation to large scale data centre developments, which ultimately rely on submarine fibre optic cables to function. Submarine fibre optic cables should be treated in a similar manner.

2. Open and ongoing engagement between the Foreshore Unit and the submarine cable industry so that the challenges and concerns in relation to the licensing process on both sides are understood and a resultant focus on addressing issues as effectively as possible.

3. Establishment of a clear Government Policy on the importance of submarine fibre cables to Ireland which would extend to all parts of the government, including local authorities, Government departments, prescribed bodies and CSSO.

4. Clear guidance from the Foreshore Unit identifying:

a. Clear procedures for pre-application communication between the developer and the Foreshore Unit – as, for example, pertains in the Strategic Infrastructure provisions of the Planning Acts.
b. The substantive content and requirements of each stage of the Foreshore Licensing process and its interaction with any EIA and AA requirements
c. Clear criteria on which licensing applications will be prioritised.
d. Submarine cable projects as critical national infrastructure, to be prioritised accordingly in the licensing process
e. Target timelines for each stage and an entitlement to notice and reasons if such target is to be missed – as in the planning regime.
f. Time limits on public participation and responses from prescribed bodies. It is acknowledged that such time-limits must be reasonable and even, to any necessary degree flexible in a particular case - but it is essential that compliance with such time limits be reliable.
g. Industry expertise (internal or external) within the Foreshore Unit to assist with submissions to the Minister for determination.
h. Clear criteria on which licensing decisions will be based.
i. A clear statement of what, in respect of each application, will be published, where it will be published (e.g. Iris Oifigiuil and/or Website) and when it will be published.

The request for clear guidance is not about making the process easier or quicker but about giving the industry certainty around approach and timelines.

5. Consideration of a dedicated submarine cable section in the Foreshore Unit or, if not, a practice of assigning such applications to staff experienced in the area. The Foreshore Unit has already demonstrated its willingness to do this by the appointment of a Submarine Liaison Officer within the Unit and its use of experienced external resources in the preparation of its internal recommendations to the Minister.

6. Adequate resourcing of the Foreshore Unit, Prescribed Bodies, local authorities and CSSO to enable the foregoing.

Question 7

"How can Ireland make it attractive for companies to build new submarine fibre routes from other European countries to Ireland?"

In addition to the recommendations at Question 6 above, a greater co-operation by the regulatory authorities in Ireland with other members of the EEA to focus on the approach to licensing of submarine fibre cables and routes.

Government could look at special tax status similar to aircraft leasing, for companies willing to take speculative risk on capital invested in submarine assets linking Ireland to other EU nations. Due to the nature of the seabed between Ireland and France, being shallow, heavily fished and busy with existing subsea assets and shipping traffic, developing fibre cables on the route is both risky and expensive. Currently the economic risk outweighs the potential reward, this is before factoring the impact of the current regulatory regime with associated delays and cost. Financial support with EU regional funds or tax support might help rebalance the equation and encourage additional development on this route.