

The industry view

Q&A with an industry expert.

A well-known face within the subsea cable industry, Larry Schwartz is Chairman and CEO of Seaborn Networks, which recently partnered with Partners Group to develop Seabras-1, the first ever direct subsea fiber optic cable between New York and São Paulo. Here, he shares some insights into the critical role subsea cables play in global telecommunications.

Q: How has the telecommunications sector changed in recent years?

The biggest change has been the move from generalization to specialization. In the late 1990s, telecoms companies had an indiscriminate approach to capital expenditure and would try to do everything for everyone. The telecoms crash at the beginning of the new millennium changed this but it still took a while for the message to sink in. In addition, with telecoms deregulation well established, the days of having one big incumbent carrier controlling telecoms in a country are gone in much of the world. Telecoms companies are increasingly focusing on their core expertise. As a result, we no longer talk about who has succeeded in 'owning' a market, but about who is the best player in each sector within that market.

Q: How has this impacted subsea cable providers?

This is very much the case for the subsea cable world too, where the biggest change has been the shift to an 'independent cable operator' model. Until recently, large telecom firms such as BT or AT&T would own cables themselves, typically in a consortium or joint venture with their counterparts at the other end of the system. Although there are still some telecoms providers with a wholesale business model building their own cables, that model is showing increasing signs of strain. The fact is that big industry players are now fiercely competing in markets far away from their legacy home markets, and this creates potential consortium relationships that are inherently dysfunctional. Added to that, large content providers are looking to dis-intermediate carriers by being anchor tenants on subsea systems. We are at a real inflection point in our industry: just as mobile carriers have recognized they do not need to own

their own towers, telecom providers have recognized they do not need to own their own subsea cables. This shift has opened opportunities for independent cable operators like Seaborn Networks in the same way it opened the door to independent tower operators.

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Q: How important are subsea cables in the overall context of the telecoms industry?

Subsea cables are without doubt the backbone of global communications. More than 95% of all communications traffic globally travels via transoceanic subsea systems connecting countries and continents, while only a small fraction travels via other methods including satellite. Satellite is ideal for point to multi-point communication, but in terms of the ability to move massive quantities of data from point A to point Z with the lowest cost and highest quality of service, subsea cables will remain the best option within all of our lifetimes.

Q: What is the shelf-life of a subsea cable?

The average engineering design life of a subsea cable is 25 years. However, cables are typically replaced before this, not because



Larry Schwartz *Chairman & CEO of Seaborn Networks*

Larry Schwartz is the Chairman and Chief Executive Officer of Seaborn Networks. He previously served as CEO, board member and one of the owners of the parent company of Global Marine Systems Ltd., one of the world's largest fleets of cable ships and a leading installer of submarine fiber optic cable systems. He also previously served as a board member of International Cables Pte Ltd, a JV with Singapore Telecommunications that provides subsea cable maintenance in Southeast Asia. Before entering the cable ship business, Larry was a Senior Vice President of Genuity Inc., a Fortune 1000 and Nasdaq-listed wholesale carrier with a global network infrastructure. Prior to Genuity, Larry was an equity partner with Choate Hall & Stewart, where he specialized in international communications & media transactions. He began his career with White & Case, where he worked on international project finance transactions, large-scale privatizations and M&A.

their design life comes to an end but because of the huge growth in demand for capacity coupled with technology improvements. It is often more cost-effective to replace older cables altogether rather than continuing to operate older, existing routes. If you take systems on the US-Brazil route that were engineered in the late 1990s, for instance, you have an initial maximum design capacity of under two terabits, which could be upgraded up to a maximum of 4-6 times that initial capacity depending on the system architecture. Today, our Seabras-1 system has an initial design capacity of 72 terabits and we expect to get 4-6 times that amount over the life of our system.

Q: How do you service a subsea cable?

Faults on the 'wet' parts of our networks are very rare, as cables are typically trenched about one meter under the seabed up to depths of around 1,000 meters, after which they sit on the seabed. Routes are specifically designed to ensure that the cables lay flat on the sea floor and reduce the risk of sags in the cable sitting in the middle of the water column. This protects them to a large extent from issues such as contact with ship anchors and fishing accidents and avoids sags that could affect signal quality. Nonetheless, every subsea cable owner pays an annual premium to one of the specialist subsea cable maintenance associations, which have ships located in strategic ports around the world and are on standby for emergency repairs – like a fire station model.

Q: How does a cable provider address critical challenges such as data protection and privacy?

These issues are critical for everyone but they are also part of the reason why the independent cable operator model works. If you are a large telecoms carrier or a content provider in the internet world, you have a huge amount of information about your end customers. In contrast, as an independent subsea cable operator, we are just a 'bridge' and have no servers filled with confidential customer data. Of course we are very much focused on maintaining high levels of security in our landing stations, but essentially we do not come into contact with the end customer data of our clients.

Q: What is unique about Seabras-1, our joint venture project?

Seabras-1 will be the first ever direct point-to-point route between São Paulo and New York, meaning that we can run a direct connection between the largest commercial centers of North America and South America without any landings of the system in between the A and Z ends. In 2000, when most of the existing cables between the US and Brazil were installed, it would not have been technically possible to run a system this long without the whole system landing in at least one midpoint location. Today, we are able to run significantly more than 10,000 km without additional landings. This also means that there are fewer active elements on the system, so fewer things

can go wrong. All of this is only possible thanks to the vast improvements we have seen in subsea cable technology and services over the years.

Q: Seabras-1 will connect the US and Brazil – why these two markets?

Apart from connecting two of the largest financial and commercial centers in the Western Hemisphere, Seabras-1 will also be one of the critical paths for communications between South America and the rest of the world. From a geographical standpoint, landing in São Paulo provides you with easy access to neighboring countries such as Argentina and Uruguay, as well as to the rest of the South American continent. On the New York side, you can immediately access the transatlantic cable routes that connect the US and Europe, as well as the rest of the US and Canada and the transpacific cable routes that land on the West Coast. The cable will therefore not only service the US and Brazil, but also offer connection points to much broader, international markets.

Q: What kind of impact will the Seabras-1 cable have?

With Seabras-1 we can offer the most competitive and bespoke access to the Brazilian market. We can attract a broad range of competitors, which helps lower costs for end consumers and increase broadband capacity. This, in turn, can have a positive impact on a country's economic growth. Other than having the potential to contribute to economic growth, our system offers a new path to and from both the US and Brazil. Countries do not want to be reliant on limited paths of communication but want to have a variety of diverse, next-generation paths that provide different access points to their markets.

Subsea cables are without doubt the backbone of global communications. Over 95% of all communications traffic travels via transoceanic routes.

Q: Are there plans for additional similar projects in future?

The system we are building has a number of branching units for potential future expansion throughout the Western Hemisphere. These include branching units that can connect Seabras-1 to Las Toninas (Argentina), Rio de Janeiro and Fortaleza (Brazil), St. Croix (USVI), and Miami and Ashburn (US). We foresee building these branches out in the not too distant future when there is contracted demand to do so. In addition, we are exploring the possibility of building other route options and see the potential for strategic acquisitions as well.

Q: What predictions would you make for the future of your industry?

I believe we will see a continued trend towards independent ownership of subsea cables. We will also see a greater percentage of subsea cable capacity being contracted by content providers such as Google, Facebook, Microsoft, Amazon or Apple, as well as an increasing number of content providers with the desire to actively put together their own global telecoms infrastructure. We are still in the very early stages of cloud computing and the 'internet of things', so it will be interesting to see how rapidly these fields evolve and the impact this has on global capacity demand too. Ultimately, these are not isolated islands of technology but are networks, and networks are dependent on subsea cables.