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Seaborn's Digital "Flying Cloud": A New, Carrier-Neutral Undersea Route to Brazil — Due to Set Sail in June

interview with Larry Schwartz



For centuries, seaborne innovation has driven the growth of cities and international trade.

In the 1850s, speedy clipper ships such as the *Flying Cloud* were a great leap forward. Likewise, in their time, technical advances — in weather forecasting, steam propulsion, super-tankers, and container vessels — each played a part in enabling global trade to expand.

However, these days the biggest revolution in ocean trade has shifted to below the sea's surface. Today's "Flying Clouds" are digital submarines: the undersea cables that efficiently move the ever-increasing volumes of video, image, voice, and cloud data that power our modern world.

At the forefront of undersea cable innovation is Seaborn Networks, a young company that will soon complete the first independent subsea cable directly connecting metro New York and South America. As Seaborn embarks on its mission to create new transoceanic, digital trade routes for the cloud computing era, ironically the company is based in the same neighborhood as where the *Flying Cloud* itself was built and captained — on the North Shore of Boston.

To learn the impact of Seaborn's new independently-financed subsea route, I caught up with Larry Schwartz, Seaborn's CEO and Chairman, at the [Metroconnect 2017](#) conference in Miami.

In our interview, Larry not only gives a great tutorial on market trends in undersea cables, he also explains the power of: the carrier-neutral business model, global market research, working with technical partners, and collaborating with the many investors who finance these subsea mega-deals.

Dan Baker, Editor, Top Operator: Larry, the launch of Seabras-1 is exciting. What's the status of this undersea project?

Larry Schwartz: Well at this point, Dan, the cable is 100% manufactured and is being fully loaded on a cable-laying ship in Calais, France. Alcatel-Lucent Submarine Networks (ASN) is doing the build.

The total system length is just under 11,000 kilometers, and it takes quite a long time to spool a cable that long on the ship.

It will be arriving in New Jersey soon for cable lay. Final splice on the cable is schedule for end of May with a committed ready-for-service date for the whole system at the end of this June 2017.



The cables ship *Ile de Sein* arrives in New York harbor with more than 8,000 km of Seabras-1 cable onboard, 125 repeaters and 5 branching units.

Great, now before we discuss the details of the Seabras-1 project, I'd like to understand some of the economics of undersea cables. How long a life do these cables actually have?

The engineering design life of the cable is generally 25 years, though the average life is about 22 years.

Moore's Law comes into play: technology improvements allow us to build systems that are a massive multiple of prior generations. We also benefit from technology that allows us to run the systems farther without interim landings in between.

Our Seabras-1 cable is actually the first direct point-to-point cable between New York and São Paulo, with no interim landings in between.

Why is direct connection so important?

Well it's certainly a more reliable system because the direct connection results in fewer active elements and things that could go wrong on the cable.

Upgrade costs are less too because you only need to upgrade the capacity at the end points as opposed to at interim landings along the route.

On the New York end of Seabras-1 cable, we land in Wall Township, New Jersey. Then, we backhaul via two geographically diverse paths into metro New York.

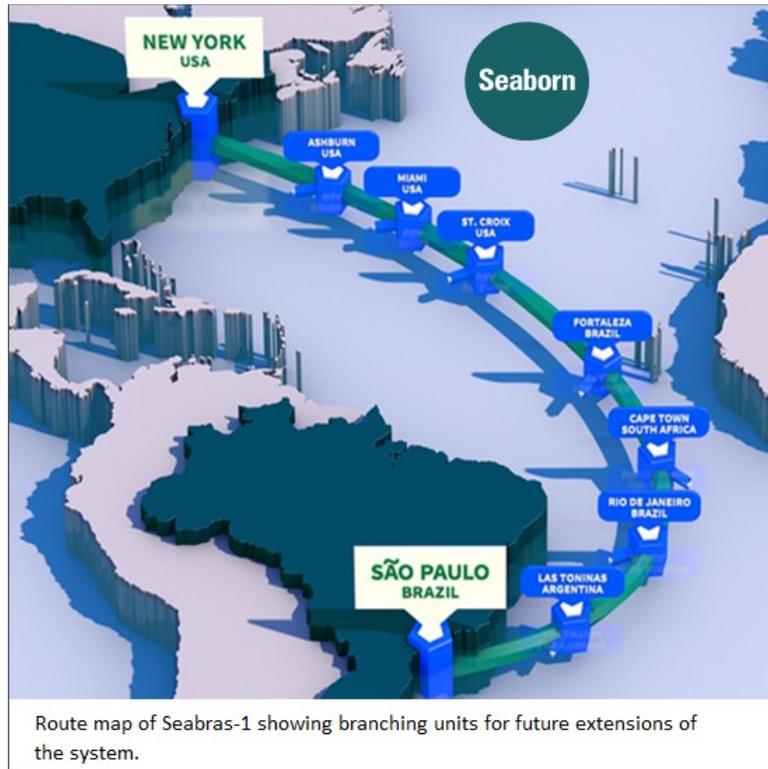
On the Brazil end, we come into Praia Grande, outside of São Paulo. Then again, we have two geographically diverse paths into metro São Paulo with choices also for POP locations there. This enables us to sell a full point-to-point solution.

Deciding where you will place a cable must require gathering a lot of intelligence.

Yes, many factors come into play. You need to pick a route based on market research. As an independent cable operator, we don't come in with a bias towards US or Brazil or South America. You need to very objectively decide: where in the world would be the most successful route to build a cable?

For Seabras-1, we first thought we'd do South Florida to São Paulo. Then, we very quickly decided the north end should come into metro New York, instead of Miami.

That was for two reasons. First, it's a more diverse path from where most of the traffic goes today — and that adds value. Second, when you take into account the curvature of the earth, the length of a cable to New York is almost the same as it would be to South Florida.



Is the technology you put into the cable a differentiator for Seaborn?

We bring no proprietary technology of our own. The cable is built for us by Alcatel-Lucent Submarine Networks (ASN), so we use ASN equipment and also Infinera's DWDM technology.

But the team of people we bring together is a big differentiator. Though Seaborn is a new firm, we employ people who have been in the submarine cable industry for years. Our team, for instance, has built subsea cables for Global Crossing, FLAG and others, and literally around the world. So we have put highly skilled experts into a small, agile organization.

Another thing that sets us apart is our experience in large project financing transactions: an absolute pre-requisite to getting a big project like this off the ground.

The ability to deal with large lending/equity institutions, export credit agencies, development banks — that's all part of our core competency. We need to prove to conservative investors they are pouring money into a safe and viable project.

What you are pioneering is being the region's first neutral player in the undersea space.

Yes, we are the first truly independent, undersea cable developer and operator. We are not inside Brazil or inside the US, competing against our customers in their most important market segments. For example, we don't have a Pay TV interest; we don't have Mobile telecom interest; and we don't have a data center interest.

We are a truly neutral player selling a compelling offering from point A to point B. And hopefully, we can do this again at other places around the world.

Now while this concept is new for telecom, there are strong parallels in other industries such as power generation and large-scale real estate projects.

We are a turnkey developer and operator that knows how to attract institutional equity around a project. And we hope to become a one-stop shop for other parties with an idea for a new route. Our strategy is not bound by geography either. We can just look at the world and focus on where we think the next best routes should be.

And we approach our partners not as a consultant, but as a party that can wrap our services, design capabilities, and financial structure around what they would normally do themselves.

So if it's a route we like and if it's a team we would like to work with, we propose a package. If they say "no, thank you", that's fine, they can walk away and not spend a single consulting dollar on us.

Tata Communications is, of course, another big player in the undersea space.

Tata Communications is huge player and a terrific partner for us as we are landing our Seabras-1 cable in their New Jersey landing station. And our other vendors have also played critical roles in this endeavor, including Alcatel Submarine Networks, Infinera, Equinix, CoreSite, Digital Realty, Sunesys, Netell, XSite, Spread Networks and Datapipe.

How is network management being handled?

Our primary NOC will be in the new CoreSite Data Center in Secaucus, New Jersey with a backup NOC in our offices in the Boston area.

We're also been rolling out an Amdocs network management solution and a NetSuite ERP and CRM package. That's on schedule. So this underscores the fact that we are a fully functioning carrier. With other independent submarine cable projects, these critical functions are often outsourced to a variety of third parties.

That's not the case with us, and we're taking control because it's an important value-add. Our responsibility is very clear. If and when there's a fault on the cable, our customers will be able to pick up the phone and call us directly. We'll tell them exactly what the reason was for the fault. What's the status? Was it an offshore break? And how long do you estimate it's going to take to repair?



Cableship starts the cable lay of Seabras-1 off the coast of New Jersey.

Do you feel this independent subsea cable business will grow leaps and bounds?

It will grow, but this is not a "Telecom Boom" era kind of thing. Growth is more prudent in this era. Yet on certain routes there is very strong demand for new systems as the older ones age and upgrade costs start to increase.

Here at Seaborn, we really focus on the uniqueness of our path. And frankly, route duplication is why so many investors ran into problems during telecom boom times.

The route between Brazil and the US is still the primary route for global communications between South America and the rest of the world. Accelerating the trend for Brazil to become a hub for global communications will be great for the Brazilian economy – and it will be terrific for us, too, because we are the only independent developer-owner-operator on that route.

Brazil's comms infrastructure is also under-built: it's underserved today in datacenters and tower build-outs. It's another reason

we think we're in the right place at the right time.



This is a splendid backgrounder on the undersea cable business. Thanks for it. It would great, Larry, if you could close with your forward-looking perspective on where undersea is headed.

Sure, Dan. Here are some trends and capabilities we think are going to gain traction.

- **Low latency routes** — We recently introduced a new ultra-low-latency path for the financial market: we call it SeaSpeed. Obviously, that's not a huge customer segment, but we think a low latency route will be highly attractive to the high frequency trader community, and we think that trend will grow.
- **Broadband on-demand** — Purchasing undersea bandwidth in an elastic way is another development. To prepare for that market, we recently partnered with Megaport to provide a broadband-on-demand capability on Seabras-1. Customers will be able to literally turn up and turn down their capacity to meet their needs.
- **Terrestrial extensions** — Undersea cable networks don't have to end at the shoreline. We're exploring opportunities to acquire terrestrial capacity for our customers to extend the reach of Seabras-1.
- **Branching cables** — We think branching units off these big undersea cables will win support. For Seabras-1, we're exploring options to branch to cities such as Virginia Beach, Miami, St. Croix, Rio de Janeiro, Buenos Aires, and Cape Town, South Africa. But to build these extra on-ramps and off-ramps, we need to see contracted demand from the addressable market.
- **National infrastructure demand** — Bandwidth demand is certainly not the only reason why new routes are built. The need for route diversity, for example, is also a key factor. Security is another factor we believe will drive undersea investment. Governments will increasingly look at the international import and export of data as helping their economies to grow. There are also national security reasons to ensure route diversity. For these reasons, demand for undersea cables sometimes comes from geographic areas you wouldn't necessarily expect.
- **Retailers buying wholesale** — In the future we can expect more players in the retail market to buy wholesale. For example, back in 1999/2000 when the prior generation of cables was built, content providers bought their capacity retail. But today, these are the biggest consumers of bandwidth in the world. In fact, some of them are already taking leading roles on new subsea projects.

When you factor in the growth of cloud computing and the internet of things, it's a safe bet that other large enterprises will be increasingly looking to buy from wholesale providers as well.



Where the ocean meets the land... 'The Beach Joint.' Subsea fibers are in the small tube on the left and land cable fibers on the right. The copper bracket passes power from one to the other to power the repeaters.

