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# **AST CEO Avellan Wants to Go Where No Broadband Has Been Before**



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By Jarrett Banks

AST SpaceMobile, which is developing a space-based cellular broadband network, is going public through a merger with New Providence Acquisition Corp., a SPAC. The combined company will be valued at \$1.4 billion including debt and is expected to close soon as the first quarter of this year.

Midland, Texas-based AST has raised \$232 million from strategic partners including Vodafone Group Plc, Japanese online retailer Rakuten Inc., American Tower Corp. and UBS Group AG's hedge fund arm UBS O'Connor.

IPO Edge interviewed AST CEO Abel Avellan to discuss the challenges and opportunities ahead.

***IPO Edge: Where did the idea for a space-based cellular network come from?***

I have spent 20 years in the space industry creating broadband solutions for companies, governments and individuals in hard-to-reach places and long ago realized that the requirement for a fixed or mobile antennas to land satellite signals has been a clear obstacle to universal broadband access. In 2016, we came on with the idea to solve the key technological challenge of connecting an ordinary phone to a satellite. When I realized that was possible, I reassembled my core scientist team and personally funded the project at its early stages.

***IPO Edge: You have announced relationships with some of the largest cellular providers, including a new agreement with Vodafone. Can you explain how you work with the wireless providers and how the relationships work?***

Our business model has always incorporated strategic relationships with wireless providers, as our goal is to connect directly and immediately to all modern mobile phones with no friction to the end user. In order to do so, we will require access to the wireless providers' owned spectrum.

We have developed a simple and mutually beneficial relationship with several wireless providers. Operating under a revenue sharing model, AST SpaceMobile will deliver broadband service directly to the wireless providers' subscribers when they need it most. As planned, the wireless providers' subscribers will be able to receive immediate service with little effort on their end, such as by sending a simple text response "yes" when prompted.

We believe that by partnering with our service, wireless providers will benefit from both new revenue (by monetizing moments when their users are out of coverage) and reduced subscriber churn (by allowing them to offer a differentiated service), thus satisfying two of their most critical drivers of shareholder value.

***IPO Edge: What regulatory requirements do you need to launch the satellites and do you have them in place?***

We believe that providing universal connectivity is critical to governments in every country. Wireless companies have paid billions of dollars for spectrum rights, and are eager to partner with AST SpaceMobile to improve their service offering and expand connectivity to previously unreachable areas.

We have already received approvals from certain countries for our Equatorial constellation, where we are partnering with Vodafone, and expect that additional approvals will come in time. This approvals process is typical for all companies that offer telecommunications services.

***IPO Edge: NASA, before having any formal discussions with you, initially thought that AST SpaceMobile's space-based cellular network could pose a significant collision threat to some of their satellites. What's the latest on this?***

Technical teams at NASA and AST SpaceMobile have agreed to collaborate and share operational information regarding respective space assets.

Following NASA's initial comments on our FCC application, we privately disclosed comprehensive detail on our system to NASA, which led to this agreement. After these discussions, NASA formally notified the FCC that it does not have any pending objection to our application.

We anticipate continuing to maintain a great working relationship with NASA moving forward, as we share the mutual goal of safe and responsible operations within space.

***IPO Edge: What is the total addressable market for the SpaceMobile service?***

Globally, there are 5.2 billion mobile phones that move in and out of connectivity every day. Within these demographics, 3.3 billion subscribers do not have access to mobile broadband, while over 700 million people possess no terrestrial coverage whatsoever. That means half of the world's population (approximately 4 billion people) do not have access to mobile broadband. Lack of connectivity also remains a significant issue even within the US, which is one of the most connected countries on the planet.

According to the GSMA, the global cellular market represents a \$1 trillion opportunity and the market continues to grow. By partnering with wireless providers, we anticipate that AST SpaceMobile will have access to many of these customers and be able to contribute to the growth of the total addressable market for mobile wireless services. Our service is incremental to the market and will expand it by monetizing the SIM card in places where it would not otherwise generate revenue for the wireless provider.

***IPO Edge: What are the key markets for the SpaceMobile service? Is it just for rural areas and geographies that are underserved or unserved?***

Our technology is being designed to be very flexible, and we anticipate that it will have many potential markets and use cases. We are currently focused on helping wireless providers offer their subscribers connectivity in areas where their phone would otherwise lose service. This offering eliminates the network gaps experienced by mobile phone users across the globe. While our service will have a different go-to-market strategy with each country we operate in, we expect our service will be valuable to most wireless subscribers, not only the unserved or underserved.

The use case for the unserved and underserved is obvious and compelling, both in developing markets and rural areas. We anticipate that our network will be capable of offering an affordable add-on service to users for as low as \$1 per month in certain markets. We believe that the “well-served” mobile wireless user, who, like many of us, experiences dropped calls daily, whether on the drive to work from the suburbs or because they happen to live in a neighborhood just a little too far from the nearest cell tower, will also value SpaceMobile’s service. And for the subscribers who want to eliminate all gaps in connectivity, SpaceMobile is expected to provide seamless access while traveling by air, land and sea.

***IPO Edge: How do you acquire customers?***

Our only direct customers are the wireless providers, with whom we already have agreements that cover approximately 1.3bn subscribers, representing approximately 25% of the mobile phones in use globally. Approximately 800 million of these subscribers are covered under mutually exclusive, binding agreements.

Together with mobile service providers, acquiring new subscribers for AST SpaceMobile is simple. We currently envision that when subscribers exit mobile coverage, they will receive a text message from their wireless provider that offers access to SpaceMobile connectivity and with a simple “yes” response via text, the user will receive a Day Pass, similar to what subscribers already may have experienced with their wireless provider when they travel abroad. This pass will then be represented as an add-on charge to the subscriber’s monthly bill. We anticipate that subscribers will also have the option to add ongoing SpaceMobile as a monthly offering, ensuring seamless, uninterrupted service on a monthly recurring basis.

***IPO Edge: When do you plan to have the service available to customer use?***

We chose to launch our Equatorial network first because that network requires the fewest satellites to fully cover a regional customer base and reach commercialization. Our partner and investor, Vodafone, has almost 500 million subscribers available in this region. As Vodafone announced in December 2020, AST SpaceMobile service will be offered across their 20+ countries in the region in the second half of 2022 or early 2023. We plan to expand the service market by market globally by the end of 2023 or early in 2024.

***IPO Edge: How does the technology work?***

As designed, AST SpaceMobile connects directly with mobile phones using cellular spectrum, rather than adopting the approach of other satellite companies (both old and new), which require the installation of a secondary satellite dish or a special satellite phone using satellite spectrum, like the bands L, C, Ku and Ka.

In order to connect directly with mobile phones, we needed to innovate both with new technology – developing larger satellites in low earth orbit as well as critical network EnodB software – and with new ways of applying the technology, including partnering with the wireless providers in a mutually beneficial manner.

***IPO Edge: Do mobile users need any special hardware or apps to make this work on their iPhone or other phone?***

No. We are designing our satellites to communicate directly with existing mobile phones, without requiring any extra antennas, apps or software modifications.

SpaceMobile is being designed to be fully and completely seamless to the end user, offering broadband connectivity that looks and feels just like what they are used to – except now they will no longer experience dropped calls!

This article is available on Bloomberg Terminals and was also published online at:

<http://ipo-edge.com/2021/01/13/ast-ceo-avellan-wants-to-go-where-no-broadband-has-been-before/>

and

<https://finance.yahoo.com/news/ast-ceo-avellan-wants-where-133119144.html?.tsrc=fin-srch>

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