Starlink’s Dominance, Satcom for Mobility and Competing with Fiber

Speaker: Grace Khanuja, Management and Strategy Consultant Manager, Novaspace – 18 minutes

John Gilroy: Welcome to Constellations, the podcast from Kratos. My name is John Gilroy and I'll be your moderator. Today, we are discussing the impact of SpaceX and Starlink on the satellite industry.

Our guest is Grace Khanuja, a management and strategy consultant manager at Novaspace. Novaspace is releasing a biannual report on SpaceX, a company that has an outsized influence on the landscape of the satellite industry and which continues to outstrip other launch and satcom providers. The first edition of the report was released earlier this year. Grace, are you ready for some questions?

Grace Khanuja: Yes, thank you for having me. I'm ready.

John Gilroy: Okay. We've dedicated an entire podcast episode to discussing SpaceX and Novaspace's biannual report on SpaceX. So why the heck is SpaceX so important? What's the big deal?

Grace Khanuja: I think it's a great question to start, obviously, giving a good introduction to the podcast as well. So dedicating a report or even a podcast episode to SpaceX makes sense because the company has increasingly become a key disruptor within the industry.

They have, in a way, reshaped the global space economy, talking from launch to satellite network, you name it. They have touched that part of the value chain, and it's not just about their technological advancements, they've also altered the economics of things, and which has increasingly impacted the accessibility of space for every stakeholder within the industry.

What began as a launch provider has evolved dramatically, and especially with the reusable rocket technology, they have significantly reduced the launch costs and positioned the company almost a monopolistic dominance within the launch industry.

Having said that, the pivotal growth driver has been their satellite network, which is Starlink, and with around 7,000 satellites up in the space, they've almost touched every connectivity application and they're still exploring new applications, so to say.

They're expanding the size of the pie, and that's why it really stands out and it's important to understand the trajectory of one single company that could impact the entire global space economy.

John Gilroy: Yeah. A lot of people, my daughter is an MBA in finance. She's got to ask the finance question, so I got to ask this one. So speaking financially, how is SpaceX faring based on Novaspace's estimates and projections? In fact, what are SpaceX's major cash flows and what is the estimated revenue?

Grace Khanuja: Yep. It's a good question. I come from finance as well, so this always intrigues me. But taking a step back and when you look at a company, you have to look at it holistically. So, Nova Space reports essentially look at SpaceX from two lenses.

One is the space transportation or the launch business side, which was the first entry within the space sector. And the second aspect, which is the elephant in the room, which is Starlink, it's their satellite connectivity aspect.

And financially speaking, we estimated SpaceX to reach around 12 billion revenues in 2024, and a profitability of around 45% EBITDA, which is driven by Starlink at this point. And looking ahead for 2025, Nova Space estimates project around 15.8 billion revenues, which is very close to what Elon Musk recently mentioned to be around 15.5 billion.

And the profitability also is expected to increase to 50%. You also spoke about cash flows. So with regards to cash, I think in 2024, company was cash positive and we expect the company to generate a little north of two billion cash in 2025.

And the interesting thing is that they have not raised any private capital since 2022. So it signals the transition of the company towards being more self-sustaining business model and not really relying on outside funds anymore.

John Gilroy: Let's talk about SpaceX maybe as a launch provider. As a launch provider, how has SpaceX changed the shape and capabilities of the industry?

Grace Khanuja: Yeah, that's a good question because like I said, SpaceX started as a launch provider, but I would like to answer this question in two aspects. The first front would be SpaceX, essentially scaling the reusable launch technology, and the second would be their end-to-end vertical integration.

The first aspect, the reusable launch technology with Falcon 9, they have significantly reduced the marginal cost of launch, and sometimes we even see around 10 to 15 million per launch while ramping up the cadence.

So on one side, they're reducing the cost, and on the other side, they're increasing the cadence, which makes them launch more frequently compared to other providers combined at some point. And talking about all of these things, the impact on the industry, they have essentially made orbital access far more routine than it used to be, and they've accelerated everything ranging from smallsat deployments to even government missions. So overall on the launch industry, it has basically catalyzed the effect.

Then the second aspect that I mentioned was vertical integration, and it speaks a little more of the entire space economy and not just the launch. So basically, they've gone from designing and manufacturing everything from engines to satellites to even end user terminals. This allows them to move faster, reduce cost, have more control on the value chain, and I think Starlink is the biggest example of this.

Having a strong hold on the launch side of things, screening, even monopolistic dominance position in launch, they have been able to put Starlink much faster than the competitor in the orbit and at a much favorable cost economics, which essentially favors them to have more competitive connectivity services as well. So this has disturbed not only the launch side, but also the connectivity or the downstream side of things within the space economy.

John Gilroy: Well, grace, we have listeners all over the world, and I'm sure they identify SpaceX with launch. Now, we have a surprise announcement, which maybe some people may not be aware of. And let's talk about this. SpaceX is traditionally seen as a launch provider.

We've seen the videos, everyone gets dazzled, we all know that. However, in 2024 revenue from Starlink outstripped launch for the first time, how will being a service and infrastructure provider change SpaceX's strategic priorities going forward?

Grace Khanuja: Yep, you're absolutely right. SpaceX, which was always positioned as a technology as a rocket company, has now become more of a strategic company wherein they're not just looking at the launch side of things, they're started to look at Starlink. And 2024 was a turning point that Starlink accounted for more than 50% of SpaceX's total revenues, which was surprising.

And one of the most interesting analysis that came out of our report as well, to see how SpaceX value prop is evolving. It's evolving from a space transportation company to a satellite operator, and clearly the engine has shifted from launch to Starlink wherein launch business has gone into an autopilot mode and it's become more like a cash cow for the company, for the finance people here.

And Starlink is more the driving force within the company accounting for nearly 60% of the top line in 2025 as per our estimates. And the transformation has been only possible though because of the trajectory that they've taken, because the foundational strength of SpaceX is the reusable launching technology and the fact that it really reduces the cost economics of launching satellites, and that's the advantage, so to say, from other competitors.

John Gilroy: Grace, you mentioned Elon earlier and he's always interested in growth that, so what were the greatest growth markets for Starlink over the last year and what markets have the most potential for growth in the coming year?

Grace Khanuja: Yep. So I think 2024 was a strong year of growth for the company. Talking a little bit about numbers, the Starlink's overall subscriber base, as per our estimates grew more than 80% year-on-year. And for 2025, our base case projects not of seven million subscribers as well.

Obviously, this is excluding the new applications like direct-to-device and new sort of countries that they're trying to enter. Like India, we've seen a lot of news around regulatory approvals for Starlink in India as well. So obviously, these would even boost the subscriber account even more. In terms of growth drivers, I think mobility was one thing that really stood out for Starlink last year.

Maritime saw a rapid adoption and they had approximately 75,000 vessels that were connected by end of 2024. And these range from small boats to premium cruise lines as well. So there was a range of customers that adopted Starlink and not just a particular sort of vessels.

And the other aspect of mobility, which was aviation. Aviation started seeing traction as well with Hawaiian and Qatar Airways onboarding Starlink. And in terms of expectations of growth in the coming years, I think aviation could be something that could lead the charge with already announced partnerships with United and Air France.

Apart from that, I think Starlink has been really dabbling into new use cases, so recent news about agriculture with John Deere and with CNH as well. So I think those are some wait and watch sort of verticals, but I'm intrigued by those and they could be growth drivers.

John Gilroy: No Grace, I don't know how you keep up with SpaceX. I mean, I try to keep and see what's going on. It looks like SpaceX is preparing to launch a new generation of V3 satellites. Now, how will these satellites build on current Starlink capabilities?

Grace Khanuja: Yeah. Like I said, they are a technology company, so there is also a need for evolving with time, but they're evolving faster as well. So speaking of V3

satellites, the satellites represent a major leap forward in both capacity and performance.

They are larger, more powerful, more optimized to give high throughput capacity, and that's why they are ideal for high demand areas as well, especially at places where current capacity is near saturation. So that's an edge for SpaceX to really enter the market with a lot of available capacity and capture as much as demand as they can.

Additionally, the V3 satellites are specifically designed for deployment on Starship, which can launch far more satellites per mission than Falcon 9. And this allows SpaceX to scale the constellation faster, more cost effectively as well. But the real upside is when you look at a combination of V3 satellites and Starship together and the business impact could be transformative.

John Gilroy: Grace, I'm based here in Washington, there's a little bit of news involving SpaceX with the FAA. Starship was previously limited to five launches a year, but the FAA recently cleared Starship for up to 25 launches a year, and SpaceX has stated that Starship will be used to launch as many as 60 of these V3 satellites at a time.

Multiply this. Oh my goodness gracious. How will the combination of the V3 satellites and launch capabilities change Starlink's performance?

Grace Khanuja: Yep. So this was the exact point that I was mentioning in the previous comment as well. So the combination of these is transformative. So I'll first talk about numbers. So if you think about something like cost of capacity, which is essentially a CapEx efficiency KPI that we consider and the industry considers as well today basis, our estimates with the V2 minis, the cost of capacity for Starlink is around $2 per MBPS per month.

But with a combination of V3 satellites and Starship, it is expected to reach less than half a dollar per MBPS per month as well. And that's thanks to the abundance capacity that V3 brings in and the lower cost per launch with Starship.

And like you said, if they increase the number of satellites launched with Starship per mission, the cost of launch per satellite even goes further down and makes the capacity that's available on these satellites even more competitive, gives room to the company to reduce the cost economics and the price charge to the end customer as well.

Now, talking about the increased coverage in high demand areas. So with the current capacity being maxed out in some regions, the V3 Starship combination will allow them to serve more customers at even more competitive prices, and it

could potentially place Starlink as a head-to-head competitor for some terrestrial ISPs as well, especially in high density areas. But the areas that are underserved.

The second aspect, which is quite interesting and still developing is the competitiveness for public broadband subsidies. So programs like Bead initiative in the US has some minimum service thresholds, I think a hundred up 20 down download speed sort of threshold.

So, V3 satellites can help Starlink deliver those benchmarks. And so more subscribers. So that opens their access to additional government grants as well. So in combination, the V3 and Starship is not just about scaling infrastructure, it's also about unlocking new market opportunities for the company.

John Gilroy: You had some fascinating MBPS dollar figures there, really shocking. I guess we've got to put this in perspective and let's go back to the terrestrial market here with such significant strides forward in broadband connectivity, will Starlink soon be competitive even with terrestrial ISPs, really?

Grace Khanuja: Well, it depends on the context. In some context, they already are competing. So if you talk about, I spoke about public subsidies as well, they are competing with the fiber to get these broadband grants.

And especially in rural, remote or underserved areas where fiber or cable is either unavailable or too expensive, they offer a compelling alternative in terms of latency, in terms of speed, and sometimes it's better than terrestrial and even better than traditional satellite services.

That said, in dense urban areas or where affordable fiber is available. I think the go-to-market strategy, which they have started developing right now as well, would be to more be a complementary solution with the terrestrial ISPs. So basically, a mix of competition and cooperation. In our world, we call it cooperation as well. So I think that sort of relationship is what we expect to evolve.

John Gilroy: Recently, T-Mobile and Starlink announced the launch of T-Satellite. Is this indicative of a strategic choice by T-Mobile to partner now rather than fight later and should other telcos follow suit?

Grace Khanuja: Yes, I think this partnership is a good strategic move, but on both sides of the relationship, while T-Mobile speaking of them, they gain extended coverage by using their own spectrum, but using satellites from Starlink. So having not spent any dollar amount on the CapEx of building a satellite constellation, they could reach areas without terrestrial towers as well.

And for Starlink, this deal would bring in the valuable spectrum access, which T-Mobile has. And they could also basically expand their market reach and rely on T-Mobile's distribution and brand equity. So it's like a win-win situation for both parties.

And in terms of your question on other telcos, well, some telcos have started following suit recently here in Canada. Rogers had signed with Starlink for their direct-to-device connectivity. So it really depends on the region as well.

But broader adoption would take into account not just this strategic move, but also the fact whether there are infrastructure gaps and their market needs for terrestrial ISPs to really work with Starlink at this point and move forward.

John Gilroy: Well, let's throw terrestrial into discussion again here, because this is of course a satellite podcast. So let's talk about terrestrial. So assuming continued growth for Starlink, which is a pretty good assumption, what could the relationship between satellite and terrestrial look like down the road, maybe four or five years?

Grace Khanuja: Yep. I think looking ahead, the expectation would be to have a more integrated telecom landscape where satellite isn't a standalone solution, but a seamless extension of terrestrial networks. Telcos may increasingly bundle satellite connectivity into their offerings, rely on it for the last mile coverage.

And even sometimes as a resilience or backup player, essentially, satellite would ideally become a part of the broader telecom stack. And over the next five years, you could see the relationship evolve from today's core petition that I mentioned to a deeper strategic integration.

And it could be driven by different sort of models. It could be shared infrastructure, hybrid service models, maybe full-blown partnerships as well.

John Gilroy: Well, Grace, I think you've given our listeners a pretty good idea what's going on at SpaceX. It's so exciting time to be in this business.

You have been listening to Constellations, the podcast from Kratos. I'd like to thank our guest, Grace Khanuja, management and strategy consultant manager at Novaspace.

Grace Khanuja: Thank you. Thank you for having me. It was fun talking to you.