

Spire Global, Inc.
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Presenters

Ben Hackman - Head, IR

Peter Platzer - CEO

Tom Krywe - CFO

Q&A Participants

Ric Prentiss - Raymond James

Stefanos Crist - CJS Securities

Steven Pawlak - Baird

Scott Deuschle - Credit Suisse

Elizabeth Grenfell - Bank of America

Operator

Greetings. Welcome to the Spire Global Third Quarter 2022 Call. At this time, all participants are in a listen-only mode. A question-and-answer session will follow the formal presentation. If anyone should require operator assistance during the conference, please press star zero on your telephone keypad. Please note this conference is being recorded.

I will now turn the conference over to our host, Ben Hackman, Head of IR. You may begin.

Ben Hackman

Thank you. Hello everyone and thank you for joining us for our third quarter 2022 earnings conference call. Our results press release, and SEC filings can be found on our IR website at ir.spire.com. A replay of today's call will also be made available. With me on the call today is Peter Platzer, CEO, and Tom Krywe, CFO.

As a reminder, our commentary today will include non-GAAP items. Reconciliations between our GAAP and non-GAAP results, as well as our guidance can be found in our earnings press release.

Some of our comments today may contain forward-looking statements that are subject to risks, uncertainties, and assumptions. In particular, our expectations around our results of operations and financial conditions are uncertain and subject to change. Should any of these fail to materialize or should our assumptions prove to be incorrect, actual company results could differ materially from these forward-looking statements. A description of these risks, uncertainties, and assumptions, and other factors that could affect our financial results is included in our SEC filings.

With that, let me hand the call over to Peter.

Peter Platzer

Thank you, Ben, and thank you everyone joining us on the call today. I know there are a lot of things going on. Spire continued to gain momentum in Q3 and the results truly speak for themselves. We had record revenue generation, achieved almost \$100 million of ARR, and met our objectives for non-GAAP operating margin and EBITDA margin.

These proof points showcase our continued trajectory towards positive free cash flow. Being on the cusp of achieving \$100 million of ARR just five years since we had our first million of ARR puts us among the fastest growing subscription businesses to reach such a level and speaks to the exceptional value that our data and solutions bring to our customers.

Driven by rising demand and a growing recognition of the value of space-based data to help with climate change and global security, Spire is poised to execute within these expanding markets and continue along our growth trajectory. There was no shortage of attention grabbing weather and global security events during the third quarter.

Florida saw one of the strongest hurricanes ever to hit its state, the same hurricane that wreaked havoc and knocked out Cuba's power grid a few days before. Pakistan saw record rainfall and subsequent flooding, where a third of the country was underwater. While Pakistan was flooding, major rivers in Europe and the United States were at such low levels that commercial barge traffic was impeded, adding to the supply chain challenges the world is facing.

King crab and snow crab harvests in Alaskan waters were canceled due to declining crab populations, most likely from stressors of warmer water. The drinking water supply in parts of the United States is threatened as salt water from the Gulf of Mexico is overwhelming the low flow of water from the Mississippi River. Asia and New Zealand saw their fourth warmest and second warmest August respectively, while the Antarctic Sea ice extent reached a record low for the month.

And when the world wasn't witnessing and/or reading about climate change, geopolitics captured the headlines. Shipments of grain out of Ukraine, food that feeds the world, were closely being watched and continue to be so.

Oil and natural gas supplies are closely being monitored as sanctions remain in place, winter draws near, and demand for heating fuels increases. Sabre rattling regarding nuclear weapons caught the world's attention. Authoritarian regimes around the world continue to impose their will on populations that are fighting for their lands, rights, and freedoms. While this is not the world we desire, it is the world in which we find ourselves. At Spire, we strive not simply to

provide insights on the world as it exists today, but to provide insights to make the world a safer place for ourselves and future generations.

Diving more into climate change, the world is seeing a higher number of weather-related events that are causing significant damage and cost. That pace has only quickened in recent years. According to the National Oceanic and Atmospheric Administration and EM-DAT, the international disaster database, between 1980 and 1990 the world saw three mega disasters, each causing over \$20 billion in damages. In the 10 years from 2010 to 2020, that number increased nearly five times to 14. Yet in 2021, in a single year, the world saw five mega disasters, causing over \$20 billion in damages. And in addition, 2021 had 47 weather disasters that each cost over \$1 billion of damage, or stated another way, the world saw on average a \$1 billion weather disaster once every eight days.

It is against this backdrop of increasingly severe weather that the Spire team is working tirelessly to provide data and solutions to meaningfully change the current trajectory. We reject the idea of standing idle by as climate change occurs, and the demand from our customers proves that we are not alone in that notion. Since the inception of the company, our goal has been to utilize space to positively impact life on Earth. Our team of talented engineers has been innovating for more than 10 years, pushing the boundaries of what was once thought possible.

It's with this mindset that we do our part to tackle climate change, empowering both our government and commercial customers by offering data and solutions that are increasingly being utilized to reduce the economic impact, while helping humanity measure and learn, adapt to, and mitigate the impacts of climate change.

During the quarter, we continued to position our weather products infrastructure to allow for enhanced functionality, efficiency, and scalability. We heard from the International Radio Occultation Working Group, a group of scientists co-sponsored by the World Meteorological Organization that Spire's radio occultation data was having a definitively positive impact on numerical weather prediction.

We announced a nearly \$10 million award from NOAA to provide six months of weather data. This is data that will be utilized not solely by NOAA, but data that is open to the world scientists as they collaborate to find new and meaningful weather and climate insights. What's notable is that this was the third multimillion dollar award from NOAA in 2022, highlighting the diversity of use cases we can solve and the execution of our land and expand strategy.

Shortly after announcing this award, we announced a separate \$4 million two-year contract with NOAA for hyperspectral, microwave sensor payload development, integration test, and demonstration. NOAA was assuming that a prototype such as this would need to be developed on an airborne or balloon platform first. However, because of Spire's proven space capabilities

and our partnership with RAL Space, Spire offered to develop the prototype in the actual environment it will be utilized, space. This was a significant differentiator along with our demonstrated track record of providing high quality commercial data that led NOAA to select us for this competitive and challenging mission.

The HyMS Instrument, as it is called, is a next-generation technology that delivers microwave sounding information to measure atmospheric moisture, a critical measurement for more accurate and numerical weather predictions.

Also, during the quarter, we announced an award from NASA, which is focused on demonstrating a new remote sensing technique for measuring soil moisture. As part of the mission, Spire performed a custom collection of signals enabled through a software upgrade to our on-orbit satellites.

The lower frequency of some of the signals allows the radio emissions to penetrate farther into the soil, enabling the team to obtain measurements deeper below the surface when compared to other techniques. These deeper measurements provide better data for applications like agricultural production forecasting and flood prediction.

As we continue to enhance our dataset, we have seen customers utilize our solution to adapt to climate change. Our Dynamic AIS products collect real-time data from hundreds of thousands of vessels on the open oceans. We provide highly relevant attributes including positions, speed, course, destination, and ETA. Given our differentiated product offerings, we can also overlay weather. With increasing frequency of severe weather events, the ability to know where a vessel is, where it is going, and the expected weather along its course can be a lifesaving combination. And that's exactly what we recently heard from one of our customers. With tropical storms in the vicinity of their vessels, this customer was utilizing our dynamic AIS data to track their vessels and keep their employees out of harm's way and their cargo safe. This is a powerful example of AIS and weather being augmented into a 24/7 fleet monitoring and advisory tool.

In another example, Spire Weather Data is used by a Power & Light Company for an around-the-clock weather support center. Meteorologists advise the customer regarding upcoming significant weather events and help to evaluate threats to life and property. Based on Spire's weather data, meteorologists will alert site leads when impending weather conditions might affect operations to discuss risks, trade-offs, and make operational recommendations.

With 29 billion-dollar plus weather disasters through September, 2022 is continuing the trend of an increasing number of devastating weather events that we have seen over the past few years. This trend highlights the need for actionable data and insights from space, data that Spire can provide to affected organizations, large and small, so they can understand, adapt to, and act with

confidence and speed to mitigate the impacts of climate change on the business results and operations.

During the quarter, we announced that GHGSat selected Spire to build, deploy, and operate a constellation of three space-based sensors to monitor greenhouse gas emissions. According to the Intergovernmental Panel on Climate Change, greenhouse gases from human activities are the most significant driver of observed climate change since the mid-20th century. Therefore, greenhouse gas monitoring and reduction could be a game changer for severe weather.

Companies like GHGSat are experts on greenhouse gas monitoring and Spire is an expert on building and running a large constellation. Working together, we can both excel at what we do best. Spire enables great companies like GHGSat to further their mission and vision through our space service offering.

Another one of our customers is utilizing our weather data to generate electricity demand analytics. Taking weather like temperature, radiation, and wind into account, this customer can forecast the demand for electricity at the regional or state level. With the demand side understood, energy utilities can supply the appropriate amount of power with an optimal mix of renewable and traditional energy. Spire's weather forecasts also help on the supply side of the equation by accurately predicting the regional production of green energy from renewable sources such as wind and solar power.

Turning now to global security. The events of February 24th brought into stark reality the fragility of freedom and the importance of global security. The world witnessed the unprovoked attack of Ukraine, an attack that has killed thousands and displaced millions of people. The world indeed can and did change overnight.

In dynamic times, truth and transparency have never been more important. At Spire, we have about 40 geolocation capable satellites in orbit that can detect jamming, spoofing, or the location of objects, such as sanctioned vessels or aircraft through the use of radiofrequency. Our satellites work day and night in good weather or bad and observe the entirety of the Earth's surface area a hundred times a day, providing valuable insights in a rapidly changing environment.

Given the investments and technological advancements that private sector has made over the last several years, there is a growing recognition of the necessity of public-private partnerships to tackle complex global challenges. Governmental agencies have noted that the relationship with the commercial satellite sector is vital. A diversified architecture, encompassing both governmental and commercial satellites in varying constellation sizes and orbits, provides a resilience to the space-based ecosystem.

With over 100 satellites, Spire is a meaningful member of that ecosystem. We have seen the way in which data is being utilized changing. What we're hearing today is that our customers are looking for actionable data faster. More and more often customers are looking for data from commercial satellites that can collect information in the dark of night and under the cover of clouds many times per day. This demand is tailor-made for Spire.

We are also seeing the emergence of new markets that simply did not exist even a few years ago. With the growing signals intelligence market in the tens of billions of dollars and the growing space-space sector within that market, Spire stands ready to support the market needs with our constellation of satellites that is ready to serve today.

As a testament to the new market dynamics and Spire's capabilities, we were recently awarded a contract by the National Reconnaissance Office, or NRO. We are thrilled to have been selected by the NRO to demonstrate commercial radiofrequency remote sensing and we look forward to this partnership for years to come as we partner to create a safer world.

The invasion of Ukraine has also provided the backdrop in which other nefarious activities have arisen. Beyond the tragic reports of activities that have occurred within the region, the conflict has impacted populations outside the region as well. Ukraine is known as Europe's breadbasket, a name that highlights the amount of grain produced. As a global agricultural commodity player, Ukraine produces an estimated 10% of the world's wheat, 15% of the world's corn, and 50% of the world sunflower oil.

Buyers of these grains include countries in the Middle East and North Africa, such as Egypt, Lebanon, and Tunisia. As a result of invasion of Ukraine, the UN World Food Program estimates that the cost of buying food will rise by \$23 per month per person. While this may not seem like a significant increase to wealthy nations, it is a catastrophic increase to nearly 10% of the global population that lives on less than \$2 per day, or roughly \$60 per month, and could contribute to political and social unrest.

Recently, a number of investigative journalists have tracked the seaborne transportation of Ukrainian exports. The Associated Press estimates that at least \$530 million of Ukrainian grain has been stolen. The Financial Times, using data from Spire and others, documented how Russia secretly takes grain from occupied Ukraine.

All vessels that enter and leave a port must have their Automatic Identification System, or AIS on. This is a system that was designed to help avoid collisions at sea. Spire satellites track these signals from space. Vessels involved in illicit activities can manipulate the system by turning off the transponder to go dark or spoofing the AIS to report false positions. Spire's near real-time global geolocation position validation service can uncover suspicious activity and pinpoint a vessel without the need for an approximate location. This insight can be coupled with other Spire

products that can tell how low a vessel is sitting in the water. This is a data point that indicates whether the vessel is loaded with cargo or not.

These datasets are critical to governments, intelligence, and security agencies and non-profit organizations effort to identify and locate vessels that are breaking international law. For a long time having the tools to accurately identify and track ships that are attempting to hide their activities or location has been the missing key to preventing sanctions evasion and many the other societal issues such as illegal fishing or human trafficking.

Spire has recently launched a product aimed specifically at providing insight into these activities. Our dark ship detection builds on our breadth of maritime tracking solutions and underscores Spire's mission to use data that can only be collected from space to improve life on Earth.

Spire's future remains as promising as ever. Awareness and interest in Spire solutions continue to rise, fueled by the global trends of fighting climate change and increasing global security demands.

During the quarter, we added 25 new ARR solution customers taking our count to well over 700. We delivered record revenue during the quarter, our fifth quarter of quarter-on-quarter revenue growth since becoming public. We executed on our bottom-line as we continue the strong trend towards positive free cash flow. We added teammates and now have over 400 talented individuals representing 46 nationalities. With deployed technology, bright and passionate individuals on our team, and an addressable market of nearly \$100 billion and 200,000 potential customers over the next several years, we are well-positioned to build a better future thanks to our substantial scale, competitive advantage, diverse solutions, and market leadership in our core verticals.

And with that, I'll turn it over to Tom.

Tom Krywe

Thanks Peter. The third quarter was another quarter of strong execution with results that were at or above our projections. Q3 revenue increased 114% year-over-year to \$20.4 million, hitting the top end of our guidance.

ARR at quarter end was \$98.1 million, up 117% year-over-year. The strong growth in ARR was driven by further expansion with existing customers like NOAA, but also adding 25 net new ARR solution customers during the third quarter.

We ended the quarter with 717 ARR solution customers, a 219% increase year-over-year and above the midpoint of our guidance. Our organic Q3 ARR net retention rate was 135%, up from

108% in the second quarter of 2022 and the rolling 12-month organic ARR net retention rate was 115%, up from 108% from the second quarter of 2022.

We continue to execute on our land-and-expand strategy with having added nearly 120 net new ARR solution customers so far in fiscal year 2022. As we've seen with our net retention rates increasing each quarter for the last three quarters in a row, these additions combined with our continued increasing ARR net retention rate represent a substantial future revenue opportunity.

Next, I'll be discussing non-GAAP financial measures unless otherwise stated. We provided a reconciliation of GAAP to non-GAAP financials in our earnings release that should be reviewed in conjunction with this earnings call.

Spire has methodically progressed on a strong trajectory towards profitability and achieving free cash flow positive. We've improved our operating margin 86 points to negative 56% from negative 142% a year ago, and our Q3 operating loss improved \$2.2 million from a year ago to \$11.4 million.

Total adjusted EBITDA for the third quarter was negative \$8.3 million from negative \$11.5 million a year ago. We ended the quarter with cash, cash equivalents, restricted cash, and short-term marketable securities of \$82.2 million.

We utilized \$13.7 million of free cash flow in the quarter, which was nearly a 50% reduction in free cash flow usage from last quarter and the same quarter a year ago. While cash can fluctuate from quarter-to-quarter, this significant progress in lowering the net cash burn is in line with our objective of generating positive free cash flow in 16 to 22 months.

This also is a good time to address the S-3 shelf we filed in Q3. As we've been a public company for over a year and so met the requirements to file an S-3, we decided to pursue the filing as a means of good corporate housekeeping. The shelf registration provides flexibility and optionality for longer term planning. We are currently very comfortable with our balance sheet. And as a reminder, we have nearly \$20 million in an escrow account as part of our current financing agreement that is projected to be triggered in the fourth quarter of fiscal year 2022. Due to available cash and financing and a continuing improving trajectory towards positive free cash flow, we have not yet utilized the ATM nor do we have any intention to utilize it in the near future.

Now, turning to our outlook for the fourth quarter and full year 2022. For the fourth quarter, we expect year-over-year revenue growth of 54% at the midpoint, with the range between \$22.1 million and \$24.1 million for the quarter and \$80 million and \$82 million for the full fiscal year.

The sequential increase in our Q4 2022 revenue reflects the incremental ARR added during the first three quarters of fiscal year 2022 taking into account timing of project based revenue and any offset from the continued exchange rate headwinds. We expect to finish the year with over \$100 million of ARR and year-over-year ending ARR growth of 46% at the midpoint, with a range between \$102 million and \$104 million.

ARR Solution customers for Q4 is expected to range between 735 and 745. For Q4, we expect non-GAAP gross margins to have an exit rate of nearly 60%. And we expect non-GAAP operating margin of negative 41% at the midpoint of both revenue and non-GAAP operating loss compared to a negative 86% in the year ago quarter.

Non-GAAP operating loss is expected to range between \$10.4 million and \$8.4 million, which is a \$2 million midpoint improvement from the third quarter 2022 results of \$11.4 million. For the full fiscal year 2022, we expect non-GAAP operating margin to be negative 54% at the midpoint of both the revenue and the non-GAAP operating loss, which is a 51-point improvement from full fiscal year 2021.

Non-GAAP operating loss for full fiscal year 2022 is expected to range between \$44.7 and \$42.7 million, a \$1.3 million midpoint improvement from previous expectations set in August of 2022. The improvement in non-GAAP operating loss guidance reflects further leverage of our headcount and infrastructure across our four solutions.

Adjusted EBITDA for the fourth quarter is expected to range from negative \$7.2 million to negative \$5.2 million and we expect our non-GAAP loss per share for Q4 to range from negative \$0.11 to negative \$0.09, which assumes a basic weighted average share count of approximately 140.2 million shares.

For full fiscal year, we expect adjusted EBITDA to range from negative \$32.5 million to negative \$30.5 million and we expect our non-GAAP loss per share to range from negative \$0.42 to negative \$0.41, which assumes a basic weighted average share count of approximately 139.7 million shares.

In closing, Spire had another great quarter of execution. The company significantly increased ARR to nearly \$100 million and further confirmed the advantages of our land and expand strategy with both new ARR Solution customer additions and increased ARR net retention rates. At the same time, we continue to lower the net cash burn moving closer to achieving profitability.

Thanks for joining us today. Now, we'd like to open up the call for questions.

Operator

At this time, we'll be conducting a question-and-answer session. If you'd like to ask a question, please press star one on your telephone keypad. A confirmation tone will indicate your line is in the question queue. You may press star two if you would like to remove your question from the queue. For participants using speaker equipment, it may be necessary to pick up your handset before pressing the star keys. And one moment please while we pull for questions.

And our first question comes from the line of Ric Prentiss with Raymond James. Please, proceed with your question.

Ric Prentiss

Thanks, good evening, everybody.

Peter Platzer

Yep.

Tom Krywe

Hey, Ric.

Ric Prentiss

Hey, a couple questions. One, I just want to make sure we're on the same timeline. On the positive free cash flow path, which we're all very closely watching and you're managing well. Would month 16 be considered February of 2024 and month 22 August of 2024. Just trying to think through what date do we started counting to make sure we're watching everything correctly?

Tom Krywe

Yeah, Ric, it's March of 2024 would be the 16-month starting point and then the six months thereafter. Thanks.

Ric Prentiss

Okay. Yes. Cool. So the end the first quarter and the end of third quarter 2024 kind of is the timeframe, which has been where you've been I think?

Tom Krywe

Correct. Rolling that date forward for you.

Ric Prentiss

Exactly. When should we think of adjusted EBITDA path to positive? How much sooner than that? And if you could add to that question then, how are you managing through inflation costs, higher interest costs, FX rates that you call out a little bit as being a headwind? How should we think

about adjusted EBITDA turning positive? And how are you managing through all these tough macro environments?

Tom Krywe

Yeah. So the timeline for 2023 financials that we'll put out. We'll do that next quarter. So we'll give the full depth and breadth like we normally do next quarter. But you can assume that we'll get to some of those items slightly before we'll get to the free cash flow positive. But we will be giving out guidance for 2023 next quarter and all those details.

And then as far as like the macro environment, we do see that people do come to us. And we've seen that through COVID. We're seeing that now. People do come to us, and we just solve use cases for them that during tough times, they need to get solved, right? It could be lowering fuel, could be lowering their insurance costs, or whatever that might be, our solutions and use cases that we solve, they can turn to us during those tough times, which we've seen.

I think the one area that we've called out before as being any -- like there could be risks in certain areas, is just around very large deals, some of those deals are taking a little bit longer to close at times because the customer might be having hard times getting funding or their cycle to get approvals might be a little bit longer.

Ric Prentiss

Okay. But as far as you're able to produce on the path to free cash flow positive, you're feeling probably some pressures on inflation costs yourselves? FX rate pressure, interest rate pressure, but you're still targeting that same kind of time frame to turn positive?

Tom Krywe

That is correct.

Ric Prentiss

Okay. We've heard from some of the other operators, and you touched on this a little bit in your previous answer, that some of the government agencies out there have been slow to make decisions, slow to sign contracts with some of the other satellite operators. How are you seeing the government in particular as far as -- obviously, NOAA has been pretty successful for you, but how are you seeing the government, in particular, being able to respond to and sign contracts?

Peter Platzer

I would say that, where there is long-standing relationships, Ric, the speed of signing contracts has not necessarily decreased. So, we certainly see the benefits of being a reliable partner to governments always delivering, always being there, always having a very partnership approach to things. And I think this quarter, in particular, showcased that results with NOAA as one of our longest-standing customers.

So I think it depends on the relationships that you have built with government customers. And I think we are, in certain instances, in a fortunate position to have relationships with government customers, NOAA, NASA, ECMWF, EUMETSAT, UKSA, LSA and others for many, many years and I think that is certainly to our benefit, I would say, at this point in time.

Ric Prentiss

Okay. Good. And then on the cash balance, cash and others, you mentioned about \$82 million in cash, could fluctuate quarter-to-quarter. There's some marketable securities on the balance sheet as well. How liquid are those? And I think you were right when you mentioned that the \$20 million liquidity becomes available on some of your debt as you get to 4Q 2022 in the ARR?

Tom Krywe

Yeah. So we look to get the money that's sitting the roughly \$20 million escrow will be triggered this quarter based on our guidance that we're putting out for ARR. So we're looking really strong there to bolster up the balance sheet this particular quarter or the cash might potentially come in the very part of next year, but it gets triggered this quarter. So that's really looking strong.

Ric Prentiss

And then as far as marketable securities, is that the same item, the marketable securities?

Tom Krywe

Yeah, it's we do have -- so we're obviously trying to take advantage of the interest rates and those activities, and we put some things in marketable securities. It is a liquid event. I mean, so we can get it out and turn it into cash at a quick turn. But we don't have, as you see in there, there's not a large amount of money as a percentage of our total.

Ric Prentiss

Great. Well, congrats on getting the ARR up so significantly. Obviously, that's a huge item to see revenue growing, but also be able to tap the money.

Tom Krywe

Thanks.

Operator

Our next question comes from the line of Jeff Meuler with Baird. Please proceed with your question.

Steven Pawlak

Hi. Thank you. Steven Pawlak on for Jeff. I was hoping you could break down the commercial side of your customer base. I guess what's the current mix today of commercial versus government?

And what are you seeing there as far as initial contracts and upsell and the NRR improvement there?

Tom Krywe

Yeah. On the commercial government split for the three quarters were two-thirds commercial, a third government. It's a little bit of a different number than we had last two years, our revenue was about 50-50. With the acquisition of exactEarth, the mix changed a little bit. We do expect though based on the pipeline and some of the deals we just signed with NOAA and the like, we do expect it to get a little bit more towards the 50-50 as we go over the next so many quarters. So we do expect that to balance back out towards the 50-50.

Steven Pawlak

And then what are you seeing there just as far as, like I said, upsell? So you've had good success with government contracts and obviously expansions there. So I'm just wondering if you're seeing the same thing on the commercial side?

Tom Krywe

Yeah, both. It's definitely, as we get to the split towards 50-50, we're also seeing the same land and expand strategies applied across the board. All of our customers are taking advantage of these cases that we can solve, and that we have for solutions, right? So the cross-selling across those, it doesn't just apply to government. It's definitely applying to the commercial side too.

Steven Pawlak

Okay. And then was the NOAA contract, did that benefit I guess, the 135% NRR that you had discussed? And I guess, sort of is the 130% sort of, I'll call it, a good expectation going forward?

Tom Krywe

Yeah. NOAA definitely helped towards that, but so did a lot of other customers, Peter mentioned like EUMETSAT and some of those other ones, we had nice increases from their contract improving over the quarter. We really had minimal amount of churn in the quarter. It was a fantastic quarter for us across the board, not just with the expansion with the customers, but the minimal churn, which again shows that stickiness that we have with our solution. It shows that once customers come with us, we clearly are solving use cases, otherwise, it will show up, obviously, in the churn over the course of time. So we've seen a really nice mix of both sides of the lack of churn and the thing.

As far as where the rates can be, I mean, clearly, we have the capability to do those type of rates. We've had improvements over the last couple of quarters. We've seen those increases. So we always have the capability to be in that range. But it will -- the chance that it can fluctuate, sure, from quarter-to-quarter, we do have different fluctuations from time to time.

Steven Pawlak

Appreciate the color.

Operator

Our next question comes from the line of Stefanos Crist with CJS Securities. Please proceed with your question.

Stefanos Crist

Hey. Thanks for taking my questions. Just wanted to follow up on the NOAA contracts. You mentioned three new contracts this year. Can you talk about what products they're currently buying from you and maybe outline other products that you do offer that you think they could pursue in the future?

Peter Platzer

So there were three different products that they are engaged with us. The largest one was, of course, on the radio occultation side, which is a particular type of weather data focused on temperature and pressure. It's a data that has a more than two-decade history in the global metrological community, very well understood. We continue to receive excellent reports from that global community about the efficacy of the data in improving the accuracy of weather forecast.

The second data set was around microwave sounding. And if you think about the big data sets that go into global numerical weather prediction, microwave sounding is one of those data sets. There is a very, very clearly expressed desire from the global community to have that type of data at a higher temporal resolution, which is difficult to accomplish with the exquisite, but very few instruments and satellites that traditionally make up the global observing system. And so NOAA is really a highly innovative force here on the global scene, driving the development of that data source from a more proliferated constellation capability.

And their RFP assumed that that has to be first demonstrated on an aerial platform. And it was a very welcome, positive surprise to them and a huge differentiator for Spire that due to our flexibility, reliability, as well as speed, we could say we'll take it all the way, and we put it in the environment that you actually want to use it in, meaning that they get what they're actually looking for, allowing a much, much better pathway for them to have an additional data source there.

And then the third data source was around space weather. And that is basically the activity of the Sun that is driving through interactions with the atmosphere or, if you want to be precise, the ionosphere and the thermosphere impact on everything from power grids on Earth to satellites on orbit.

Now the Sun has what's called a solar cycle, and it means that sometimes it's a very busy bee and that other times, it's a bit sleepy. The last few years, she has been more sleepy, but as the Sun activity has been picking up and the solar cycle continues to creep up towards the maximum, global interest in space weather data has been dramatically increasing. And again, the large constellation that Spire has deployed allowed us to provide a highly value-add and unique product that we can provide there.

When we talk about additional products that we could provide to NOAA, I'm going to focus on weather related products. And there is a broad set of products that we are either already producing in an early phase or are in the process of producing. We're talking about soil moisture, which has a huge impact on thunderstorm development over land. We're talking about ocean surface winds which, of course, are relevant when we think about hurricanes and hurricane paths. We're talking about sea ice content which, again, through the interaction with the atmosphere has an impact on weather prediction. We're talking about rain content, which can be derived through a technology called polarimetric radio occultation that Spire is deploying.

Those are just some of the data types that are relevant for metrological organizations, in particular, places like NOAA, that Spire has on its road map or already on orbit or already in deployment that we think will over time find its way into organizations like NOAA at scale, similar to how radio occultation has been growing from a very small amount to amount to a now more relevant amount, from a weather prediction perspective, as well as from a revenue perspective, for Spire in helping the global community adapt to an ever more violent weather pattern across the world, which to tame and understand, we just need more data.

Stefanos Crist

That's great color. Thank you.

Operator

Our next question comes from the line of Scott Deuschle with Credit Suisse. Please proceed with your question.

Scott Deuschle

Hey, good evening. Thank you for taking my questions. Tom, I think you said in the past that the commercial business should be relatively resilient in a macro downturn since your data helps operationalize those businesses. I guess is your experience so far in today's environment, proving that to be true? Or to ask it another way, are you still seeing good growth from commercial customers?

Tom Krywe

Yes. We are seeing good growth from commercial. We're obviously seeing it from the government side, too. So yes, we've seen it from both sides. And like I said, during these tough

times, a lot of customers do come to us in need when they want to solve some of their tough problems that they have. And our unique data that we can provide that is coming from space is quite valuable, obviously, and then they can get on as the new additions. And then obviously, we have obviously been doing very well with the expanding with our existing customers.

Scott Deuschle

Okay. And then Tom -- and sorry, I joined a bit late, so I may have missed this. But are the sequential declines in G&A, is that mostly FX? Or is there some cost takeout there as well?

Tom Krywe

No. There is cost takeout there. We hit our anniversary for our D&O insurance, and we've been doing really well on our guidance and exceeding and meeting expectations. And so we're able to significantly reduce the D&O insurance. So that was one area. Also a year ago, we went public, we had an acquisition, we did a new credit facility throughout the year, so less transactions obviously also create less G&A spend for auditing and filings and legal expenses. So it's actually not as much on FX as it is just reductions and us scaling as a business as we move forward.

Scott Deuschle

Okay. Great. And then the goodwill impairment analysis on exactEarth, will that be done in Q4 here?

Tom Krywe

We are looking -- we did do a goodwill analysis on that. So that was all reflected both in Q3 and then in Q4 also.

Scott Deuschle

Okay. Great. And sorry, last question for Peter. I think you've talked about \$2 million sales quotas for your sales force in the past. Can you just update us on any data points there? Like is the average rep hitting that, I guess, kind of a bigger picture question, but anything you can talk about with sales productivity would be helpful? Thank you.

Peter Platzer

Well, we just grew ARR to \$98 million in the quarter. So I definitely don't have much leverage in telling my salespeople they need to work harder at this point in time, I have to admit. So the productivity per sales head is definitely something that we are quite proud of. And it's definitely in a very, very healthy number. I would say maybe not look for doubling that again, but keeping it at a healthy pace is the right way to think about it, because we are already in a very, very rarified area with the productivity per sales head for subscription businesses.

Scott Deuschle

Okay. Great. Thank you guys.

Operator

And just as a reminder, if anyone has any questions, you may press star one on your telephone keypad to join the question and answer queue.

Our next question comes from the line of Elizabeth Grenfell with Bank of America. Please proceed with your --

Elizabeth Grenfell

Hi. Good evening.

Peter Platzer

Hello.

Elizabeth Grenfell

What is the driver behind the lowering of the top end of the guidance sort of across the board?

Tom Krywe

And you're referring to -- we kept the ARR guidance midpoint, the same. We just tightened the range.

Elizabeth Grenfell

Right. But the revenue guide down on the top end, the non-GAAP loss per share is off by a penny on the top end. I'm just curious what the driver was behind that?

Tom Krywe

Yes. We just tightened the range on the revenue. But we did increase the non-GAAP operating loss by \$1.3 million. So we felt like that's definitely a good trade-off on improving those margins. And so that was something that we gained through that continual and further leverage of our business and our cost structure. But really the revenue was just tightening in on the range.

Peter Platzer

I think the right way to look at it, Elizabeth, I think, from our perspective, from the third quarter to the fourth quarter is the midpoint, right. And you tighten the ranges and the midpoint stays the same, and that's pretty much what you see everywhere across the board.

Elizabeth Grenfell

Okay. Was there something specific on the top line that was looking weaker than a quarter ago?

Peter Platzer

No. As I said, you tighten the bottom and you tighten the top. And to keep the top line -- the midpoint the same, it's just math that you go from the third quarter to the fourth quarter, you tighten both sides, as I think good companies always do, keeping the midpoint just about exactly the same or exactly the same as you go towards the end of the year.

Elizabeth Grenfell

Okay. Thank you very much.

Peter Platzer

Of course.

Operator

And we have reached the end of the question-and-answer session. I'll now turn the call back over to Peter Platzer for closing remarks.

Peter Platzer

As we wrap up, I would really like to thank our more than 700 customers, 400 employees, and numerous suppliers for partnering with us as we continue on a substantial growth trajectory. Without our customers, employees, and business partners, we would simply not be here where we are today. And on a daily basis, the news reminds us that the shocks of climate change and geopolitical events shake the already very fragile world we live in, but with our data and solutions, we strive every single day to provide transparency and stability to that world. And I literally could not be more excited about the prospects for Spire as we work together to create a more sustainable, equitable, and prosperous future for all of us right here on planet Earth.

Operator

And this concludes today's conference. And you may disconnect your lines at this time. Thank you for participation.