

Biogen Inc.

# Biogen Inc. presents at TD Cowen 44th Annual Health Care Conference 2024

Monday, March 4, 2024 11:10 AM

---

## Event Participants

### Analysts 1

Philip Nadeau

### Executives 3

Michael McDonnell, Alisha Alaimo, Priya Singhal

---

### Philip Nadeau Analyst

Good morning, and welcome once again to TD Cowen's 44th Annual Healthcare Conference. I'm Phil Nadeau, one of the biotech analysts here at Cowen. And it's my pleasure to moderate a discussion with Biogen. We have 3 executives with us this morning. We have Mike McDonnell, CFO; Priya Singhal, the Head of Development; and Alisha Alaimo, President of North America.

### Philip Nadeau Analyst

Maybe we'll start with LEQEMBI, move to SKYCLARYS and move on to some of the rest of the portfolio. With LEQEMBI, I'll hand it over to you guys. Can you give us an update on LEQEMBI's launch? How is the adoption tracking against Biogen's expectations?

### Michael McDonnell Executive

Sure. I can start, and then Alisha can dime in, she's living this all day every day. So good morning, and thank you very much to everyone for being with us today. I would say that the launch of LEQEMBI is going in line with what we expected, which is a very gradual uptake. All of the key performance indicators are moving in the right direction.

This is very gradual. There are a number of things that have to be accomplished when you're looking at something that's new like this. There's a lot of time involved to get patients into seek neurologist. We also have a situation where for many, many years, there really was nothing that could be prescribed like this for Alzheimer's patients. And so we have to get the neurologists used to actually prescribing and getting patients through this process.

Reimbursement so far is going very well, and we do not see any demand issues. And I'll let Alisha comment further.

## Alisha Alaimo Executive

Yes. Thank you, Mike. LEQEMBI has been fascinating. You go back a year, I think we're all sitting in a room wondering is it going to get approved and are you going to be reimbursed, and are we going to be able to do PET scans. And you fast forward and all of those things have happened.

And when you look across the landscape, you have to also keep in mind that there is no one way to treat Alzheimer's patients. If anyone, unfortunately, has known anyone or had anyone in their family that has had Alzheimer's, you're going to know that it's a little bit frustrating on even moving through a process, because there really is no process. So the good news is a lot of those big hurdles we thought we'd have a year ago, CMS moved more quickly than any other analog, I think, we've ever seen. And even the PET NCD returning was something that happened way faster than we expected. And when you look at approvals through MAX, MAX have reimbursed and made payments already without even putting some policies in place.

And so all of those things look good. I think, though, at the end of the day, when you look at the launch in general, it is slow and steady. And it's going to be slow and steady because there will still be those bottlenecks that we've known of since the beginning, which is one, getting an appointment with a neurologist, which, if any of you have tried to get into a neurologist recently, it can take upwards of 6 months. And that two, the complexity of a lot of these centers getting up and running. You see a lot of the single practices or smaller practices outside of centers adopting it very quickly.

And you see centers now really moving through that. And those indicators that Mike was talking about, even getting through P&T approvals happened more quickly than what we thought. In fact, P&Ts have even moved up some of their meetings, which some of these large IDNs only have a P&T once or twice a year. You see that the number that is ordered, 80% of them have already ordered that have been on P&T, which is also great. And if you track the week-by-week patients that are either going on product or going into the CMS industry, you are starting to see more of an acceleration as the weeks go by and even when you compare month-to-month.

## Philip Nadeau Analyst

What can [indiscernible] to speed the process of getting patients on therapy? Is there anything you can do to alleviate the bottlenecks? Presumably, there's nothing to do about getting the appointments more quickly, but getting this up and running, working patients on centers through reimbursement, what can Biogen and Eisai do?

## Alisha Alaimo Executive

Yes. So Biogen and Eisai have been speaking about that because we think that right now is the appropriate time to make an additional investment. We had to wait for the market to get to a certain level or to a certain place before we decided to invest more money. So we have decided what we've seen is they have these roles that are called neurology account specialists, or NASs as they referred to, we've decided to increase them about -- by about 30%. We're deciding those footprints within the week or next week.

We hopefully will get those roles posted and up and running. We're also looking at account executives. But more importantly, what you're seeing from physicians is they need the help. They need the engagement from teams. Because there are so many different steps in the process, they need help in the guidance on what they need to do.

So we believe that, that is going to help. The second thing that we'll be looking into, which is obviously for the next phase of the launch, is how do we get patients that are referred in a higher quality patient versus some of them that are taking up those appointment slots. So for example, are you able to use a blood-based biomarker prior to referring them on, so we know they have a higher probability of having an amyloid beta confirmation. So there are several things that we can do. I do think that with reimbursement, that's probably the part that's gone very, very well via CMS.

But I think adding more people in at this point in time is probably the next stage for us since the market is quite ready for it.

### **Philip Nadeau** Analyst

One thing we hear from the physicians that we discussed LEQEMBI with is the logistics of the every 2-week infusion. It can be -- they expect cumbersome for some patients. You are, we think, going to file a subcutaneous version by the end of the month. Can you give us an overview of where the subcutaneous version is, the data that you presented at CTAD, and when do you think that could be on market?

### **Priya Singhal** Executive

Sure. So the overall premise of subcutaneous formulation was to demonstrate bioequivalents. We shared the 6-month data at CTAD in 2023 -- late 2023, and we were very pleased with the data that we shared because we were able to demonstrate bioequivalence between intravenous and subcutaneous formulation. We think subcutaneous formulation is going to have an important role to play for patients in terms of convenience, optionality and also in different treatment paradigms, such as potentially someday in presymptomatic -- treatment of presymptomatic patients. Right now, as Eisai has communicated, the filing will be entered by Q1 2024, so we're looking forward to that.

It is a package with where we saw the 72 patients which were -- who were lecanemab-naive as the primary data set. And there is an additional data set of 324 patients where we have additional safety data. So overall, we're very pleased with where we are, and we are aiming to file by Q1 2024.

### **Philip Nadeau** Analyst

When we looked at the data at CTAD, to us it seems like it was very close to IV, although there seem to be somewhat higher rates of ARIA and somewhat greater clearance of plaque. Is it possible that the dose is maybe just slightly too high that you -- is there a risk that the FDA asked for slightly lower dose to be evaluated?

### **Priya Singhal** Executive

So overall, we're looking at all of these types of questions. We're continuing to engage with

FDA that's ongoing. But stepping back, what we saw was that it was within the bounds of bioequivalence. And we don't believe that the ARIA rates are significantly different. We have looked at subsets of that data in terms of incidence, frequency as well as severity, and we believe that the characterization of ARIA is very similar.

**Philip Nadeau** Analyst

You were in -- you say you've also suggested that you're going to file a maintenance dosing schedule by the end of the month. Can you review for us what is that maintenance dosing schedule and what data support it?

**Priya Singhal** Executive

Sure. So overall, just stepping back, when we think about the data that we submitted and shared at CTAD, we showed that 24 months out to 24 months, lecanemab continues to show up clinical benefit. This is really important because although plaques have been cleared, there continues to be a benefit. This is unique to LEQEMBI because we believe it has a dual action. It targets plaque, clears plaque, but also works on targeting the soluble amyloid species that continue to persist.

And we have another line of evidence where we've seen that basically while plaque does not reaccumulate rapidly after clearance, the biomarkers do rebound, such as the Abeta 42/40 ratio. So we believe that there is a benefit to continuing to treat patients. The question that Eisai and Biogen are attempting to answer now is what is the frequency that is needed to continue maintaining that benefit. And in the Phase II open-label extension, there is a subset and substudy, which is the maintenance IV dosing regimen currently evaluating every 4 weekly dosing. So that is the package that is being prepared to initiate the filing in 2024.

**Philip Nadeau** Analyst

What does Biogen's view of LEQEMBI's market potential at peak? And how has that view influenced by whether the maintenance dosing schedule in the subcutaneous version are available?

**Michael McDonnell** Executive

Yes. As you mentioned, it's been a very gradual uptake. And so it's too early to predict exactly where it will end up, but we continue to believe that this can be a very meaningful opportunity for both Eisai and for us, and we continue to monitor all of the uptake levels, as I mentioned before. All of the key performance indicators are continuing to progress in the right way. We don't necessarily think there's going to be an aha moment in terms of patients coming on drug, maybe more of a bending of the curve, so to speak.

But we continue to believe that it's got a good potential to be a sizable opportunity, not a demand issue, a lot of patients out there that are desiring to have treatment.

**Philip Nadeau** Analyst

We modeled \$200 million of revenue this year and \$3.6 billion in 2028. Mike, do those numbers evoke any feelings in you, happy, anger?

**Michael McDonnell** Executive

Evoke any feeling. Yes, we don't guide on product specifics, obviously. I think that I'll just kind of repeat what I just mentioned, which is that kind of a slow and steady uptake, things moving in the right direction, and we continue to believe that it could be a meaningful opportunity, which we're excited about.

**Philip Nadeau** Analyst

We expect Lilly's donanemab to be available this year. How could that impact the market potential for LEQEMBI and the uptake of LEQEMBI?

**Alisha Alaimo** Executive

Well, I think first, anytime a competitor comes out in a space like this, it's a good thing for patients. I think it's also going to be a good thing for the systems of care and how they get up and running with logistics. So when you have 2 companies out there helping them sort of get the care pathways up and running, we do believe it will accelerate getting patients to therapy. So I also think it's always a good thing for the community. But what remains to be seen is what goes into the label.

And that's always, at the end of the day, the question that you have when another product comes out and is a different product from ours. And so the label will be very important.

**Priya Singhal** Executive

I agree. And I think that eventually, we believe that the data that LEQEMBI have are really compelling. So the package is very straightforward. It's a simple treatment paradigm. It addresses a broad early AD population without stratification on elements like tau.

And we are also working towards maintenance. So we're working to define that with data and actually have a label eventually to support that.

**Philip Nadeau** Analyst

Transitioning to SKYCLARYS. How is the launch of SKYCLARYS tracking against Biogen's expectations when you bought Reata?

**Michael McDonnell** Executive

Yes. So I'll start on that and then I'll turn to Alisha again. She's living that one every day as well. I would say that, firstly, the launch of SKYCLARYS is tracking very much in line with the expectations that we had when we did the Reata acquisition that we closed on September 26 of last year. There was a bolus of patients back when, prior to the acquisition, which existed and then there was also a gap between when the FDA approved the product and when the product was actually available because there was a manufacturing impurity that had to be worked through.

And so we mentioned publicly between 800 and 900 patients back in November. We mentioned 1,000 patients on our earnings call last month. And so that bolus has sort of come through the 150-or-so patient increase from November to February, it's about 50 patients a

month, very much in line with what we expected originally. We're very happy that we now have approval in Europe. And so you will see that very early days there, but that will begin to ramp.

That will not be as rapid a ramp as what you see in the U.S. because we have to negotiate pricing country by country. And because it's a rare disease, we're hopeful to have pretty favorable pricing throughout Europe. But we originally had the estimate that the U.S. would be roughly half of the economics, Europe might be roughly 40% and the rest of the world being the rest.

And I would say that everything is going very much in line with the expectations that we had back when we did this acquisition, which again closed in September of last year.

### **Alisha Alaimo** Executive

Yes. So I agree with Mike, it is as expected as we thought when we did the acquisition. I think when you look at SKYCLARYS, you talked about the bolus, but to put the bolus in perspective, we had on like day 1, 700 patients come through for start forms. It took SPINRAZA 3 months to get to the same market penetration, right? And this happened in 1 day.

So it was quite a bit of a bolus in the very beginning. However, there are 4,500, we think patients that are seeing out there. And as you look at the launch and as they came on board, this community, and I don't -- if anyone knows with Friedreich's ataxia, it's a close, tight-knit, passionate community, led also by a patient efficacy group called FARA, who's been incredibly important with getting these patients to the right physicians and getting them aware that they are now going to be treatment options for them. But when you look at the actual rare capabilities of Biogen and taking on this acquisition, it couldn't have been a better fit. And we've seen a lot of improvement since we acquired Reata.

So you'll see that even with access, our market access team has improved access from 45% all the way up to 70% in a short amount of time. They've also been able to overturn some of the more restrictive policies that were out there, especially with Medicaid and state by state, which has been helpful. Shipments have come down dramatically, meaning that the time it takes from start form to shipping the drug to patient -- I think when we took it over there, it was up at 40 days. We now have it down to 10 days. Also refills, so patients waiting for refills has dropped dramatically.

And so the team has worked really hard on getting these patients to product quickly. And when you look at where we are now, it's typically, you have your bolus and then you have patients who have been in those doctors offices over a couple of years and patients who might have been in over the last maybe up to 5 years. We have an idea of every single office and where these patients have gone. And now it's like a typical rare disease launch where you are deploying the tactics to get the patients back into the offices, get them genetically tested and hopefully getting them to products.

### **Michael McDonnell** Executive

Yes. And the SPINRAZA analog is a good one, just to put a little bit of a quantification maybe around that. We're about 3 quarters in since the launch of SKYCLARYS. And at this juncture, when SPINRAZA was launched back in, I believe it was 2016, there was about 14% patient

penetration. And on SKYCLARYS, we're currently at about 21%.

**Philip Nadeau** Analyst

In terms of logistics first, you noted the decrease in time from identifying the patient to the shipment. Was that all reimbursement? And if not, what other logistics issues would a patient face in getting on therapy?

**Alisha Alaimo** Executive

So one, they have to get genetically tested, right? So I think it's the availability of a genetic test as a physician and where to actually go for and because this genetic test is not on every panel. Number two, then it comes to the prior auth in the payer situation. And then number three, it depends on where the patient's at and whether they have decided to go with treatment, not go with treatment, but a lot of it will be the genetic test and the payer environment.

**Philip Nadeau** Analyst

Okay. And I think you said you have the time from script to shipment down to 10 days. Is that...

**Alisha Alaimo** Executive

Yes.

**Philip Nadeau** Analyst

Is that as good as it gets? Is there more?

**Alisha Alaimo** Executive

It's pretty. That's actually pretty good. I mean if you look across oral medications for other specialty products, it takes about that time. So it's, on average, 10 days. And so you have some that are a little less, some there a little more.

**Philip Nadeau** Analyst

And in terms of ultimate market penetration, like you mentioned 21% today, where could that go in 3 years or 5 years? What peak penetration is possible?

**Michael McDonnell** Executive

Well, the estimated patient population in the U.S. is, we believe, is around 4,500 patients. Obviously, our goal would be to have all of them. That's probably a little bit of a lofty expectation. But we do think we can get a meaningful percentage, a high percentage.

And this is a rare disease, there are not a lot of treatment alternatives. This is oral and it's one that is pretty easy for patients to manage. So we think it can be a meaningful penetration both in the U.S. and, hopefully, in Europe and other parts of the world as well.

**Philip Nadeau** Analyst

And on Europe, you mentioned the proportion of revenue expected to come from Europe,



what would be the trajectory of that launch? How -- over how many years will the country-by-country reimbursement come through?

**Michael McDonnell** Executive

Yes. That will pace differently than the U.S. It will be slower. So you'll probably see that kind of ramping over kind of maybe more like a 2- to 3-year time horizon.

**Philip Nadeau** Analyst

And is there any update on the plan for a label expansion to include pediatric patients?

**Priya Singhal** Executive

Very much so. It's a top priority for us. We know that about 10% of the Friedreich's ataxia population is in the pediatric range, i.e. below the -- age 16, which is in our current label. It's a very high unmet need.

We have worked quite hard to modify our Phase I protocol to identify the dose for different age groups for this population. And we've also incorporated feedback that we've received from the FDA, including the addition of a long-term extension. In parallel, we're working on the other steps, medical and regulatory steps that would be required once we identify the dose. So this is a top priority for Biogen. We're working very closely with FARA and others in really ensuring that we get this to patients with the absolute urgency that we can.

**Philip Nadeau** Analyst

Turning to the other product launch, ZURZUVAE. If you could give us an update on Biogen's strategy for ZURZUVAE? Where is the launch today? And where could it go over the next year or 2?

**Alisha Alaimo** Executive

Yes. So ZURZUVAE has been actually really a pleasant surprise and we -- when we look at what's happening, I mean we're in a unique position because we're right in the middle of sort of this movement that's happening in the United States, which happens to do with women's health, reproductive health and health equity and then you have ZURZUVAE. And the media attention that we got right out of the gate was absolutely phenomenal. Also the amount of women that have come forward to either talk about their story or to relay like we wish we would have had a treatment or I've had such a struggle. The way that we've approached the launch because if you remember, we were planning for MDD and PPD.

And when it became a PPD only launch, we had to pivot very quickly. And our pivot was we will scale with success. So we've done it in a couple of ways. One is we have targeted the high-volume physician offices that we know are seeing these PPD patients. You're going to see a mix.

If you were to look at our target list of psychiatrists, OB/GYNs and PCPs, I think one of the things we question is, would OB/GYNs write because typically, they don't see that patient perpetuity, they may see them after they get the birth of the child for one time and then they're back to whatever doctor that they're seeing. But it's been interesting because OB/



GYNs have actually taken up on the prescriptions quite quickly. They and psychiatrists have been, right now, our highest prescribers across the board. And so what we're starting to see across the country are patterns emerging. We're seeing differences in what psychs need versus what OB/GYNs need.

And so also, since the launch, we see an increase in prescriptions every single week, which remember, these are -- you write a prescription once that's done, right? It's not perpetuity, it's a 14-day treatment. It's like what you would see with Z-Pak, right, for antibiotics. And so we're seeing really a nice steady increase and a good uptake from these offices. And so far, anecdotally, patients -- really, we've had some incredible patient stories from women where they're seeing the effect in as little as just a couple of days.

They're able to return to their babies. Some of them want to go back to work again. I mean it's really been a wonderful launch to be a part of.

**Philip Nadeau** Analyst

How do you frame the long-term market opportunity in PPD?

**Alisha Alaimo** Executive

Well, I would say just for -- to know the numbers, about 500,000 women have PPD symptoms every year. About 16% of them actually end up on a pharmacological treatment. Right now, the majority of those are going to generic Zoloft. So it remains to be seen, especially after when we scale and when we see the uptake of ZURZUVAE. But we do have aspirations of being the first choice treatment, only choice treatment for PPD for years to come.

**Philip Nadeau** Analyst

Turning to MS. What is the outlook for the MS franchise? I believe we're modeling a low to mid-single-digit decline in revenue. Is that reasonable based on all the competition that's coming?

**Michael McDonnell** Executive

Yes. So we do expect that the -- our MS franchise, the revenue line will continue to decline. It declined by about 12% at constant currency last year. The fourth quarter was on the order of about 5%. We did have a positive development in December on the legal front, and we do believe that we are clearly entitled to exclusivity on TECFIDERA in Europe through February of 2025, and we have had generics in that space that have been difficult to get out, and we do intend to obviously enforce all of our intellectual property rights.

But that's the TECFIDERA dynamic. Secondly, we also have a few countries in Europe that have launched TYSABRI biosimilars. And we expect that there could be some more and then potentially some biosimilar entrants in the U.S. later this year. So that all adds up to a landscape where we expect that it will continue to decline in 2024.

But we do have, obviously, new products now launching that we've talked about SKYCLARYS in particular, LEQEMBI, QALSODY, ZURZUVAE. And the guidance that we put out in February of this year is that we expect that our core pharma revenue, which we define as all of our

pharmaceutical products plus the collaboration revenue that we get through -- in our collaboration with Eisai and LEQEMBI should be roughly flat in 2024, and the high level of that is the MS franchise declining offset by the launch of the new products growing, netting to a roughly flat trajectory on the top line.

### **Philip Nadeau** Analyst

Turning to R&D strategy. What is Biogen's most recent thinking on how you construct an R&D portfolio? What's the ideal spectrum of risk? What disease areas is Biogen interested in?

### **Priya Singhal** Executive

Yes. So overall, in '23, we undertook a very intentional exercise of evaluating the entire portfolio based on our scientific confidence as well as operational confidence of each and every program. And based on that, we made several decisions to close down or terminate certain programs, yielding a large amount of savings. But more importantly, our focus on the programs where we believe we have the highest probability of success, and a targeted focus and investment in these programs. Some of these we will see readouts in 2024 and others like BLIB080, which is our ASO targeting tau and litifilimab for CLE s well as SLE, we continue to invest in.

So that was our strategy for '23. With that, we have also created the opportunity to think beyond neuroscience. And we were already committed to specialize immunology with our investments in SLE and CLE. And so that's an area we'll continue to build on. We have 2 products in that space, as well as rare.

And you saw that materialize with our acquisition of Reata and bringing SKYCLARYS forward. So those are areas that will continue to be important. We have neuroscience that we believe in. We have a lot of expertise, but we're expanding that in a very intentional manner to specialize immunology and rare disease. This year, we have readouts in, for example, Angelman syndrome, which is a neurodevelopmental disorder, but also happens to be rare.

So we'll see how that reads out. But those are the types of investments we're making. I'm working very closely with my teams, along with our new research head, [ Tim Rogan, ] and our Head of Corporate Strategy, Adam Keeney, and together, we are also looking at several external additional opportunities we would want to invest in across all these domains.

### **Philip Nadeau** Analyst

It doesn't seem like Biogen gets much credit for its pipeline. Which programs do you think are most misunderstood or underappreciated? Where would you focus investor intention?

### **Priya Singhal** Executive

Yes. I think that overall, we are very -- we've been very systematic about how we invest in programs, specifically after the R&D prioritization effort we undertook. And some of the programs I'd like to call out are a couple of the programs that are going to read out this year. One is for Angelman's and one is sporadic ALS. Granted, these are very early Phase Ib studies, but they're important.

And we have a lot of data and set up and prep on how we would make those go-no-go decisions. So that's one. The other is we are very excited about our antisense oligonucleotide against tau BII080, where we shared very exciting data last year at CTAD. And why are we excited about this small data set of about 47 patients in a Phase Ib trial? The reason is that we saw convergence of fluid biomarkers, objective tau PET and emerging clinical data.

And so we've doubled down. We have a proof-of-concept study ongoing called the CELIA study, where we are looking at different dosing paradigms and different dose levels. It's going to be important for us to get the readout on that. And why is that exciting? Because we believe that we are currently leading in Alzheimer's disease, and we want to continue to maintain and expand that leadership opportunity.

So we've got the anti-amyloids, which provide meaningful benefit in a certain range. And we believe that the future is going to be beyond the anti-amyloids and in different patient population. So we're looking at the early AD population for LEQEMBI, of course, the launch as you've heard, we're also looking at the presymptomatic AD population, which would be AHEAD 3-45 trial. And then we're looking at potential add-on or combinations in future years once we prosecute our proof of concept with the anti-tau ASO. And of course, we've got 2 programs in SLE, 1 in CLE.

We believe these are very important high unmet needs, and we think we have confidence in the biology here for litifilimab for both SLE and CLE. So we're continuing to enroll that. We will have a first Phase III readout for DAPI, which is our other program in SLE this year, which again would give us the impetus to initiate a new trial. And we believe we've put in all the learnings from prior failures. So we're excited to see how that reads out.

### **Philip Nadeau** Analyst

Maybe to finish with a couple of financial questions. Mike, the Fit for Growth cost savings, I think you've guided to \$200 million in additional cost [indiscernible] next is everything on track? Is there any possibility that the cost savings could be greater than what you've got here?

### **Michael McDonnell** Executive

Yes. So everything is on track. I think we are finding that the results are actually very much in line with how we've spoken about them publicly. And our hope would be to exceed what we've committed to. But at this point, I think we're comfortable with an \$800 million net by next year, of which, as Phil articulated, \$200 million last year, \$200 million this year.

So cumulative, \$400 million and then the remainder of next year. That all translates into a guide that we put out last month of about a 5% EPS growth in 2024. We expect that our operating income will increase by a double-digit margin, and that's because of the fact that we do have cost savings on a -- and product that's transitioning out of some lower margin third-party manufacturing revenue into higher-margin product revenue. That will be offset somewhat by some below-the-line reductions in interest income and some increases in interest expense due to the Reata acquisition, but that will abate as the year progresses. So I do want to just mention that you may see some lumpiness on the bottom line, and that's in part due to the timing of the Fit for Growth savings, the below-the-line dynamics we have.

SPINRAZA can be somewhat lumpy in terms of when the shipments occur OUS, and that could be a little bit more -- that revenue could be a little more weighted to the back part of the year. We also have R&D milestones from time to time that can create some lumpiness. So we'll try to call those out as the year progresses in terms of what to expect on a quarterly basis. But we did guide last month for some -- for a growth of bottom line of about 5%.

**Philip Nadeau** Analyst

And in terms of business development, Priya mentioned that by just looking to supplement the pipeline through external innovation, what is the capacity to do business development post throughout acquisition?

**Michael McDonnell** Executive

Sure. So Reata was a transaction that obviously utilized a good amount of cash, and we did take on a modest amount of incremental debt, about \$1 billion. We did repay 35% on that, so \$350 million at the end of 2023. And our expectation is that we'll continue to pay off the rest of that as we progress through 2024. But we still do have quite a bit of capacity.

We ended the year with about \$1 billion in cash. We generate the better part of \$2 billion of free cash flow each year. We have a payment that's north of \$400 million due from Samsung in the early part of the second quarter. And so when you put -- and we still have a modest amount of leverage. So when you put all that together, we still have a very meaningful amount of capacity that we can utilize for business development activities in the interest of working in out growth trajectory, and you should expect that we will continue to be active, and there's quite a bit of things that we're looking at actively everyday.

**Philip Nadeau** Analyst

That's great. And with that, we're out of time. Thank you for an interesting discussion.

**Michael McDonnell** Executive

Thank you, Phil.