

**[Continued from 4Q 2023 Prepared Remarks]**

The document below is the transcript of the question-and-answer session of Nasdaq's fourth quarter 2023 earnings call, which includes one correction. The statement on page 5 as corrected is: "**Within the data and listings business though we basically are saying that it's a low single-digit grower and we would anticipate that we can still achieve that even with the more muted listing revenue that we would expect in 2024.**"

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**4Q 2023 Earnings Conference Call Q&A Session (Corrected)**

**Operator**

Thank you, ma'am. [Operator Instructions] And I show our first question comes from the line of Owen Lau from Oppenheimer. Please go ahead.

**Owen Lau**

*Analyst, Oppenheimer & Co., Inc.*

Hi. Good morning. Thank you for taking my question. I know Sarah mentioned that you may talk about that during Investor Day. But could you please add more color on the initial progress of integrating Adenza and achieving revenue and cost synergies? Thanks.

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Sure. Hey, Owen. Yeah. So, we – as we said, we closed on November 1. We immediately created the operating model on a go-forward basis, meaning we combined the teams. We have a leadership structure now that is a combination of Adenza and Nasdaq personnel under Tal. And we've been working very hard to make sure that we bring the sales organizations together, the client delivery and success, the operating teams, as well as the technology teams together.

And so, Owen, I think it's – it's only a couple of months in, but we are definitely operating as one team and we have a very specific and defined synergy plan. We have a very clear line of sight as to how we're going to achieve that plan, and we will provide more details on that. But I would say, Owen, that across all of Nasdaq, we have a combination of efforts to make sure that we create efficiencies within the team just as the normal acquisition integration would occur, but then also a location strategy that allows us to align ourselves with our clients going forward and leverage the strengths that Adenza has in some very critical centers of excellence around the world.

So, we do have a – I think, a good plan. We will provide more details at Investor Day. And then, the last thing I would say on revenue synergies, it's obviously very early days, and it takes time to sign new deals. It takes time to develop those relationships. But the early conversations that I've had and that Tal and Valerie, who's the Chief Revenue Officer, have been extremely encouraging. People really want to partner with us. They see us now as a partner to help them solve their largest problems. That's across Reg Tech, that's across Anti-Fin Crime and risk management.

I think they understand that we understand them. We are regulated. We have great relationship with the regulators. I think they also understand we can bring a lot of advanced technology in and advance the cloud capabilities within Adenza. So, I have to tell you that the early conversations are really great. But as we've said all along, it will take time for those revenue synergies to actually show up in the financials, and again, we'll provide you more color on that at Investor Day.

**Owen Lau**

*Analyst, Oppenheimer & Co., Inc.*

Got it. So, on Verafin, you published a report. You talk about the amount of fraud and also potential opportunity. Can you talk about the strategy for you in 2024 for Verafin? Which area do you think you can win more Tier 1 and Tier 2 clients? Is it more on the payments side or in other areas? Thanks a lot.

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Yeah, sure. Yeah. Thanks for pointing that out, Owen. We did create a study that – we're working with two outside parties. So, it was both outside parties and us. We interviewed a lot of the key personnel within banks that are responsible for anti-fin crime to understand, number one, how big is the problem, \$3 trillion of money laundered through the system, \$0.5 trillion lost to fraud; and then, how big is the problem in terms of actually having to solve it and what are the challenges. One is that different criminal actors act differently. So, you have to really have different typologies of analytics to try to root out different criminal behaviors, number one.

Number two, as we've always said, the criminals, they don't just bank in one bank. So, a single bank cannot look at all their transaction data and actually solve the problem. So, Verafin is really a truly unique solution, because we do have the 2,500 banks, and that represent \$6 trillion of assets, all within a consortium data lake that allow us to find very defined topologies and really root out more criminal behavior. So, we're seeing fewer false positives, more fraud found, more AML found, and we're able to prove that out. And that's why we've been able to sign up the Tier 1s and Tier 2s, with another Tier 1 signed in the fourth quarter.

Where we've been focusing, I would say a couple of things, Owen. One is on continuing to kind of have that flywheel on the SMBs, and in that particular case, we're really focused on moving to

real-time payments and making sure that the small to medium banks have world-class AFC around their real-time payments. And so, that's a big growth area for us in 2024. In the larger banks, we've been – definitely, the easiest ROI to show is fraud. So, payment – like wire fraud, ACH fraud, check fraud, all of the payments frauds we're finding is a huge benefit and very clear ROI.

AML is a harder problem to solve. But we actually have signed – one of the large Tier 2s – I think actually two of the large Tier 2s is really focused on AML. And as we solve the fraud problem, what we're also finding is as soon as we go into these large banks, we show them our benefit on fraud, they're already starting to talk to us on AML. So, that's the land-and-expand opportunity that we have, and we definitely see expansion opportunities in 2024 with the banks we've already signed.

And then, the last thing I would say is that we also are really focused now on the UK. And in fact, Brendan is meeting with banks this week to really understand and look at our – particularly our payments fraud capabilities in the UK. But laws are changing to allow for more data sharing, and that will make it so that our pooling is much more effective in supporting their problem and making it so that we can provide a solution there. So, that's our next leg of growth as we go through 2024, into 2025.

### **Operator**

Thank you. And I show our next question comes from the line of Michael Cho from JPMorgan. Please go ahead.

### **Michael Y. Cho**

*Analyst, JPMorgan Securities LLC*

Hi. Good morning, Adena and Sarah. Thanks for taking my question. My question – and I just wanted to touch on Adenza here. You talked about ARR growth has been solid in the mid-teens, and you clearly discussed your medium-term ambitions there. But just given the kind of somewhat lengthy sales cycle there, I mean, I was hoping you could talk a little bit about any expectations for Adenza revenue growth this year, maybe in the context of your long-term targets. And then, also any color you can provide between Axiom and Calypso would be helpful.

### **Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Sure. Yeah. I would just say on an ARR growth perspective, we did provide you kind of that mid-teens view of ARR growth, and we continue to see the business dynamics supporting that. And so, we would expect that that medium-term outlook for Adenza will continue to support that mid-teens growth. I think that as we know, revenue growth is impacted by timing of bookings, timing of renewals there, and whether or not it's on-prem or cloud.

So, we're going to actually unpack that at Investor Day to help you understand how do you turn ARR into revenue, how the revenue dynamics change, and recognizing there would be more quarterly shifts in revenues. But general view is that that ARR growth is definitely the fundamental thing to look at in terms of how you evaluate the growth and progress of Adenza or Calypso and Axiom. And at the same time, we do want you to understand how the revenue dynamics work. The more we sign cloud, the more the contracts become ratable over the life of the contract and – whereas on on-prem deals, we recognize half the license fees upfront upon signing. So, there's a lot to unpack there. But we feel great about the overall demand drivers.

The other thing to think about with Axiom and Calypso is that timing of renewals also can have an impact in revenue recognition. But again, we're seeing really strong demand cycles for both Axiom and Calypso. So, we feel very good about that, whereas timing of revenue might be a little different from one to another just based on when the renewal cycles hit in a given year. So, that stuff, we – again, we'll go through. But I would say the foundation is very strong and remains consistent with what we expected.

**Operator**

Thank you. And I show our next question comes from the line of Dan Fannon from Jefferies. Please go ahead.

**Daniel T. Fannon**

*Analyst, Jefferies LLC*

Thanks. Good morning. I was hoping to expand upon that a little bit and maybe incorporate pricing in terms of what pricing contributed to revenue growth and/or ARR growth in 2023 and how you think about that for the Adenza business prospectively.

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Yeah. So, actually – I mean, we're not going to give very specific on that particular year. But as a general dynamic, when we look at ARR growth, we basically attribute about half the ARR growth to upsells actually. And we upsold a lot of clients, and I can't remember the exact number. But we've upsold over 100 – almost 150 clients, I think or 120 clients in 2023. And then, the other half comes from a combination of pricing increases and new bookings. We don't break that out in terms of that half. But I would just say it is a combination of both.

And the way that it works is, obviously, we add a lot of value across the products as we go through the year. And so, as we go into both annualized increases that are contractually stated, but also renewal cycles, we definitely show that the value of what we're providing to them corresponds with an increase and/or their assets are increasing, and therefore, they're using this across a larger part of their business, and that also warrants an increase. But those are – that dynamic is consistent.

**Daniel T. Fannon**

*Analyst, Jefferies LLC*

Understood. And then, just as a follow-up, based on, I think, some of the factors that were mentioned for Listings revenue in the fourth quarter, as you think about the first half of this year and/or the full year, with the roll-off of initial fees from prior years, plus a hopeful recovery in new listings, how should we think about the revenue dynamics here in 2024?

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Yeah, sure. Well, just – by the way, just to be very precise, we had 142 upsells, including 3 cross-sells in Adenza in 2023. I just want to make sure we get the facts out there. But in terms of the Listings dynamics, it definitely has been a more challenging environment in Listings. And as you know, as you point out, the amortization of the initial listing fees is an important dynamic within the Listings revenues. It benefits – it means when we have a really strong year of listings like we had in 2020 and 2021, we don't recognize all the initial listing fees that year, kind of gives us a lift in the following years because those fees are amortized over two to four years depending on the size of the listing.

But then, it means that when we have a two more challenging years, it takes time for that to also filter through. And so, we will have kind of a residual impact of these lower years in 2024 and 2025, as the initial listing fees from the higher years roll off, and we don't have – we have, as you've noticed, kind of a net reduction in Listings in 2023. So, we would expect that 2024 will be a challenging year for Listings. Within the data and listings business though we basically are saying that it's a low ~~to mid~~ single-digit grower and we would anticipate that we can still achieve that even with the more muted listing revenue that we would expect in 2024.\*

*\*This sentence includes a correction and should read as follows: "Within the data and listings business though we basically are saying that it's a **low single-digit** grower and we would anticipate that we can still achieve that even with the more muted listing revenue that we would expect in 2024."*

**Operator**

Thank you. And I show our next question comes from the line of Kyle Voigt from KBW. Please go ahead.

**Kyle Voigt**

*Analyst, Keefe, Bruyette & Woods, Inc.*

Hi. Good morning. I mean, maybe first question on sales cycles. You noted that you saw early signs of normalization of sales cycles for your IR and Asset Owner Solutions. Can you just speak a bit more about those early signs and give some examples? And in terms of what that means for revenue growth, should we think about the Workflow and Insights organic growth potentially

being near a floor-type level at 5% organic in the fourth quarter and gradually improving from here or any other commentary you could provide in terms of the timing and what that improvement means around the sales cycles?

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Sure. So, all of the solutions within Workflow and Insights are SaaS solutions. So, how you end the year really determines a lot about the following year. And so, we definitely saw a more challenging environment with corporates last year. The listing environment was more muted, but also they were just not as focused on investing across IR in a more challenging market backdrop. That improved in the fourth quarter.

And so, we did start to have a more – I would say, more normalized environment for conversations and signings of corporate clients for our IR solutions in the fourth quarter. But it was against the backdrop of a harder year overall. So, it will take time for that improved environment to actually flow through and show up in the actual SaaS revenues, because we obviously have to continue to see that, and it will kind of build on itself. But I would expect that 2024 will continue to kind of have some overhang from the weaker environment in 2023, even with a more normalized sales environment.

With Analytics, it actually was interesting. Our overall Analytics growth was quite strong in the fourth quarter at 9%, and I think that that really reflects demand for our data across the buy-side and the analytics solutions we have that serve the buy-side. But our Asset Owner Solutions, this is a very specific software capability that we offer to endowments and pensions and others. That actually did have an uptick in demand and signing in the fourth quarter. But it was an overall difficult year. So, that again, I think, will create a headwind as we go through 2024, with the hope that we can start to show some pick-up as we go through the year.

**Kyle Voigt**

*Analyst, Keefe, Bruyette & Woods, Inc.*

Understood. And maybe a follow-up on Adenza. You mentioned the strong cloud uptake. I guess, I'm not trying to front-run the Investor Day, but can you just remind us what the cloud adoption will mean with respect to EBITDA margins over the long-term, at least directionally? And given the length of these contracts and given the level of uptake in cloud that you're seeing on renewals, is there a rough timeframe as to how quickly that cloud migration might happen over the next few years?

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

I would say we will provide at least more color on that at Investor Day. But if we think about it, I think, Sarah, it's like 14% of overall revenue?

**Sarah M. Youngwood**

*Chief Financial Officer & Executive Vice President, Nasdaq, Inc.*

14% of revenue is currently cloud and 50% of new ACV bookings.

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

And then, in ARR, it's 21%?

**Sarah M. Youngwood**

*Chief Financial Officer & Executive Vice President, Nasdaq, Inc.*

21%.

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Yeah. 21% of our ARR is cloud. So, we have a lot of runway here to, as we renew clients, moving them into the cloud modules; as we sign new clients, sign them for new modules. But recognizing that we can sign a client just on a new module in cloud, like it doesn't have to be that they have to – they're signing for Calypso and they're adding new functionality. Just that new functionality, we can deliver in cloud. That's how flexible the platform is. They don't have to kind of redo the whole platform implementation on cloud. But that also means that as we work with clients on renewals and changes, they're going to have different timelines for how they want to bring that cloud capabilities in.

Some banks are marching very fast into cloud, and they have like actually top-down mandates to move to cloud. And that can obviously be a huge catalyst for us. But other banks are marching quite slowly towards it. So, we want to be flexible. We expect this to be, as we said, very much a multi-year transition going from 21% of ARR and growing and growing. But I have to say, it will be a slow-moving train. In terms of the economics, it is both an opportunity for us to be a true managed service provider, which gives us more revenue opportunity, and also provide it with a very nice margin for both them and us. So, that's an opportunity for uplift, but again, a slow-moving train. So, we'll want to make sure that we give you more color on that at Investor Day.

**Operator**

Thank you. And I show our next question comes from the line of Chris Allen from Citi. Please go ahead.

**Chris Allen**

*Analyst, Citigroup Global Markets, Inc.*

Yeah. Morning, everyone. I was wondering if you could help us think about the contract value for client wins at Adenza, maybe any color just in terms of how much a new client, you had six for this quarter, would translate for a new contract perspective. And when you expand relationships with existing clients, are we talking about a 10% increase, 15% increase? Any color there would be helpful.

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Well, we don't actually provide specific contract values per client or anything like that. If you don't mind, I think we'll take that one back and think about how we want to provide more transparency there. But I would say this. It's always land-and-expand. And actually, as we move up into Tier 2s and Tier 1s on AFC, it's land-and-expand. So, we might sign a client for, let's say, mid to high six-figures or low seven-figures to land. And then, as we expand, we can go and we can double or triple, or even in some cases, have 5 times the amount over time. And I do think we have some examples of that back when we first signed the deal, and on our third quarter results, we gave some examples of how we've expanded contracts over time. But we're not providing specifics on like what the new contract values were for the new clients right now.

**Chris Allen**

*Analyst, Citigroup Global Markets, Inc.*

Those are for me. Thanks.

**Operator**

Thank you.

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Thank you.

**Operator**

One moment for our next question. And I show our next question comes from the line of Patrick Moley from Piper Sandler. Please go ahead.



**Patrick Moley**

*Analyst, Piper Sandler & Co.*

Yeah. Good morning. Thanks for taking my question. I just had one on the retention ratios for Adenza. It looked like, for the full year, they on both a gross and net basis came in a little bit lower than what you were expecting when you initially announced the deal even after you include the impact of those bankruptcies. So, just was hoping maybe you could provide some more color on what you think led to that underperformance there. And then, any color on the retention ratios or what your targeted retention ratios would be going forward? Thanks.

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Sure. Yeah. So, I think we did see some declines in the gross and net retentions in the latter part of the year. And I think it really – a lot of that did come from the bankruptcy that we mentioned, and that really started impacting us in the fourth quarter. And then, we had, I would just say the – what I would call, the events of 2023 across the banking system did create some levels of challenge in a couple of very specific areas of retention. But it's not – I would say there was nothing systemic about the concern. There was nothing that we saw that was more of a trend in any way whatsoever. It was more the encapsulation of a lot of the events that occurred during the year, both in terms of looking at the retention, as well as kind of some of the acquisitions that occurred. But again, these are very, very specific and nothing trend-wise. But I don't know, Sarah, if you want to add anything to that.

**Sarah M. Youngwood**

*Chief Financial Officer & Executive Vice President, Nasdaq, Inc.*

Yeah. Yeah. The retention on a gross basis was actually flat at 97%...

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Right.

**Sarah M. Youngwood**

*Chief Financial Officer & Executive Vice President, Nasdaq, Inc.*

...if you exclude that bankruptcy. So, when we look at it in terms of like long-term trends, we feel that it's very solid.

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Yeah.

**Patrick Moley**

*Analyst, Piper Sandler & Co.*

Okay, great. That's it for me.

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Okay, great. Thank you.

**Patrick Moley**

*Analyst, Piper Sandler & Co.*

Thank you.

**Operator**

Thank you. And I show our next question comes from the line of Michael Cyprys from Morgan Stanley. Please go ahead.

**Michael J. Cyprys**

*Analyst, Morgan Stanley & Co. LLC*

Hi. Good morning. Thanks for taking the question. I just wanted to ask on capital allocation, how you're thinking about allocating capital, now that the Adenza deal has closed, how are you thinking about the pace of debt paydown as well as buybacks? I thought I heard you mention that you paused on buybacks. Is that pause still in place and what would lead you to reinstate buybacks?

**Sarah M. Youngwood**

*Chief Financial Officer & Executive Vice President, Nasdaq, Inc.*

Hey, Mike. Nice speaking to you. This is Sarah. So, what we have is the strategy that we have outlined is maintained. So, we have a balanced view of how to deal with the capital allocation, just to reiterate, across the dividends, the share repurchase and the deleveraging. You've seen the pause, as I mentioned, and that pause is going to be maintained in the first quarter. It's so important for us to continue to deleverage and – but that is a short-term tactical as part of a strategy that overall hasn't changed. So, we continue to be committed to the progressive dividend, and you've seen the progress there, as well as over time, it's important to continue to offset dilution with share repurchase. So, that's the context, and of course, this is also a topic that we'll come back to at Investor Day.

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

One thing we're pleased with Michael is that...

**Michael J. Cyprys**

*Analyst, Morgan Stanley & Co. LLC*

Great. Thanks. And a follow...

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

...yeah, that just leaving 2023, as Sarah mentioned, we're at 4.3 times leverage. So, that's ahead of what we had anticipated at the closing of the deal. And so, that's actually kind of both the strength of the business, as well as some very specific tactical decisions we made to pay down the term loan, as we're kind of getting started to kind of launch into 2024 with a very solid plan on deleveraging. But also the focus there will be on that balanced approach over time.

**Michael J. Cyprys**

*Analyst, Morgan Stanley & Co. LLC*

Great. Thanks. And just a follow-up, if I could, on the expense outlook...

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Yeah. Go ahead, Michael.

**Michael J. Cyprys**

*Analyst, Morgan Stanley & Co. LLC*

I'm sorry.

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Yeah. Go ahead.

**Michael J. Cyprys**

*Analyst, Morgan Stanley & Co. LLC*

Just on the expense outlook, I was just hoping you could elaborate on the 5% pro forma growth in expenses for this year in 2024. What would drive you towards the higher end versus the lower end of the range and any moving pieces you might be able to elaborate on? Thank you.

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Sure. Yeah. So, I would say that, first of all, we've been really focused on making sure that we are being as efficient as possible across the business, just on a run rate basis, that we're also though making – continue to make the investments in driving our products forward, our growth forward, but also automation, on bringing more automation into the company, and at the same time beginning our – the synergy achievement on the Adenza deal. And the midpoint really reflects all of that.

What would drive the expenses above that would be higher growth. So, if we're able to grow faster and we're able to grow more, there might be some revenue-related expenses that come in, in terms of just being able to achieve that revenue. But I think that it has also more to do with can we continue to actually accelerate some of our investments if we're seeing higher revenue growth throughout the year. And that's why we always give you a range of kind of the mid to long-term outlook on our Solutions business growth – revenue growth and expense growth, so that you can kind of understand how we calibrate it. But we do feel like it's been a good combination at the midpoint of expense discipline, Adenza synergies, but also targeted investments in our business.

**Operator**

Thank you. And I show our next question comes from the line of Simon Clinch from Redburn Atlantic. Please go ahead. Mr. Clinch, your line is open, if you're on mute. Mr. Clinch, your line is open. Thank you. And I show our next question comes from the line of Andrew Bond from Rosenblatt Securities. Please go ahead.

**Andrew Bond**

*Analyst, Rosenblatt Securities, Inc.*

Hey. Good morning. Could you update us on any new plans or strategies Nasdaq is exploring in digital assets since you aborted the custody offering? Obvious tailwinds following the spot ETF approvals and a lot of new large institutional players that you're familiar with becoming more active in the space. So, how is Nasdaq positioning itself now?

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Sure. Thanks – thanks, Andrew. Yeah. So, we are really proud to partner with BlackRock and Valkyrie as they brought their Bitcoin ETFs to Nasdaq. And it really does give investors an opportunity to express a view on the trend of Bitcoin without having – in a highly regulated marketplace and without having to go and actually buy Bitcoin. So, we do think it creates more accessibility for retail investors to have a position in Bitcoin.

I think that in terms of the broader digital assets space though, as you know, we are a tech provider to the industry and we continue to provide technology to cryptocurrency exchanges, both trading, clearing and as well surveillance. And actually, as we've been working with some traditional exchanges, they want to make sure that they're kind of future-proofed. So, for instance, with one of the CSD clients that we sold to this year, one of the key things was to make sure that they could move towards digital assets in their settlement system. And so, we are – all of our technology can support digital assets in terms of trading, clearing, settlement, surveillance, and that gives us the chance to work with the traditional exchanges and crypto exchanges.

In terms of our specific crypto custody solution, we have built it. We are ready to provide that to exchanges and providers and custodians around the world. So, that is now a technology offering that we can offer to clients around the world. But we have made a conscious choice not to launch a custody solution, being a custodian ourselves. I think that we feel that there are several out there, that they're operating well, but it's also a very capital-intensive business. And our view is that we are better served being the market operator for the ETFs and other instruments like that, as well as being a technology provider to the industry.

**Andrew Bond**

*Analyst, Rosenblatt Securities, Inc.*

Thanks, Adena.

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Sure.

**Operator**

Thank you. One moment for our next question. And I show our next question comes from the line of Alexander Blostein from Goldman Sachs. Please go ahead.

**Alexander Blostein**

*Analyst, Goldman Sachs & Co. LLC*

Hey. Good morning. Thanks for squeezing me here. So, just a quick follow-up again on Adenza. Over the last couple of years, it sounded like they went through a pretty meaningful improvement in their technology stack, and there's probably a bit of CapEx around it. So, as you move forward, do you think they're largely done? Are there still kind of things that might be on a heavier lifting side that needs to get implemented that they're not part of Nasdaq and maybe just talk to your overall CapEx expectations for 2024?

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Sure. So, I would say that – I will take Calypso and AxiomSL a little separately. AxiomSL did do a significant rewrite of their technology a few years ago. So, we feel very good about kind of how they're positioned. But – and then, Calypso, actually the one – they are super flexible and very modular. So, they kind of have this continuum of investment in Calypso, and they've been able to – because of that, they've actually been much more able to – or both of them are focused on just bringing in new modules very quickly and iterating on their technology. So, we feel really good about the tech foundation, and I think we said that at the time of the signing. Now that we've closed on the deal and we look under the hood, it is a great technology and it's very modular and kind of platform-based.

I think the area that we can really help focus them is on how do we really optimize the cloud implementation to make it so that it's as efficient as possible for them and their clients. And so, we have a lot of expertise there. We have a long history of cloud-deployed solutions. And so, we do actually think that's an area where we can help them invest to make it so that that can be even more effectively and efficiently delivered. But that's not a significant capital investment as much as that's just continuing innovation. They have been investing in R&D. So, that has been a hallmark of their business, and we're really pleased to see that, and we will continue that. But that's not something where there's a big CapEx requirement right now. We really do see it as a continuum of innovation. In terms of our CapEx across the year, I think – I don't know if they have any specific things that you want to mention there.

**Sarah M. Youngwood**

*Chief Financial Officer & Executive Vice President, Nasdaq, Inc.*

No, we don't have like any like particular trends. So, you're not going to see like acceleration or something of note. We're continuing to invest in the business, and we'll come back and give you a lot of like color at Investor Day on the type of returns and the type of breakdowns of our investments. And we have very much a cash-on-cash view as to what it gives us, and – in addition to, of course, the investments that are foundational in the business.

**Operator**

Thank you. And I show our last question comes from the line of Brian Bedell from Deutsche Bank. Please go ahead, sir.

**Brian Bedell**

*Analyst, Deutsche Bank Securities, Inc.*

Great. Thanks very much for taking my questions. Most have been asked and answered, but a couple more. One, just on the Verafin, I think, Sarah, you mentioned, if I heard correctly, Verafin growth in the quarter year-over-year of 25% against the legacy Regulatory Tech segment of 17%. And then, I missed something that you said about the Surveillance part of it. So, I just want to clarify want that 25% at Verafin and there was some offset at the Surveillance business. And as you look at that legacy business going forward, do you see Verafin as sort of a core 20%-ish type of grower?

**Sarah M. Youngwood**

*Chief Financial Officer & Executive Vice President, Nasdaq, Inc.*

Yeah. So, what I said is that the 25% indeed is the growth for Verafin, and together with Surveillance, you end up at 17%. So, that's a 6% for Surveillance. That is due to a timing of bookings in 2022 that had been an impact on the year-on-year growth for the fourth quarter. So, it's really just timing in the prior year period.

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

For Surveillance.

**Sarah M. Youngwood**

*Chief Financial Officer & Executive Vice President, Nasdaq, Inc.*

For Surveillance.

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Yes. I think, as you know, Brian...

**Brian Bedell**

*Analyst, Deutsche Bank Securities, Inc.*

And your view – yeah.

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Yeah. As you know, Brian, we have kind of an 18% to 23% kind of expectation across AFC. Now, as we move to Reg Tech, and we integrated that with AxiomSL, we're going to be providing kind of a view, and I think it's – I always look at it as 10% to 14% across FinTech, all told. And that will incorporate Verafin and Surveillance along with Market Tech and the Adenza products.

**Brian Bedell**

*Analyst, Deutsche Bank Securities, Inc.*

All right. Great. Thanks for that. And then, just one last one on operating leverage, given your expense guidance. Just I guess the level of confidence on the operating leverage, really it looks like it's a good 3 percentage points or more below your 8% to 11% Solutions revenue guide. But how do you think of the Adenza revenue dynamics versus ARR at Adenza influencing that? I guess the punchline question here is, are you still managing that operating leverage against reported revenue or would you look at that ARR as a better guide for that operating leverage dynamic?

**Sarah M. Youngwood**

*Chief Financial Officer & Executive Vice President, Nasdaq, Inc.*

So, we continue to focus on our operating margin and to focus on having operating leverage as we invest on a GAAP basis. But we will always give you the details on the ARR basis, which is really the better economic view of what we're doing.

**Brian Bedell**

*Analyst, Deutsche Bank Securities, Inc.*

All right. Great. Great. Thank you.

**Operator**

Thank you. That concludes our Q&A session for today. I would now like to turn the conference back to Adena Friedman, Chair and CEO, for closing remarks.

**Adena T. Friedman**

*Chair & Chief Executive Officer, Nasdaq, Inc.*

Great. Thank you. And as we enter another exciting year at Nasdaq, we remain focused on activating and unlocking new opportunities that will drive the business into the future. Before I close, I want to remind everyone, if you didn't remember already, that we have our scheduled 2024 Investor Day for Tuesday, March 5. And we hope to see you all there, either in-person or virtually, and we look forward to sharing our vision with you. Thank you for joining us, and have a great day.





**Operator**

Thank you. This concludes today's conference call. Thank you for participating. You may now disconnect.