

09-Sep-2024

Intercontinental Exchange, Inc. (ICE)

Goldman Sachs Communacopia Technology Conference

CORPORATE PARTICIPANTS

Jeffrey Craig Sprecher

Founder, Chairman & Chief Executive Officer, Intercontinental Exchange, Inc.

OTHER PARTICIPANTS

Alexander Blostein

Analyst, Goldman Sachs & Co. LLC

MANAGEMENT DISCUSSION SECTION

Alexander Blostein

Analyst, Goldman Sachs & Co. LLC

All right. So we're a time. We're going to get started with our next session here. Good afternoon. Thank you, everybody, for joining us. I'm Alex Blostein, the capital markets analyst here at Goldman Sachs.

It is my pleasure to welcome back Jeff Sprecher, Chairman, CEO of Intercontinental Exchange. Over the years, ICE, as we commonly know it, has evolved from an energy trading platform into a network of trading, data, and mortgage solutions technology over the last several years, with over half of the firm's revenue coming from recurring income streams and the firm still focusing on double digit EPS growth. It's a really interesting time for ICE, I think, at this point of time in the cycle, from both the cyclical angle with rates and mortgage, but also everything that's going on in energy markets. So really excited for you to join us back here.

I know normally we get to do this at our financial conference in December and not such nice weather. So it's great to be here. Thank you for doing this.

Jeffrey Craig Sprecher

Founder, Chairman & Chief Executive Officer, Intercontinental Exchange, Inc.

Great. Thank you for having us. Thank you all for being here. We, my colleague, Katia and I have asked Alex if he would invite us to the tech conference because we really view ourselves as a tech company. And so thank you for coming to hear our story.

QUESTION AND ANSWER SECTION

Alexander Blostein

Analyst, Goldman Sachs & Co. LLC

Q

Yeah. So that's actually a pretty good place to start. This is not the most typical audience for you guys, in terms of the investor base that tends to look at the company. But since you last participated here which I think was actually pre-COVID, quite a lot has changed, particularly, with respect to the mortgage business and what you guys sort of aspire to have there. So why don't we just kind of try to level set everyone on what ICE looks like today? It's a combination of exchange and trading, clearing solutions, fixed income data, mortgage technology. How do these pieces fit together and why is the sum greater than in individual pieces?

Jeffrey Craig Sprecher

Founder, Chairman & Chief Executive Officer, Intercontinental Exchange, Inc.

A

Yeah. Thank you. Well, in talking about the company, you mentioned the word networking. And really what we're building is sort of tantamount to a network effect. In other words, every new client that comes on, makes the experience better for all the existing clients, so like Facebook, right? Every new person that joins Facebook expands the network. So if you're looking for friends, they're more likely to be on it. And again, like Facebook, the people that are on it, you want to log in and use it every day. And so you constantly are trying to find more content to distribute across the network that engages your client base. So it's kind of this virtuous cycle of more content gets more clients, more clients get more content, and vice versa.

We started the business in the commodity space and in commodities, largely the risk of commodities that people are trying to manage is largely, in my mind, acts of God, kind of risk. There're hurricanes and tornadoes and there is droughts and pestilence and supply chain issues that cause pricing to move, but the biggest markets in the world are markets that are trying to deal with acts of man. Interest rate markets predominantly, right. So I mentioned some of my colleagues here earlier today.

We have the New York Stock Exchange which has about 2,500 listed US companies. And our competitor Nasdaq has, because they have low standards, have about 3,500 companies, many of which we wouldn't allow. And so, let's take that together; 6000-ish companies – 5,000 to 6,000 listed US companies. We also our business and on this network, we have data, information and underlying reference information for 3 million securities that are largely interest rate oriented. So, it's a much – the interest rate business and borrowing essentially is a much bigger business than the commodity business or the equity business. And so, you've seen us move into – you mentioned mortgage which is just the biggest consumer interest rate business that we have been working to get on that network, to both expand the data on the network and expand the number of people that attach to our network.

Alexander Blostein

Analyst, Goldman Sachs & Co. LLC

Q

Yeah. So, before we sort of dig into individual businesses like – keeping it a little bit higher level, over 50% of the top line is coming from recurring, kind of more stable sources. Obviously, especially for this audience, it's a fairly important KPI that investors tend to look at. How do you think about the growth algorithm for the piece of the business that's less affected by volatility in volume? So, the piece that's predictable, how do you kind of articulate the growth algorithm on that for the next couple of years?

Jeffrey Craig Sprecher

Founder, Chairman & Chief Executive Officer, Intercontinental Exchange, Inc.

A

Yeah. So, just – I went to business school. I have an MBA and my own sense is that, if I was an investor and sitting in the shoes of you and the audience, I would want to own a growing, predictable, compounding subscription business more than I would want to own a growing episodic transaction business. It would be more valuable to me as an investor, the predictability. And as a manager, if I can have recurring revenues that are on long-dated subscriptions that are growing, I'd much rather have that than the volatility that comes from the business. So, we have moved from literally almost a 100% commission-based episodic business to, as you say, now, like, half on recurring revenue.

I would take the whole thing to 100% recurring revenue, if we could figure out how to do it. In other words, if you and the audience trade equities, if you would be willing to take a subscription and trade as much as you want at the New York Stock Exchange, we'd do that deal, but it's a regulated business, that's not how it works. The minute I suggest that to you, your back office will tell you that, wait a minute, we have all these sub-managed funds that we have and how would we allocate that, and it doesn't work with our accounting, and there's a million transactional infrastructure limitations to that.

But I'd tell you that biased because the hope is that that subscription business will continue to find ways to grow it as a percentage of our business.

The transaction part of our business, the episodic part, what we've tried to do with the company is design it and we call it an all-weather company. I want the transaction business to be growing, whether there's high interest rates or low interest rates or no acts of God or lots of acts of God. The goal is that we've got some foot in some part of the world and some asset that needs to be risk managed in every economic environment. So far, we've been able to do that. We've grown that business every single year since we've been public in 2005 and still feel confident about our ability to be an all-weather name.

Alexander Blostein

Analyst, Goldman Sachs & Co. LLC

Q

Yeah, great. Well, let's unpack this a little bit more. Starting maybe with the mortgage business. Several years ago, ICE embarked kind of on this mission to digitize the US mortgage industry.

Jeffrey Craig Sprecher

Founder, Chairman & Chief Executive Officer, Intercontinental Exchange, Inc.

A

Yes.

Alexander Blostein

Analyst, Goldman Sachs & Co. LLC

Q

And today, you have a number of very valuable assets in that whole ecosystem, whether it's Black Knight on the servicing side or Ellie Mae on the origination side. Then you got MERS, you got Simplifile. So there's a lot in there that kind of gives you that almost like a fully vertically integrated part in the mortgage ecosystem. So, now that you have all these pieces, like, what's the vision for this business in the next five years?

Jeffrey Craig Sprecher

Founder, Chairman & Chief Executive Officer, Intercontinental Exchange, Inc.

A

Yeah. There's a couple of things. One is just to move the web-signature, paper-based business of entering into a mortgage into a completely digital experience so that the velocity of entering into mortgages can increase. There's

tremendous friction right now. And anyone in this room entering into a mortgage, even if you're just refinancing your existing house that you've lived in, that you've got great loan to value, that you have a tremendous history of payments against, it's still probably a 60-day and very painful paper-based solution for most American homeowners.

So the goal is refi with one click. Every time that there's a change in interest rates, take advantage when it's to your advantage by refinancing with the minimal number of clicks and thereby increasing the velocity of the cash market.

For new homebuyers, it's the ability to easily enter into maybe what the biggest loan of their life is, with less intimidation and get them up the wealth-earning chain that tends to come from building equity in a residence. But beyond that, we're also interested in both ends of this network. One is more consumer engagement; as I've talked about, giving the consumers more tools so that the velocity of the cash market will increase. And secondly, building out the capital markets piece, so that the whole way that wholesale funding works in the mortgage-backed security market and the way those bonds trade and are created, increase.

We've had a lot of people over the last year, a lot of our clients who are banks, a lot of institutions who are attached to us, ask the question, is there a way for somebody that has a 3% mortgage in an existing house to have a portable mortgage? Why can't they take that to another house? Is there a way if I'm a mortgage-backed security holder and somebody refinances that you can give me – can you give me back that client in the new house and put it back in my security? Or can you find a substitute collateral to go into my security? These kinds of things that can revolutionize the wholesale capital markets can't happen if your mortgage is sitting in a mini storage warehouse in a box with a barcode on it. It's just not.

The data is buried in that box and there's a lot of administrative friction and sand in those gears that I think will be able to grow both ends of that network. That's the vision.

Alexander Blostein

Analyst, Goldman Sachs & Co. LLC

Q

Yeah. Can we talk a little bit more about that second piece? So, you guys have a sort of a high-single-digit revenue growth target on the existing mortgage business. And obviously it's been a little bit slower recently given the macro conditions, very low amount of mortgage activity and hopefully that gets better with lower interest rates. But these adjacencies that you're talking about, focusing on consumer, consumer data, things you just talked about on the capital markets side, how close are you to bring product to market there? How needle moving do you think that's going to be? What kind of a ramp in the build should we expect from you guys there for the next couple of years?

Jeffrey Craig Sprecher

Founder, Chairman & Chief Executive Officer, Intercontinental Exchange, Inc.

A

Well, a lot of what I mentioned is under construction. We have between 3,000 and 4,000 lenders that are on this network. And they're all anticipating rate cuts and essentially re-financings or the ability to do second loans for people to take some of the gain out of their houses and we've been building tools for those lenders to automate that and make that easy, and also for the consumer to understand the availability of that and the value of that to the consumer.

And some of you may know when we bought the company called Black Knight, they had a platform in there called Optimal Blue. And the US government didn't want us to own Optimal Blue. So we agreed to sell it. Optimal Blue is a capital markets platform and we announced that and the government wanted us to build one to create

competition for that. So we announced that we do intend to build one, and have it under construction. That essentially is a piece that would hook the mortgage to the capital markets for mortgage-backed security holders and wholesale funders to basically put pricing in. And the beginning of the process when the rates are locked for the consumer. That's under construction. We've announced that we have a large group of pretty high quality lenders that are working with us to design that and it's under construction. So hopefully, within the holding period of that, some of you may hold our name, you'll start to see the benefit of that.

Alexander Blostein

Analyst, Goldman Sachs & Co. LLC

Q

Great. All right. So maybe shifting gears, let's talk about the data business. And there's a number of kind of verticals that we can go within this. There's the equity piece, there's the fixed income piece. The fixed income data and analytics is probably the one people tend to think the most when it comes to kind of the growing – structurally growing parts of the model.

So let's spend a couple of minutes there. Pretty nice acceleration in that business recently. Clearly, some of the fixed income clients that you guys are facing are not under as much pressure as they were back in 2022. So help us maybe dissect sort of some of the structural sources of growth within fixed income data and analytics you see in the business over the next few years.

Jeffrey Craig Sprecher

Founder, Chairman & Chief Executive Officer, Intercontinental Exchange, Inc.

A

Yeah. Well, as I mentioned, the data for fixed income is a large business just because there's a lot of fixed income instruments and a lot of risk in that market that people are trying to manage. We price about these 3 million securities every day. So in other words, for many of your firms here, you've got a mark-to-market or your clients want to know what the value of their portfolio is every day. And they need a mark on that. And many of these instruments don't trade.

In fact, few of them trade on a day-to-day basis. And so we use algorithms that we've developed and relationships with the industry to keep fine-tuning those algorithms to price all those. That's a technology business for us that is using our expertise and all the data that we have in our own essentially AI models to model the value of these instruments. And so it's a valuable business. It's highly sought after. As a result of that, hard to replicate.

We also have seen, as you know, as a result of expected interest rate cuts by the Fed, more growth in AUM, assets under management, that we have a lot of indices and those tend to be one-for-one correlated with the amount of AUM in terms of our earnings. And those are doing well.

And we also have kind of a niche business that we're very well positioned in, which is municipal bond, trading, execution. And the muni bond business is a business that is really attracted by family offices and small institutions, and individuals that are looking for tax-advantaged fixed income. And so, again, with changes in interest rates and potential changes in tax policy and what have you, there just seems to be a lot of interest in that space.

We recently announced a partnership that – MarketAxess which has a very broad, global institutional client base that trades primarily corporate debt. We'd like to have access to that market. And so, we've done a JV where our markets are being displayed by them to their clients so that – it's increased our distribution to their client base. We just launched that last Monday. So it's, like, a week old. So we'll probably have more to say about it, or they will. Next earnings call, I suspect, we'll be able to give data on how that's going.

Alexander Blostein

Analyst, Goldman Sachs & Co. LLC

Yeah. That was definitely an interesting [indiscernible] (00:17:31)

Q

Jeffrey Craig Sprecher

Founder, Chairman & Chief Executive Officer, Intercontinental Exchange, Inc.

Yeah. It's kind of an interesting move, right?

A

Alexander Blostein

Analyst, Goldman Sachs & Co. LLC

Yeah. Not common, you see like for different liquidity pools that kind of competitors come together [indiscernible] (00:17:36)

Q

Jeffrey Craig Sprecher

Founder, Chairman & Chief Executive Officer, Intercontinental Exchange, Inc.

Right. Right. I think it was an acknowledgment that we have a real strong footprint and they have a very strong footprint and the two can be complementary.

A

Alexander Blostein

Analyst, Goldman Sachs & Co. LLC

Yeah. So I guess along those lines, how important is it for the fixed income data to have more of a kind of real pool of trading liquidity to complement that? So, like, as you're thinking further out for fixed income data to succeed and to be what you envisioned to be, do you need to have a bigger pool of liquidity in corporate bond trading? Does it make sense to partner, do more [indiscernible] (00:18:07) and things like that or do you kind of keep going at it on your own?

Q

Jeffrey Craig Sprecher

Founder, Chairman & Chief Executive Officer, Intercontinental Exchange, Inc.

Would it be additive? Sure. Is it top of mind? No, because in the US, we have the TRACE tape, which is essentially a near real-time display of what traded in the most liquid part of the market, right?

A

The bonds that tend to trade are – recently issued bonds that are on the run. And mostly, what's in most people's portfolios are stuff that got time against it and longer tenors and don't trade and those are harder to value, [ph] fuzzier (00:18:55), more real domain knowledge in the data business needed. I'm sure it could be informed if we were seeing the real-time trading, but the fact that you can see the tape somewhat obliterates that. We also have such deep relationships with institutions like Goldman and across global financial services.

I mean, because we own the New York Stock Exchange, because we probably have the largest or one of the largest portfolios of propriety data available to Wall Street now with this consumer fixed income information, we have a lot of touch points in firms. So having the trading desk per se would be nice, but it's not really dispositive.

Alexander Blostein

Analyst, Goldman Sachs & Co. LLC

Yeah, I got you. Staying on this topic for one more minute. The theme that we've been following closely over the last many years is now, of course, growth of the ETF market. And I guess most recently, the real fast kind of expansion into active ETFs and the active fixed income ETFs, in particular, is something that's pretty hard to

Q

ignore. How does it impact your guys' ecosystem, both on the data side and the trading side? Is that a – material enough of a net positive or just part of the – part of the ecosystem but not big enough to move the needle?

Jeffrey Craig Sprecher

Founder, Chairman & Chief Executive Officer, Intercontinental Exchange, Inc.

A

No, it's part of a broader trend that is driving the consuming data and information and a lot of technology infrastructure that we provide that underpins those ETFs. The managers that create these ETFs need independent validation and need to actually transact against the asset pool that is in the ETF as capital flows in and out of it.

And so, there's a lot of businesses that we have that work with those major ETF providers, in addition to the fact that the New York Stock Exchange is a highly preferred listing venue for ETFs, so we have a direct relationship as those are being established. We've worked with the SEC and other agencies outside the US to promote the idea of sort of this active passive vehicle, but broadly speaking, when we talk to the big ETF sponsors, there's a lot of excitement about fixed income instruments, bond instruments going into the ETF format. There's a sense that for individual investors, for people's retirement accounts 401(k)s and even the people that are managing those retirement accounts, it's hard to put together a fixed income ladder. Companies issue bonds and they redeem bonds and issue different bonds to replace those with different tenors.

And as I mentioned, some bonds trade and some don't. They're off the run. And so if you've got time on your hand, you want to manage your own fixed income portfolio or have a third-party manager do that for you, there's real day-to-day involvement. And staying on top of that. If you can put that in the form of an ETF that has a particular view and really at low cost outsource all that management make it easy to buy that as an equity and it's illiquid to get in and get out of at any moment in time, that's a really desirable way to sort of streamline an otherwise complicated fixed income market for a lot of people. So there's a sense that that is going to grow, that kind of asset is going to grow significantly over the next few years. And for the reasons I just described, I can see why. So anyway, we're very close to those people and we have a lot of infrastructure – a lot of technology built underneath that to help them facilitate that growth.

Alexander Blostein

Analyst, Goldman Sachs & Co. LLC

Q

Yeah, great. Makes sense. All right. Let's talk a little bit about your energy business. It is your original business, as you described it, when we just kind of started having this conversation. But it definitely – even though it's kind of your first business, it doesn't feel like it's a very mature business based on the sort of 30-ish% revenue growth that we've seen so far this year. And the thing that stood out to us is that it is incredibly broad-based, right? You've got Brent, WTI, and Nat Gas all kind of contributing. And a lot of that growth is coming on the heels of higher open interest and not like, because we've been in some crazy volatile environment, that makes it harder for people to kind of underwrite.

So, maybe taking a step back, what are the changes you've seen in the underlying market in the last 12 months that's contributed to such strong growth? And what do you think sort of the sustainable revenue growth in the energy franchise over time?

Jeffrey Craig Sprecher

Founder, Chairman & Chief Executive Officer, Intercontinental Exchange, Inc.

A

Yeah. In fairness, part of part of why I've moved the company from helping manage acts of God to managing this acts of man, was I didn't know how long an energy market would actually be able to grow when we started this. I

figured there's only so many energy companies in the world and pretty much all of them knew who we were and became our clients and you thought like, okay, we have 100% market share.

Like, how will we ever grow? But then as a society – as a global society, we started to talk about energy transition, working with cleaner fuels and boy, there was a time when I would come up here and people would say, is your business going to go to zero on the notion that there's going to be no sort of fossil fuels involved in the world. And the reality is that this energy transition, which is really a global phenomena and is well beyond politics. Anyone that's building a new data center or anyone that's building a new plant that needs energy to drive that plant wants something that's clean, people are not saying let's put some oil fired or coal fired power plant next to this thing. I shouldn't say that. The western world is saying that.

And so we started the energy business with four contracts. It's now over 1,000 different contracts. If you say, well, what are all those things? It's a lot of new natural gas type contracts, particularly liquefied natural gas that can be put on a ship, renewable kinds of energy emission credits. There are governments all around the world that have incentive programs for people to do cleaner energy. A lot of those things trade or need transparency. And that's been the real growth in this business.

And so oddly, we probably trade more oil and coal and traditional fuels than we did because just the world is growing, but if you look at where the double-digit growth is that you're talking about, it's been in the cleaner side of the environment. And all of that energy transition moves in fits and starts. You've got booming economies and shrinking economies and low interest rates and high interest rates and war and acts of God, and so managing that transition is a lot of risk and it's really driven a lot of growth for us, particularly in the last few years – last five years, I would say. Yeah.

Alexander Blostein

Analyst, Goldman Sachs & Co. LLC

Q

Great. All right. Let's shift gears a little bit. You can't not talk about AI at a tech conference, so maybe we'll spend a couple of minutes here. But I guess curious if you could help us think through how AI impacts ICE in terms of both potential revenue opportunities, as well as operational efficiencies. And what role do you think AI will play in trading markets over time?

Jeffrey Craig Sprecher

Founder, Chairman & Chief Executive Officer, Intercontinental Exchange, Inc.

A

Yeah. Well, let me start with the easy one, because we have incorporated a number of AI tools inside our operation to reduce cost and more to make our existing operation more efficient, maybe, so that it can scale without largely increasing cost. Copilots with our computer programmers, help desk tools for customer identification and problem diagnosis and those kinds of things. Those are active, they're really working well. The employee pool likes them, it's made them more efficient. And those are sort of easy ones.

The harder one for me as a manager is what else – what about our customers and what do they want from us. And we have this huge dataset, right, which is what AI needs. I think the most interesting one that really has made an impact on us is that we bought six software companies that were in the mortgage space, starting with lead generation, underwriting software, closing tools, registration tools. We're building the capital markets tools. We have servicing tools. So we have all this stuff, right? And we bought leading companies and the software was written in different languages. And some was [indiscernible] (00:28:59) based green screen in a legacy data center and some is cloud-based, lightweight stuff, Ruby on Rails and other. And so, how do you make this work?

Well, the answer is, is that the language of mortgage is a very defined language. It is largely regulated market. It is – lots of state and local regulation, but nonetheless, we can read those regulations. We can understand those regulations. We can get all the forms that exist in the world that need to be filled out. We can digitize those. We can have a language model understand those. And so, we took all these different systems that we have and instead of building APIs in different languages to make code go all the way through, we have a language model agent that just sits out there that has connected all those things so that you can enter something in the front end and the language model will put it in the back end. And then we put a cloud wrapper around that so that the interface to the customer is a lightweight elegant interface. And we'll rebuild that whole infrastructure in a common language, I'm sure, over time, but it's kind of irrelevant.

It's a very large kind of accounting package that has an AI tool. It also allows this with thing which exists now. We sell it as a cloud-based solution. We can hook to all these legacy systems and these big banks like Goldman. There's just tons of legacy systems that have to talk to things for compliance and for customer identification and so on and so forth. Well, rather than try to build APIs like you would have done a few years ago in every flavor, we've got all this stuff in this AI tool that can learn your system and give it to you. So, it's been really amazing.

We closed on the Black Knight integration – acquisition in October of last year. And I think by February or March we already had that network built end-to-end and we had people prototyping it, which we could have never done without that. So I also think the datasets that we have for people that want to – one of the things from an intellectual property standpoint is we don't sell data, we rent people data. And so we have licensing about Driveworks and how they work and what you can do with Driveworks, how we charge you for them, et cetera.

So there's been a demand to locate some of these language models in our own data centers, in our own cloud, and to keep that data within our IP perimeter so that we can enforce our contractual rights and so we run our own cloud. And we've we have 14 data centers around the world.

And we have been expanding, if you will, much like probably you're talking about at this conference. And we've already sold out all of our capacity for 2025 and 2026. And we've been working on the budget up through 2030 right now. Fortunately, we have real estate, we have good relationships with local energy providers and the ability to continue to scale that which is a line item for us. But it's also probably the source of future revenue on data sales and licensing.

Alexander Blostein

Analyst, Goldman Sachs & Co. LLC

Q

In the last couple of minutes we have here, I wanted to ask you a question around just capital return priorities and acquisitions broadly. Obviously, ICE currently is in a deleveraging mode and presumably you guys are getting closer to starting buying back stock at some point of time over the next several months here. But as you're looking further out, I want to bring it back to kind of the original question. You've built this company. You have now three distinct verticals that are all talking to each other and that network effect is something we'll continue to see. Is there room for the fourth one or do you feel like that you sort of have what you need to continue to deliver the growth you aspire to?

Jeffrey Craig Sprecher

Founder, Chairman & Chief Executive Officer, Intercontinental Exchange, Inc.

A

Yeah. I mean, our goal is to return all free cash flow sort of acquisitions. And we buy lots of data sets and small bolt-on things that are that are not necessarily material to the capital return story. But we would only go into another vertical if we thought.

The thing about the network effect that I talked to you about is acquisitions that will get you a new client base that you can add to your network that can then consume the other parts that you already own are very accretive or acquisitions that put more content on your network where your existing customer base will consume more. Those are not easy to find. We've been we've been fortunate to find a bunch of things that that were kind of out there and obvious. But, if they're out there and obvious, we're not the only ones looking.

Alexander Blostein

Analyst, Goldman Sachs & Co. LLC

That's great. All right. Well, I think we'll leave it there. We have 40 seconds on the clock. So I think it's probably not enough for another question.

Jeffrey Craig Sprecher

Founder, Chairman & Chief Executive Officer, Intercontinental Exchange, Inc.

Not the way I answer them.

Alexander Blostein

Analyst, Goldman Sachs & Co. LLC

Yeah, but appreciate you being here.

Jeffrey Craig Sprecher

Founder, Chairman & Chief Executive Officer, Intercontinental Exchange, Inc.

Yeah, thank you.

Alexander Blostein

Analyst, Goldman Sachs & Co. LLC

And thanks again for your participation

Disclaimer

The information herein is based on sources we believe to be reliable but is not guaranteed by us and does not purport to be a complete or error-free statement or summary of the available data. As such, we do not warrant, endorse or guarantee the completeness, accuracy, integrity, or timeliness of the information. You must evaluate, and bear all risks associated with, the use of any information provided hereunder, including any reliance on the accuracy, completeness, safety or usefulness of such information. This information is not intended to be used as the primary basis of investment decisions. It should not be construed as advice designed to meet the particular investment needs of any investor. This report is published solely for information purposes, and is not to be construed as financial or other advice or as an offer to sell or the solicitation of an offer to buy any security in any state where such an offer or solicitation would be illegal. Any information expressed herein on this date is subject to change without notice. Any opinions or assertions contained in this information do not represent the opinions or beliefs of FactSet CallStreet, LLC. FactSet CallStreet, LLC, or one or more of its employees, including the writer of this report, may have a position in any of the securities discussed herein.

THE INFORMATION PROVIDED TO YOU HEREUNDER IS PROVIDED "AS IS," AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, FactSet CallStreet, LLC AND ITS LICENSORS, BUSINESS ASSOCIATES AND SUPPLIERS DISCLAIM ALL WARRANTIES WITH RESPECT TO THE SAME, EXPRESS, IMPLIED AND STATUTORY, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, ACCURACY, COMPLETENESS, AND NON-INFRINGEMENT. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, NEITHER FACTSET CALLSTREET, LLC NOR ITS OFFICERS, MEMBERS, DIRECTORS, PARTNERS, AFFILIATES, BUSINESS ASSOCIATES, LICENSORS OR SUPPLIERS WILL BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL, CONSEQUENTIAL OR PUNITIVE DAMAGES, INCLUDING WITHOUT LIMITATION DAMAGES FOR LOST PROFITS OR REVENUES, GOODWILL, WORK STOPPAGE, SECURITY BREACHES, VIRUSES, COMPUTER FAILURE OR MALFUNCTION, USE, DATA OR OTHER INTANGIBLE LOSSES OR COMMERCIAL DAMAGES, EVEN IF ANY OF SUCH PARTIES IS ADVISED OF THE POSSIBILITY OF SUCH LOSSES, ARISING UNDER OR IN CONNECTION WITH THE INFORMATION PROVIDED HEREIN OR ANY OTHER SUBJECT MATTER HEREOF.

The contents and appearance of this report are Copyrighted FactSet CallStreet, LLC 2024 CallStreet and FactSet CallStreet, LLC are trademarks and service marks of FactSet CallStreet, LLC. All other trademarks mentioned are trademarks of their respective companies. All rights reserved.