Bentley Q4 and Full Year 2022 Earnings Call Transcript

Eric Boyer: Good morning and thank you for joining Bentley Systems' Q4 2022 operating results and 2023 outlook webcast. I'm Eric Boyer, Bentley's investor relations officer. On the webcast today, we have Bentley Systems' Chief Executive Officer Greg Bentley, Chief Operating Officer Nicholas Cumins, Chief Investment Officer David Hollister, Chief Financial Officer Werner Andre, and Chief Technology Officer Keith Bentley.

This webcast includes forward-looking statements—made as of February 28, 2023—regarding the future results of operations and financial position, business strategy and plans, and objectives for future operations of Bentley Systems, Incorporated. All such statements made in or contained during this webcast, other than statements of historical fact, are forward-looking statements. This webcast will be available for replay on Bentley Systems' Investor Relations website at investors.bentley.com. After our presentation, we will conclude with Q&A. And with that, let me introduce the CEO of Bentley Systems, Greg Bentley.

Greg Bentley: Thank you, Eric, and I hope all of you have had a chance, or soon will have, to meet our new and very experienced investor relations officer. And thanks to each of you, as always, for your interest and attention. Today, I and COO Nicholas Cumins and CFO Werner Andre will review our resilient 22Q4 and full year operating results.

As the infrastructure engineering software company, aligned global priorities and momentum from our three incremental growth initiatives—E365, Virtuosity for SMB, and iTwin Investments—reinforce our confidence for, again, a strong operational and financial outlook for 2023.

Today, we will also hear, as I always enjoy, from Founder Keith Bentley, who will be transitioning his chief technology officer role at the end of this quarter and retiring later this year. And the investment community will hear, for the last time, from former CFO and current Chief Investment Officer David Hollister, who will be retiring at the end of this quarter.

As always, I will start with what's new in our tone of business. Our key operating results headline is year-over-year constant currency ARR growth consistent with our original and sustained financial outlook of 12.5% in business performance which excludes ARR acquired with Power Line Systems.

For the quarter and for the year, this reflects robust and sustained momentum everywhere else in the world, making up for having lost Russia and for compounded headwinds in China. There, in addition to geopolitical concerns—which are not abating, as evidenced by more recent developments—during the fourth quarter's major annual selling season, the pandemic first caused a shutdown of our offices and then widespread sickness after the reopening. And as well the government's intended infrastructure spending seemed to have been delayed.

For the year 2022, for instance, as reflected in our anticipation last quarter, we would have exceeded our range of ARR growth outlook if not for the regression caused by Russia and then knock-on counter-globalism in China. We are cautiously bearing in mind those risks in China in our outlook for 2023.

With the respective to the relative tone, the color of business by infrastructure sector, the only change in Q4 was that the commercial facility sector finally flatlined. We had been anticipating this earlier in 2022 and we do expect this to continue for 2023, though only affecting a single-digit percentage of our ARR.

And we have regularly reported on the Dodge ENR quarterly survey of civil engineering firms' self-reported backlogs. I believe Q4's reported downward assessment as a percentage of their ideal backlog has more to do with the reporting firm's assessment of what's ideal for them, as the same firms report net increases in backlog from Q3. Moreover, the ACEC quarterly survey representing a much larger sample across all engineering firms actually quantifies the substantial current backlog as fully 12 months and, especially in this survey, their continued expectation of a further increase in backlog over the coming year. The related sentiment survey also shows continued improvement over last quarter.

For our accounts, in the face of workforce constraints and growing backlogs, going digital is the priority for increasing their infrastructure engineering capacity. And our consumption-based E365 commercial program—embedding our enterprise success expert teams to implement each E365 accounts-prioritized blueprints for new digital workflows every quarter—is the first of our own primary incremental growth initiatives, as E365 accounts achieve demonstrably faster ARR growth than our other enterprise accounts.

In 22Q4, as expected with our seasonal bulge in renewals, we upgraded accounts to E365 at about twice the ARR rate as in each earlier quarter of 2022. E365 increasingly becoming our mainstay commercial program has contributed to our application mix accretion that measures the annual change at constant pricing—an average user spending per consumption hour. This reflects their pace of upgrading to more specialized and, thus, more expensive applications, and has been expanding steadily from approximately 2.5 to 4.5 percentage points of ARR growth over the last two years. And, of course, that's in addition to growth from pricing escalation, volume, and cloud services adoption.

Our second incremental growth initiative has been our Virtuosity go-to-market strategy for SMB accounts and prospects. From the beginning, it has generated exponential growth, continuing to reach, in 22Q4, a milestone of over $33 million dollars in Virtuosity ARR.

And for yet another consecutive quarter, Virtuosity's new business included more than 600 further new logos, enabling us to surpass the further milestone of over 40,000 unique accounts

globally. And new logos added almost 3 percentage points of ARR growth. And among our existing accounts, net revenue retention in Q4 remained at its high of 110%. Concluding as to SMB, in Q4, SMB represented fully 47% of our overall new business. And even in China, SMB new business grew year-over-year in 22Q4, and, in fact, new business overall was healthy in Hong Kong and Taiwan.

So, I believe our applications are competitively well-positioned throughout greater China. But to reach our potential there, we must navigate the geopolitical issues that currently limit our prospects in the primarily state-owned mainland enterprises. Thus, in December, we announced in China our second Chinese joint venture, which doesn't yet have an English name. It's with HTEC, a large design institute that's part of POWERCHINA. We've worked closely with HTEC for decades as a major account and, particularly, to support their development of China-specialized applications based on our platform, both for their internal use and to market to their peers.

The joint venture with HTEC, whose business is primarily engineering for hydroelectric power generation, will soon become our exclusive channel partner for all hydropower accounts in China, representing almost 20% of our business there. We will transfer to the JV, along with some Bentley China colleagues, our existing direct relationships and a capital contribution for our one-third ownership. HTEC will contribute two-thirds of the capital and its existing application business and products.

The JV will initially resell our existing applications, as well as HTEC's, but over some years, we'll work to increasingly shift the mix towards all indigenously developed Chinese products built on our platform paying us royalties rather than net product revenues, and eventually leading to hoped-for investment returns as well. Moreover, the JV will cater to the preferences of this Chinese enterprise market, those are preferences for perpetual licenses rather than subscriptions, and rather than our cloud-based enterprise systems, for on-premise systems like iLink, a reworked derivative of ProjectWise now coming to market from our first JV.

So, during 2023, major portions of our ARR in China will tend to regress from gross to net and then as subscriptions are cannibalized for perpetual licenses. But given the magnitude of the Chinese market, accounting for 30% of global infrastructure spending, we think that to manage through the geopolitical headwinds, these investments and risks are warranted for sake of the long term. Now, it's too early to knowledgeably quantify this drag on 2023. However, you will notice that our annual outlook for 2023, in terms of ARR growth, looks like 2022's annual outlook and actual outcome.

Although the complete loss of Russia, obviously, can't occur again, the possibility of China somewhat following suit could be a significant 2023 factor. But for both years, let me emphasize

that Russia and China are the asterisk exceptions to our backdrop of unprecedented, sustained growth and momentum for our business and for our colleagues everywhere else in the world for 2023, as Nicholas will now elaborate.

Nicholas Cumins: Thank you, Greg. I am pleased to report that we made a strong finish to 2022 and see momentum continuing into 2023, with healthy pipelines and a very brisk pace of business. Market conditions remain positive. Q4 was a very busy quarter, with more evidence of IIJA investment and EU recovery funds flowing through, more so than in prior quarters. And, as Greg pointed out, accounts appeared to be more concerned about their capacity to execute rather than their book of business.

Talking about momentum, I would like to acknowledge the invaluable work of our new Chief Revenue Officer Brock Ballard, who has been instrumental in the successful, global rollout of our E365 program, and I am delighted that he now brings his wealth of industry experience to our operating council.

Of course, I would be remiss if I didn't also pay tribute to his predecessor Gus Bergsma, whose relentless focus on execution elevated the company's sales performance to a new level of precision.

Looking at the regions, I will draw your attention to Europe and India.

Europe was a bright spot with improving market conditions and a strong pipeline. The main growth drivers were public works and contractors in the industrial sector, as well as an acceleration of E365 conversions and consumption.

In India, momentum continued in both enterprise and SMB, with public works and industrial driving year-on-year growth. Transportation continues to be a strong point for us, with funds flowing and lots of project awards. India is also a focus for urban and rural drinking water programs, and we made the single largest sale of our water product line in India in the last 10 years.

Southeast Asia continues to impress with the scale of its ambition, and it can point to megaprojects in transportation, in rail in particular. At the *Year in Infrastructure* and *Going Digital Awards*, which were held in London in Q4, two rail projects from Southeast Asia were finalists: the Metro Manila Subway Project and, the eventual winner, the High-Speed Railway from Jakarta to Bandung. The project sets a new benchmark for going digital. iTwin technology reduced the design review time by 10% and shortened the construction schedule by six months.

Turning now to products.

MicroStation grew fast in SMB. This is a positive indicator that there is still an untapped segment of individual practitioners and smaller infrastructure organizations for whom MicroStation has a strong product market fit. Why this is significant is that these practitioners and organizations, who may be using MicroStation on a project for the first time, represent an install base that we can, in future, upsell, to a higher value, more powerful engineering application—what Greg calls application mix accretion—and, beyond that, help them get on the on-ramp to infrastructure digital twins.

Other brands with notable performance in Q4 included OpenRail, OpenBridge, OpenFlows, SACS, and Leapfrog.

Finally, a few words about our colleague engagement.

As you will see in the 10-K report, we had a remarkable 92% participation rate in our 2022 Annual Colleague Engagement Survey, with 85% of colleagues responding they are proud to work for Bentley, and 87% glad to recommend Bentley as a place to work. It is gratifying to see favorable comparisons with tech industry benchmarks, against a backdrop of tech layoffs and so-called quiet quitting.

This is due in no small part, we believe, to our intentional approach to work flexibility and colleagues' well-being, which facilitates a high level of engagement and productivity. What we call our Infrastructure Empowered Workforce Plan encourages our colleagues and their managers to make effective choices about the right balance of working from home or in the office—and truly make the best of both worlds. Our policy of not requiring colleagues to come to the office at any specific frequency has been instrumental in attracting and retaining talent and allowing our colleagues across the world to contribute to Bentley Systems' success in a meaningful way.

And with those operational perspectives, back to you, Greg, for corporate developments.

Greg B: Thank you, Nicholas. And may I add my thanks to the whole of your operating teams for these best-ever operating results that we're reporting today and expecting for 2023.

Following on from the chief revenue officer transition that Nicholas just reviewed, the corporate developments we will cover now are also related to executive succession.

Recall that the primary motivation for our IPO after 35 years was to help provide a prosperous retirement for our colleagues, who had collectively earned one-third of the company's ownership while making possible our success. As an expected consequence, we will, this year, substantially complete the retirement succession for cumulatively nearly half of our officers. I describe this

wave of management promotions as generational. This year's retiree cohorts has an average tenure of 26 years.

A commitment we have ingrained over all that time is that our operating management is annually charged with realizing scale efficiencies sufficient to expand our operating margins by about 1 percentage point. In our financial outlook for the year 2023, we are now aligning our external margin metric with what we believe most appropriately measures this aspect of operating performance and improving on Adjusted EBITDA for these purposes.

Based on feedback to date, I think investors will also prefer our compass-setting metric going forward, which is adjusted operating income, including stock-based compensation. As encompassing real and substantial economic costs that are conspicuously overlooked in Adjusted EBITDA—and this includes capturing operating depreciation and amortization, which becomes more significant for us in 2023 as our digital experience investments include some IT expenditures that require capitalization.

But most importantly to us all as shareholders, stock-based compensation bears real costs of dilution, in our case corresponding to the free cash flow we use to fund offsetting repurchases. As I described in our own history, we think stock-based compensation is crucial for a software company, but it's economically fungible with cash compensation costs and merits the same informed scrutiny in trade-offs. As a private company, we issued stock options and incurred relatively minimal Black-Scholes accounting charges. Then, as a public company, our comparable grants in full-value restricted stock and tailed accounting costs at a much higher magnitude. Following the ensuing retirement wave, which I described our equity incentives as having enabled, we have prioritized intentionally rebuilding appreciable equity holdings by our next generation of leaders. But subject to cash versus stock elections by and for executives, including our CEO, I expect our SBC charges to level off in the 6% range of margin points.

Giving full weight to these economic costs, we have progressed quite well in following our internal compass towards increased adjusted operating income with stock-based compensation. From pre-IPO years through the pandemic years—which were subject to normalizing adjustments for the temporary travel and event savings—and as reported today for 2022, leading to our confident 2023 outlook to achieve a compounded annual growth rate over the last five years of just under 16% in adjusted operating income with SBC. And most significantly, over this period spanning the pandemic impact, we have substantially accomplished our objective of an annual percentage point improvement in operating margins by this most appropriate and fully encompassing measure.

Two related final thoughts are about our leverage, consisting primarily of our convertible notes maturing in 2026 and 2027. First, if—as is our track record and our plan—we continue to extend

this compounded annual growth rate, then at current valuation multiples of adjusted OI with SBC, I think you would see that this debt will, in fact, convert. And second, to the extent valuation multiples become lower and the debt doesn't convert, the compounding cash generation this portends after fully offsetting SBC dilution should easily underwrite our choice of refinancing.

Now, back to our executive succession corporate developments—Keith Bentley, up next, will then introduce David Hollister to review our significant recent Bentley investments. I can say with appreciation that we wouldn't be here without David Hollister. I will certainly miss his influential thinking and steering. And I am sure that as a continued substantial investor, he will expect ample returns from the long-sighted investments he has overseen. David will then introduce Werner, his successor as CFO, to wrap up.

Setting aside any admitted bias, I think the infectious spunk and constructive values and work ethic of Founder Keith Bentley have defined our company just as much as his technical groundbreaking and future-proofing. Keith will cover our third primary growth initiative—the infrastructure digital twin generational advancement powered by iTwin that will be his enduring legacy. Keith, you're up.

Keith Bentley: Thank you, Greg.

When we began Bentley Systems' journey in 1984, I'm sure I wouldn't have been able to predict where we'd be at this point, as a publicly traded company with a billion dollars in annual revenue.

It's been an incredibly rewarding and exciting journey for me as the years have just flown by. But of course, I've been at this for so long, and I've made so many multi-decade personal relationships with our wonderful user organizations, and I feel a real personal obligation to them. Likewise, I'm deeply committed to my colleagues here at Bentley, many of whom have dedicated their entire career to our company. So, part of me wants to work forever. But alas, as they say, "time waits for no man," and inevitably there must be a transition—best if it can happen while I can help make it as smooth and successful as possible.

So, while I am stepping down as CTO, and I intend to start gradually ramping down my schedule throughout the course of this year, the Bentley Systems journey will continue unabated. To me, the future looks even more exciting and more full of potential than it did when we began with the advent of the personal computer nearly 40 years ago.

Of course, I will also remain a director and investor in Bentley Systems, lest anyone think there's a danger that I may lose interest in our long-term success. I have been working with my successor as CTO, Julien Moutte, continuously over the past two years. And I have come to have

a sincere trust in his instincts and a real admiration for his drive to get things done. Together, we'll make the transition as smooth as possible, and we are both committed to continuity—both in terms of our long-term directions and our immediate priorities. So, we expect no drama.

Now, as you may know, in the infrastructure software market, we find ourselves at a very real inflection point around infrastructure digital twins, a concept that Bentley nearly singlehandedly invented. In my obviously biased but informed humble opinion, there is currently nothing remotely competitive to our iTwin technology stack. So, it's our priority to leverage our iTwin advantage as quickly and as adroitly as we possibly can. Since we introduced iTwin in 2017, we've seen significant uptake by some of the world's leading engineering firms on the world's most significant projects. A good indicator of that is the number of finalists in the *Year in Infrastructure* and *Going Digital Awards* that credited iTwin for their projects. That fraction has increased from 20% in 2020 to more than 40% last year. But that's because infrastructure digital twins empower engineering firms and owner-operators to accomplish extraordinary things and to make game-changing improvements to their workflows and their business processes—and even transform their business models. So, if you haven't already done so, I encourage you to review the recordings of the finalist presentations from last year's *Year in Infrastructure* and see for yourselves how they describe it in their words.

We want the benefits of using this technology to be experienced by all infrastructure projects and by all infrastructure professionals, no matter the size of their project, the size of their organization, or in whatever phase of the infrastructure lifecycle they contribute. With all the investment going on into infrastructure throughout the world, wouldn't it be nice to think that together we're getting the maximum value for every dollar, every euro, and every other currency being spent? And that the projects are safer, greener, and are delivered on time? I know I do.

Infrastructure digital twins certainly make information more accessible and, I think, can become the building blocks for a very valuable, industrial, and professional metaverse. They'll make possible new capabilities and processes well beyond the state of the art today, and probably beyond our current ability to conceive of their ultimate value.

We're more excited than ever about the prospects for infrastructure digital twins and, of course, Bentley iTwin. But that means that iTwin should be pervasive. It already powers the Bentley Infrastructure Cloud. It already enables us to mobilize data across the infrastructure value chain, across every stage of the infrastructure lifecycle. But our priority for this year are to bring the power of cloud-native iTwin to our engineering, modeling, and simulation applications, but without requiring our users to fundamentally change their ways of working. They should be able to incrementally realize the benefits of infrastructure digital twins without having to start over. To accomplish that, we'll embed the iTwin engine inside our existing applications. It's an

exciting project, and one where Julien and I have been actively involved and engaged with nearly every team here at Bentley. And I have to say, it's one of my most enjoyable projects ever.

So, I've had a tremendous career and I'm very thankful to all the talented people here at Bentley, now and over the years, who've made it so rewarding. We began long ago in an era called "computer-aided design." But I now describe our scope as "software-aided infrastructure," and I think the possibilities for that are near endless. Our world needs to improve the efficiency, the longevity, and the resilience of our global infrastructure as a matter of urgent priority. But that can only happen with innovative new technology, new processes for all phases of its lifecycle, period. It's not really a matter of "if," but "how."

And, on that note, I'd like to hand it over to my good friend and our long-time CFO David Hollister, who'll be speaking today on our operating results call for the last time. David, what new investments have you been working on for our futures as retirees?

David Hollister: Thank you, Keith, for your vision, your leadership, and your kind words.

And indeed, I will talk about some new investments. Beyond our noted progress in developing formal joint ventures in China to forge an alternative means of doing business in that evolving landscape, I'd like to give updates on our iTwin Ventures activities and expand a bit more on two of our latest acquisitions: EasyPower and Vetasi.

So, as you know, we formed iTwin Ventures to stimulate entrepreneurialism in developing digital twin applications, including those leveraging our iTwin Platform capabilities. In addition to our traditional venture portfolio investments—and I will highlight a new addition in a moment—we sponsor and support a development ecosystem. Therein, iTwin Activate is our accelerator program where we engage with early-stage companies and fund-approved development projects in exchange for equity, typically SAFE notes. We completed our first cohort of iTwin Activate, focused on the grid, and the success of this cohort has already led to certain products ripe for introduction, and joint marketing and co-selling motions between Bentley and the cohort participants are already underway. It's our expectation that many of these iTwin Activate program participants graduate into venture-investable businesses for iTwin Ventures and others to invest in.

Since we last spoke, we continue to be enthusiastic and supportive of our investment portfolio and are pleased to announce our recent investment in Oakland, California-based Flow Labs. The Flow Labs platform leverages aggregated real-time traffic sensor and connected car data to generate a synthetic data set approximating all road usage. This data supports a range of optimization and analytics use cases, starting with traffic signal optimization and extending to traffic flow monitoring and optimization at city-scale. We also see the potential for Flow Labs' real-time datasets to contribute to Bentley's advanced traffic simulation solutions.

Our EasyPower acquisition adds electrical design and analysis capabilities to our portfolio. We've historically found really good success in offering analysis and simulation applications, specifically for infrastructure context, which are fit for purpose and easy to apply, iterate, and incorporate for optimized design and operation of infrastructure assets. Financially, these solutions tend to be mature, sticky, and high margin contributors for us, and we expect the same from EasyPower. We estimate EasyPower can offer everything that 90% of infrastructure electrical power engineers will ever need in a solution that is easy for them to learn and apply, but can also complement other advanced electrical analysis solutions outside of our portfolio and not presently our focus. Within our comprehensive portfolio, EasyPower will initially complement our OpenBuildings, OpenFlows, OpenPlant, and Raceway and Cable Management design and modeling applications, in particular in the context of industrial, mining, and commercial buildings sectors. EasyPower will also serve as a platform to introduce electrical analysis to other of our sectors in due course. We are excited to welcome EasyPower CEO Kevin Bates and his Portland, Oregon-based team to Bentley Systems.

Since our last operating results call, our Cohesive business has also completed its acquisition of Vetasi. You'll recall our Cohesive digital integrator business was formed to provide digital strategy consulting, integration, deployment, and system services support to help our clients achieve business outcomes and benefits from digital twins. Cohesive seeks to adopt and prove commercial models that we believe engineering firms, in particular, will find to be an appealing business model and will also adopt accordingly. Vetasi is a European-based, Maximo-focused digital integrator, which very nicely fills geographic voids for us and complements our existing sector focus with presence in utilities, mining, oil and gas, and transportation. Vetasi also brings a highly skilled team of nearly 200 digital integrator consultants, including in cost-efficient bases in Poland and Indonesia. We expect to realize G&A synergies, sales motion synergies, project delivery utilization synergies, and cross-sell opportunities as Vetasi integrates with Cohesive.

While both the EasyPower and Vetasi acquisitions are of our programmatic scale, and not material to warrant disclosure of their specific financial information, I do consider we acquired each at what this former CFO considers to be very efficient valuations. They perfectly align to the historically successful programmatic acquisition strategy we've previously articulated.

And now, as I sign off, I'll have to save most of my reflections, sentiments, encouragements, and untold secrets for a proper retirement party and speech. But I would like to share that I am both humbled by the quality, character, and talent of my colleagues over the years and am so very proud of what we've accomplished together. I'll leave the body of work to speak for itself. And while I personally may be moving away from driving value each day, I am lifted by the even greater potential that I see for Bentley Systems and am comforted that the depth of talent and quality of culture will continue to harvest that potential. And, like Keith, but maybe with a zero removed, I too will be a Bentley Systems shareholder for a very long time, and you can bet that

I'll be frequently chirping in the ear of one person or another when I see things that need to be fixed or opportunities to be exploited. And speaking of character and talent, I'd now like to hand over to our CFO Werner Andre.

Werner Andre: Thank you, David. And thank you for your leadership, the profound impact you have had on Bentley, and the mentoring and guidance you have given me over the years.

We are pleased that we finished the year strong, and we feel good about our outlook for 2023. I'll start with our Q4 revenue performance. Total revenues were $287 million, up 7% year-over-year, or 13% on a constant currency basis. On a constant currency basis, Americas grew 9%, EMEA 16%, and APAC 17%. For the quarter, subscription revenues grew 13% year-over-year, or 18% in constant currency, and represented 88% of our total revenues.

The growth is supported by our balanced business performance across sectors and regions, other than China, our E365 and SMB growth initiatives, and our platform acquisition of Power Line Systems in January 2022.

Regarding our perpetual licenses and services revenues, recent trends continue, which are reflective of our focus on recurring subscription revenues.

Now, moving on to full-year revenue, which were $1.1 billion, and up 14% year-over-year, or 20% in constant currency, which is at the high end of our constant currency outlook range. On a constant currency basis, Americas grew 22%, EMEA 15%, and APAC 21%. China was a 9-percentage point headwind to APAC's constant currency revenues growth. Subscription revenues grew 18%, or 24% in constant currency, which included 12 percentage points from our Seequent and Power Line Systems acquisitions, and 12 percentage points from our business performance.

I am covering next our recurring revenue performance. Our constant currency account retention rate was at 98%, and our constant currency recurring revenues net retention rate remained at 110%, led by continued accretion within our E365 consumption-based commercial model.

We ended 2022 with ARR of $1.037 billion at year-end spot rates, now for the first time above $1 billion, and our constant currency ARR growth rate was 15%. Power Line Systems onboarded 2.5% of this growth, and our business performance accounts for the remaining 12.5%, which is the midpoint of our financial outlook range. The strong and sustained momentum of our business performance is driven by our E365 and SMB growth initiatives and the continued growth velocity of our platform acquisitions of Seequent and Power Line Systems, making up for lost ARR in Russia and headwinds in China.

Our last 12-months recurring revenues, at actual currencies, increased by 17% year-over-year. The acquisitions of Seequent and Power Line Systems contributed about 11 percentage points of this improvement.

Our GAAP operating income was $41 million for Q4, down $3 million, and $209 million for the full year, up $114 million year-over-year.

We have previously explained the impact on our GAAP operating results from acquisition costs, incremental amortization from purchased intangibles, increases in stock-based compensation, and the one-time accounting charge for deferred compensation of approximately $91 million in 2021.

Moving on to Adjusted EBITDA. Our fourth quarter grew by approximately 5% over 21Q4, and our full year Adjusted EBITDA of $366 million is an improvement of approximately 13%.

With an Adjusted EBITDA margin of 33.3%, we delivered on our 2022 Adjusted EBITDA margin commitment of about 100 basis points margin improvement over our normalized Adjusted EBITDA margin of 32.3% in 2021.

As you will remember, in 2020 and 2021, we normalized our margin performance for temporary margin windfalls from reduced travel and events. In 2022, travel and events are now in line with what we believe to be a normalized post-pandemic run rate.

Greg already described that starting in 2023, we will measure our operating margin performance and improvements the same way for our annual outlook as we will do for purposes of executive incentives, which will be based on adjusted operating income inclusive of stock-based compensation. We believe that this measure appropriately captures the true economic cost of shareholder dilution from stock-based compensation. It also includes operating depreciation and amortization, which will increase, as our Capex will include digital experience IT investments of approximately $10 million in 2023 and a comparable amount in 2024.

With respect to liquidity, our Q4 operating cash flow of $36 million decreased 55%, and our full-year operating cash flow of $274 million decreased by 5% year-over-year.

We’ve previously discussed that our business model produces reliable and efficient cash flows over a trailing 12-months period, but with some variability between quarters. We have no significant upfront multi-year collections, which limits variability on a trailing 12-months basis. And our continued expansion of our E365 program, where we collect a deposit for the estimated annual consumption at the onset of the annual contract period, generates strong cash flows.

However, our 22Q4 and full-year cash flows were impacted by a shift in billing and, therefore, collections of certain E365 renewals and newly converted E365 contracts, all representing healthy new business. We had a particularly strong fourth quarter, converting enterprise accounts from their straightforward annual renewals of non-consumption-based models to E365 right up to the end of the year. With consumption generally rising year-over-year for existing E365 contracts, we focused on renewal negotiations for higher annual deposits, floors, and caps, which, in many cases, were not concluded until nearly year end. The resulting later billing led to later collections. But the 22Q4 shortfall was fully offset by extraordinary collections in early 2023.

Our 2022 cash flows were also impacted by higher cash interest, and Q4 was also unfavorable due to some significant vendor payments, which we accelerated to obtain better terms.

For 2023 and prospectively, given higher interest rates and a higher cash tax burden from the requirements of the 2017 Tax Cuts and Jobs Act to now capitalize and amortize R&D expenses, rather than straight expensing them, we estimate that our conversion rate of Adjusted EBITDA to cash flow from operations will be approximately 80%.

Along with providing sufficiently for our growth initiatives, and our 2023 increase to our modest dividend, our capital allocation prioritizes equity and debt repurchases to offset dilution from stock-based compensation. Accordingly, against stock-based compensation of $75 million in 2022, we spent $44 million on de-facto share repurchases associated mainly with deferred compensation plan distributions. And under our stock repurchase program, which we announced in the second quarter, we repurchased shares for $28 million on convertible senior notes for $2 million.

As of the end of December, our net debt senior leverage was 1.3 times, and when including our 2026 and 2027 convertible notes as debt, our net debt leverage was 4.7 times. Approximately 80% of the debt is protected from rising interest rates through either very low fixed coupon interest of our convertible notes or our $200 million interest rate swap, expiring in 2030. And if I assume an approximately $100 million per year investment into programmatic acquisitions—which does exceed recent averages—we can expect to de-lever at a rate of about 0.7 times Adjusted EBITDA, annually.

Moving to our 2023 outlook. Our outlook reflects our continued margin improvement commitment of approximately 100 basis points and our continued focus to maximize our long-term ARR growth.

While we continue to see unprecedented market demand for infrastructure engineering going digital, our outlook does factor in a cautious approach towards China due to continued uncertainties. Accordingly, we expect total revenues on an as reported basis in the range of

$1.205 billion to $1.235 billion, representing growth of 9.5% to 12.5%, or between 10.5% and 13.5% on a constant currency basis. We are projecting constant currency ARR growth between 11.5% and 13.5%. We expect an adjusted operating income with stock-based compensation margin of approximately 26%, which is reflective of our 100 basis points annual margin improvement commitment. Any FX impact on our margins is significantly mitigated by our fairly effective natural hedge. We expect our effective tax rate to be approximately 20%. As I mentioned before, we expect cash flows from operations to convert from our Adjusted EBITDA at a rate of approximately 80%, and we expect capital expenditures of approximately $30 million, which includes approximately $10 million of incremental IT investments into our ERP system.

To help you with your models, I also include here on the slide additional expectations on interest expense and cash interest, cash taxes, stock-based compensation, operating depreciation and amortization, outstanding shares, and dividends.

And with that, I think we're ready for Q&A. Over to Eric to moderate. Thank you.

Eric B: Great. We'll now move to the Q&A portion of our presentation. We ask that each analyst limit themselves to one question, one follow-up. First, we'll go to Joe Vruwink from Baird.

Joe Vruwink: First off, congrats to Keith and David on what have really been great careers, and nothing but the best for both of you.

India maybe seems like a good analogy or anecdote, where this is a market that is spending a lot on infrastructure post-stimulus. And you seem to be specifically seeing strength in your associated products in India around transportation.

I guess my question would be, can we extend this into the U.S.? So, have you started to see an acceleration in new business aligned with the sectors farthest along in the IIJA deployment? And if this is so, is your expectation for the upcoming year that new business growth likely broadens out across the portfolio as the scope of IIJA broadens out across different subsectors?

Greg B: Joe, I think that describes it pretty well. I don't think it could be of the scope of increase of India. Remember, India was pretty much affected by the pandemic, but it's come back way above pre-pandemic levels in India. We did see, we are seeing the increase from the IIJA. We began to see that, of course, during third quarter.

The fourth quarter in North America was not so much yet a further increase, but we are expecting that during 2023, just as you said, because of the IIJA spending broadens out to

include the other beyond roads and bridges—expanded budgets in infrastructure at large. But I'll ask Nicholas if you'd like to add more to that.

Nicholas C: Well, maybe a few words about India first. It is the country where we see the most direct link between additional investment in infrastructure engineering software and the infrastructure plan. So, it is the most advanced. And we can point to a number of projects where our software is being used that are directly funded by the National Infrastructure Pipeline, as it is called over there.

India benefits from something else, which is there's a number of global accounts who are moving work to India. In order to solve for the capacity issue that they have in the rest of the world, they move work to India as a, let's say, work bench extension, if you want.

But the way they move work over there is not just in order to be cost-effective. It is really to tap into additional capacity that they don't have. And in that case, they actually give them full responsibility, including project management.

So, with respect to the U.S., we have, let's say, circumstantial evidence that the usage pick up that we see in transportation, for example, is indeed related to IIJA. But we also know that it's going to take time for the funding to flow from the federal to the state level infrastructure owners, contractors. So, this is going to be a tailwind for multiple years.

Joe V: OK, that's great. And then just to spend a bit of time on the resources side of the portfolio, which I think you called out Leapfrog was one of the areas of strength. And also, at one point in time, the E365 customers that were energy exposed, your EPC customers, that was a pretty big dilutive factor on net retention and ARR growth.

Just wondering, in 2023, do you expect that pent up Capex comes back online and so you're able to gain back a lot of that lost, if I can call it that, ARR? And then, what would be your more specific outlook on resources and the Seequent side of the business?

Greg B: So, let me start with the EPCs, the big global firms who primarily do engineer, procure, construct for industrial Capex. Of course, their business went way down in the pandemic, and they have worked at diversifying now into renewables and energy transition, which was a great choice for them to focus on. And I don't think their growth rate is distinguishable from the green color of tone of business in industrial and resources generally now.

But it's a good question. And I'm not sure whether they're back. I would guess they're not quite back to where they were pre-pandemic, but that's not an informed quantitative view at the moment. We have stopped separating them because they look like everyone else in being fully occupied at the moment, although their companies did shrink.

And then on mining and resources, Nicholas, maybe with Seequent, you could comment on the pace of growth in mining and resources.

Nicholas C: Yeah. So, mining is still in a super cycle. The early-stage drilling, which we look as an early indicator, is up, and it's at its highest level since 2014. So, there's a lot of activity going on. I think there's a clear realization that a lot of mining is needed in order to support the world electrification.

We see also a lot of activities with the large mining companies who are full of cash because they benefited from sustained price increase. They also benefited from the strength of the U.S. dollars, which is the currency that they use for their business. And we see them acquiring a lot of smaller mining companies.

So, in fact, in 2022, the first half of 2022, we saw 50% more M&A activity than in the previous year. So, there's a lot of investments going on into mining. And of course, Seequent is extremely well positioned to benefit from that. Yep.

There's a few more words—sorry.

Greg B: Sorry. Back to you, Nicholas.

Nicholas C: I just wanted to say that when it comes to EPCs, so contractors in industrial, those were actually among the two growth drivers that we've seen in both Europe and India in Q4. So, we've definitely seen a regain of strength there.

Now, Seequent, when it comes to energy, is going to be used more for geothermal or even for offshore wind platforms, rather than oil and gas, traditionally. So, it's focused more on renewable sources of energy.

Greg B: Thanks, Joe.

Joe V: Thank you.

Eric B: Next, we'll move to Matt Hedberg from RBC.

Matt Hedberg: Oh, great. Thanks for taking my questions, guys. Nicholas, the European strength really stood out to me. Can you double click on maybe where you saw that strength and just how sustainable you think that is into 2023?

Nicholas C: Yeah, we—I mean, I mentioned already in the prepared remarks we saw as growth drivers public works and contractors in the industrial sector, so EPCs as growth drivers. We also see a net acceleration of conversions to the E365 program and consumption within E365. But

there's something else that I didn't say in the prepared remarks that is going on in Europe, which is a very large infrastructure investment plans. The first one, which is really impacting us is called the Next Generation EU Plan. It started to be active in 2021.

About almost 20% of the funding for that plan is already being distributed across the different countries. And we can point to a number of projects that are being funded by that plan where our software is being used, like multiple high-speed rail projects in Italy. We just had in Q4 very large electric utilities that we won as—and we made a big deal because of a project that is funded by the Next Generation EU Plan. So, there is more coming. Only 20% has been distributed. There is more coming.

There's another plan which is not yet in effect but is quite urgent because it is about reducing still, our energy dependency with Russia. This is called the RE Power EU Plan. It is still in legislative proposal state. It's not yet enforced. When it will be enforced, it is well-aligned with what we see as our strength from a software standpoint. So, we shall benefit from that as well. So, that is all additional tailwind that is coming to sustain our growth in Europe.

Matt H: Got it. And then, Werner, for you on the guidance, is there any way to think about quantifying the inorganic contribution to ARR growth, as well as maybe what you've included for China? I know you said things could deteriorate further there but just trying to get a sense for how de-risk your guide is for China.

Greg B: Can I jump in on China in particular?

Matt H: Sure.

Greg B: So, we began 2022 with China at about 5% of our ARR. This year, we start the year, it's under 4%. And of course, we had some net attrition, but also everything else grew, if you see. And finally, the currency didn't do well during 2022. But—so that actually turned out to be a bigger headwind for us than was the loss of Russia and is the reason to be apprehensive.

If China would be growing at the relatively favorable growth rate, compared to the company as a whole, that we experienced prior to the pandemic, our outlook for 2023 would be at least a percent higher in ARR growth than it is.

And, Werner, let me send to you the question on the programmatic acquisitions, which we include in our business performance because it's not worth breaking them out. Go ahead.

Werner A: I agree on everything on China, and programmatic acquisitions, we—over the past, they contribute an average of 1% to 1.5% to annual recurring revenue and to our top line revenue

as well. Although, more recently, on ARR, it was a little bit higher but approximately between 1% and 1.5%.

Greg B: Well, it was lower in 2022 because there were few such acquisitions, but we're resolved to get back to our pace of programmatic acquisitions over time. There's no particular reason it was lower in 2022. It was just a matter of circumstance.

Matt H: Thanks, guys. Congrats on the results.

Eric B: Next, we'll move to Kristen Owen from Oppenheimer.

Kristen Owen: Great, good morning. Thank you for taking the question.

So, I wanted to follow up on some of the commentary around the EasyPower acquisition. We talk quite a bit about the overlay of your portfolio with electrification and energy transition, but I was hoping you could speak specifically to the grid digital twin ecosystem. Who becomes the steward of those digital assets, and are there areas of the portfolio that you feel are maybe missing similar to this EasyPower acquisition maybe in load management or something like that? And I have a follow up.

Greg B: Thank you, Kristen. We do think there's a great opportunity in what we call integrated grid, which is putting together, from a physical grid standpoint, the communications infrastructure that's increasingly 5G and—as well as towers and its shared use with electrical transmission and distribution. And that's where a lot of our integrated grid efforts have focused on the physical side. EasyPower comes in on the modeling and analysis side, but as to a grid, there's a portion, if you like, that belongs to the utility, and then we say behind the meter is the portion that belongs to the major power user.

And EasyPower has focused to date mainly, not entirely, but mainly behind the meter. But what goes on behind the meter is increasingly a mix of what we call distributed energy resources. So, it's facilities that are starting to have some solar, starting even to have some wind, and some battery storage.

And, therefore, for every industrial or commercial or mining facility, our engineering is never done. It constantly needs to be modeled and updated through a digital twin, and that's where EasyPower comes in because it's much more approachable and accessible to make part of a digital twin. So, it's an excellent acquisition for us. We will need, ultimately, to extend this to all aspects of the integrated grid, but we're going to focus on this distributed energy resource opportunity behind the meter most immediately with EasyPower.

Kristen O: Thank you. So, my follow-up question is really a follow up to the prior, which is you have EasyPower now that you've tucked in this year. Should we think about you returning to that historical point to point and a half of programmatic acquisitions contributing to ARR growth this year? And if you could speak to the valuation backdrop in your M&A pipeline, that would be helpful. Thank you.

Greg B: Well, it went significantly below 1% during 2022, and so I think it'd be ambitious to get above 1%. Not sure why deals are—we're disciplined about valuation, of course, but we'd be glad to get back to 1%, if you ask me.

Kristen O: Thank you so much.

Eric B: Next question comes from Andrew DeGasperi from Berenberg.

Andrew DeGasperi: [AUDIO OUT] taking my questions. First, congratulations to Keith and David, as well as Julien, on the promotion. Maybe Greg, could you elaborate a little bit on the digital twin and getting embedded into the software more broadly? Is there like a timeline that you have in mind of whether that could happen? And then I have a follow-up. Thanks.

Greg B: Well, we announced in November at *Year in Infrastructure* 2022, Bentley Infrastructure Cloud, which brings the iTwin Platform and the iTwin Schema to ProjectWise, SYNCHRO, and AssetWise. That leaves the two-thirds of our portfolio, the modeling and simulation applications, for the focus that Keith talked about.

And maybe I'll just say this. That it's easier to, for Keith to stop getting paid, than it is to stop working. And he made a commitment to our users, which I think it's very significant. He said before the year is out, in 2023, we'll have the modeling and simulation users also benefiting in their applications from becoming data-centric—in creating their deliverables that they do now, they'll also be creating an iModel that can be referenced and queried for analytics, machine learning, and so forth, without their needing to change what they do.

And I think his change in focus here has been sort of because he wants, he knows that our chief technology officer role includes lots of other responsibilities, wants Julien to take all that up, so he can focus on delivering on this promise to integrate the iTwin Platform so that our users are creating iModels at the same time as their traditional deliverables.

And his time frame for that was the coming year. And I think it's a wonderful, ingenious plan he has for that. And by the time the year is out, our modeling and simulation software will also include iModel generation for all of our users as they adopt their 2023 edition of our applications.

Andrew D: Thanks, Greg, that's helpful. And then maybe, Werner, on the margin expansion, I just wanted to maybe touch base on that. If you could break out a little bit more in terms of what are the components that are going to get you to the 100 basis points. I mean, how much of it is core relative to the stock-based comp leverage?

Because if also I look at Q4, Q4 based on the release, it looks like the core margin had slightly gone down a little bit. But just wondering is that reversed essentially in 2023? And yeah, if you could elaborate a little more. Thanks.

Werner A: Maybe pertaining to Q4. Q3 year-to-date was like at a high level on margin-wise. And the goal was always to come in at the end of the year approximately 33% Adjusted EBITDA margin. So, we knew that as we went into Q4, that we would more invest into the business and try to spend it in areas that benefit the following year and going into Q4.

So, we managed the margin under our alignment model, where we consistently recalibrate the revenues with our relative head cost to our revenue run rate. And coming into Q4, we were pretty much like balanced with that measure. And yeah, the incremental investments into next year.

Going into 2023, we scale as we always do. We grow our revenue, as indicated, and we reduce our cost a little bit relative to the revenue growth and manage it through the alignment model.

Greg B: So, of course, we don't reduce our costs, we reduce our rate of increase of our costs in relation to revenue.

Maybe I'll just comment quickly that I'm always confident that we'll meet our operating margin goal because our operating incentives—our operating management has that as a condition for their incentives. Their incentives depend on our ARR growth rate, but are conditioned on improving operating margins modestly every year. The percentage point is not difficult. Well, it is difficult. It's a lot of work that goes into it, but we've become confident in being able to do that. But as you see, we don't wish that to be based on Adjusted EBITDA given its arbitrariness and excluding, for instance, operating depreciation and amortization, which is significant for us now. And especially excluding stock-based compensation, which can jump around for arbitrary reasons, like elections by executives and so forth.

So, Nicholas is delivering this—these improvements, and I'll give you the last word, Nicholas, on the matter.

Nicholas C: I will just confirm that we're committed to keep improving our margin.

Greg B: Measured the right way.

Nicholas C: Exactly.

Andrew D: Thank you.

Eric B: Great. The next question's going to come from Matthew Broome from Mizuho.

Matthew Broome: Hi, thanks for taking my question. I'll just add my congratulations to Keith and David, and best wishes to both for the future.

So, I guess firstly, just how did demand trend during the quarter in terms of linearity? And I suppose given that we're now sort of two months into the first quarter, is there anything you can say about how usage has been tracking year-to-date?

Greg B: Well, I may start on linearity. We had this phenomenon of reduced collections during the quarter, which we sort of didn't plan on or anticipate. But we found our negotiations were taking us nearly to the end of the quarter, because we and the accounts were negotiating considerable increases in consumption and new deposit levels, and in many cases, we have floors and caps to be negotiated.

And we had many conversions—upgrades, I say—to E365 that occupied much of the quarter. But it's a great thing to be working on when you're working on going digital plans that require more software and software increases. So, there was that aspect of linearity.

I'll say one more thing and then turn it over to Nicholas, which is the fourth quarter is not a quarter where we have learned to expect volume—consumption volume in E365 to grow much, compared to sequential quarters. And that's because of holiday. Can we literally charge per application per day? And there are fewer work days in a fourth quarter each year.

So, more of the new business this year was of the nature that I described of renegotiated resets and new E365 upgrades. And I describe the application mix accretion, which never stops, rather than outright consumption quite to the degree. Although, Nicholas, you mentioned consumption increased in Europe in particular. Anything further, Nicholas, on that?

Nicholas C: I will say that the general trend is that we are improving linearity. It is true that in Q4, we had many of these E365 conversions that happened a little bit late in the quarter. But as we're converting accounts to E365, and as consumption growth then becomes an important portion of our ARR growth, that actually contributes to better linearity.

Same with Virtuosity. As we sell throughout the third quarter with Virtuosity, the more we sell with Virtuosity, the higher is the percentage of our ARR coming from Virtuosity, then the better it's going to be on the linearity. So, the overall trend is improving.

Greg B: Yeah, it's the enterprise negotiations that drag out to the end. The SMB and Virtuosity practitioner sales and so forth are more reliable and steady.

Nicholas C: Exactly.

Matthew B: OK, all right, thanks. And then just curious, how are you approaching hiring in the year ahead? To what extent are you still having sort of success finding sort of qualified civil engineers to build out your E365 program?

Greg B: Nicholas?

Nicholas C: Yes, so in hiring, we see clearly more applicants now to our job openings than we've seen before. But we haven't seen an acceleration of the hiring process still. So, we still have a lot of candidates who come in with pretty high expectations when it comes to compensation that we need to then align with what we are able to afford.

So, we do hope and foresee, actually, that it will ease out during the year, that it will get easier to hire. But right now, I cannot say that it is much easier. There's definitely more applicants. You could argue that even with more applicants, it is actually slowing down a little bit our recruiting process. But the key message is the following, which is we are hiring. We are definitely hiring, and in order for us to continue to grow, in order for us to sustain our growth.

Greg B: And most of the engineers we're hiring, of course, Matthew, are software engineers. And that's where the phenomena—Nicholas talked about—you did ask about civil engineers. Those are important for our success teams, but it isn't numerically the bulk of our hiring, if you see.

Matthew B: Yeah, that makes sense. And then, sorry, maybe I just squeeze in one last one. One of your competitors has been talking a lot about seeing a lot of demand in smart water infrastructure. Just curious what you're seeing in that market, both in terms of fundamentals, but also competition.

Greg B: Nicholas?

Nicholas C: Yeah, well, OpenFlows was actually—which is our brand for our applications for the water infrastructure—was a highlight in Q4. We did see notable growth around the world. We did sign our largest deal in India in the last 10 years, which was actually directly related to the major infrastructure plan in India, which had some provisions in order to upgrade the water infrastructure and make sure that tap water is available to everyone in the rural parts of India.

So, we're benefiting from more investments in water infrastructure, like we're seeing in India. What we also see is more and more infrastructure owners, water infrastructure owners, who are looking into creating digital twins of their water infrastructure as the way to get more efficiency, more effectiveness in their processes.

Greg B: I'll just mention, finally, that using power, for instance, is very important in greening water infrastructure and energy resilience and transition.

Matthew B: Right, makes sense. Thanks a lot.

Eric B: Next question from Kash Rangan from Goldman Sachs.

Matt Martino: Hey guys, this is Matt on for Kash. Thanks for taking my question. Greg, Bentley's performance down market has been very solid with Virtuosity, another quarter of 600 new logos. I think you made a comment last quarter that you're really surprised that there are so many logos to go after in any given quarter. Perhaps if you could characterize how you view the opportunity for SMB heading into 2023, and really just any change to the competitive landscape? Thank you.

Greg B: I'm going to ask Nicholas because we just had the whole sales group together. And the Virtuosity leadership and team are—when I say exponential growth, that's their plan for 2023 as well. They're not at diminishing returns in terms of competitive opportunity. A lot of our digital experience investment is self-service, e-commerce, and automated renewals, and so forth so that the same team can get even more done. But, Nicholas, how would you summarize that?

Nicholas C: Yes, Virtuosity is still going to be a big growth priority for 2023 and beyond. We see still an important market for us to go after to convert accounts to Bentley software. It can be the most, let's say, fundamental software we have like MicroStation, or more sophisticated solutions, like the one I just talked about, which is OpenFlows.

Now, we also see an important growth opportunities with new logos in the enterprise space, especially when it comes to construction and in heavy civil. And we've had some interesting wins in Q4 to confirm this, and, of course, with infrastructure owners, operators. So, there is also a sizable growth opportunities for us to win new logos in the enterprise space, not just SMB.

Eric B: All right, I think the last question we'll take today is from Jason Celino from KeyBanc.

Jason Celino: Great, thanks for fitting me in. Maybe on the ARR guidance, a lot of moving parts, but just for the benefit of everyone, just want to clarify that PLS is not included in the 11.5% to 13% guide. Is that correct?

Greg B: No, PLS is included. What was never included for PLS was what we onboarded. But then, after we onboard an acquisition, we move everything on to our paper. And it's impossible to parse it out after that.

I know, Werner, you were going to comment regarding ARR growth to help those who may be thinking about modeling that for 2023 because we provide only annual guidance. We're prepared

to go back to 2022 and answer questions that you, Jason, and others asked about the constant currency sequential ARR growth. Maybe you could cover that, Werner.

Werner A: Yeah, so from Q1 to Q4 in 2022 sequentially on constant currency basis, like ARR grew 2% in Q1, 3.1% in Q2, 3.3% in Q3, and 3.3% in Q4. And that is business performance. That does not include the onboarding of Power Line Systems, as Greg just mentioned.

Jason C: OK.

Greg B: And then as you think about how to seasonalize that, if you would like to do it for 2023, recall that the numbers, business performance basis in Q1 of 2022 and Q2 of 2022 included Russia and China impacts that we've already quantified that you might want to further adjust because those numbers are net of those impacts.

But we have wanted to come back and answer the questions we got during the year last year to be organized about being able to do sequential constant currency ARR growth.

Jason C: OK, perfect. We can take that offline. And then really quickly, I know we're moving to the OI guidance with SBC. But if you'll let me ask about EBITDA one last time, would this have also translated into 100 basis points of EBITDA margin expansion, or would it have been more than 100 basis points, given the decrease in SBC? Thanks.

Greg B: Well, so for 2023, what we can say about SBC, it seems to me, is it's going to gravitate in the range of 6% plus or minus. The reason that SBC can jump around is, as I mentioned, elections on our executives' part of whether to take cash or stock in their compensation.

But that depends, in turn, on whether they're going to get their equity distributions gross or net and who has to pay the taxes. And that, in turn, depends on a repurchase program and consideration of the stock price and so forth. So, it's not nearly as visible how EBITDA—excuse me, SBC might go up or might go down.

So, which is why we're saying it's going to gravitate out, we think to be 6% or so for the long term, but hard to say for 2023. And I wouldn't want our executives to be focused on or measured by something, which has that bit of arbitrariness in it in the SBC—arbitrariness meaning elections that executives could make based on things that are not inside, not within the company's control.

So, I know that gets a little bit complicated. But we think normally, it'll be the case that there will be approximate correlation between Adjusted EBITDA and adjusted operating income with SBC. But adjusted operating income with SBC is the one we can control, we think is

economically and conceptually better, and for everyone to converge around, as many investors have access to focus on that, in fact.

Jason C: Perfect, I think that's it. Thanks, guys.

Eric B: Great, before concluding we just wanted to announce that Bentley Systems will be ringing the opening bell at the NASDAQ on March 28. With that, we have now concluded today's presentation. Thank you for your interest and time in Bentley Systems.