Bentley Q4 and Full Year 2023 Earnings Call Transcript

Eric Boyer: Good morning and thank you for joining Bentley Systems' Q4 2023 results and 2024 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, and Chief Financial Officer Werner Andre.

This webcast includes forward-looking statements made as of February 27th, 2024, 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 on February 27, 2024.

After our presentation, we will conclude with Q&A. And with that, let me introduce the CEO of Bentley Systems, Greg Bentley.

Greg Bentley: Good morning and as always, thanks to each of you for your continued interest and investments in BSY. I will start by relating the directions reflected in our 2023 results to our consistent expectations for 2024, and then some developing aspects, which also have a bearing on our outlook.

Nicholas will cover operational highlights of the quarter, including soundings of the current tone of business on every front, and Werner will review financial details for both years, all the way through cash generation and its planned allocation.

Most significantly, I must emphasize our overall satisfaction with 23Q4 and the full year 2023. In keeping with this, Nicholas and his operating teams are to be enthusiastically congratulated for performance, which—while surpassing our established annual hurdle of 100 basis points improvement in operating margin, including stock-based compensation—earned 100% of their new-business-based incentive pool. Although this entailed resourceful rebalancing after new mining investment unexpectedly slowed down in mid-year, we have ended the year with historically high momentum in our fundamental ARR growth.

A quarter ago, a key question about ARR growth for 23Q4 was the degree to which accelerating progress in transitioning our China commercial model, to be less directly subscription-oriented,

could perversely offset overall ARR growth—otherwise always our best performance gauge—across the remaining 97% of our world.

Indeed China, which previously was an ARR growth contributor, has been the significant detractor from our ARR growth, as shown here, ever since sanctions on Russia coincided with geopolitical apprehension about American software subscriptions for Chinese state-owned infrastructure enterprises.

In 23Q4, our purposeful structural changes in China did seem to be making progress. When Chinese-developed products of our first joint venture cannibalize ProjectWise installations, we lose ARR in exchange for approximately equivalent one-time net proceeds of a license sale for our underlying platform—but, with no American stigma, hopefully volume expands so that we can come out ahead. In fact, we concluded 2023 by growing our revenues in China for the year by 3%, as such licenses more than offset the inevitable decline (7%) in China ARR.

To quantify the increasing impact on ARR of this intentional China market change, our overall ARR year-over-year growth rate of 12.5% is increasingly diverging from our high of 13.5% in the quarter for the world excluding China.

And given the acceleration in our business-benefitting but ARR-detracting transitions in China, the baseline ARR growth rate for our 2024 outlook must reflect this gap prevailing foreseeably.

To further consider how the other directions within our growth momentum exiting 2023 should inform our 2024 financial outlook, let's review, in turn, each of the underlying factors that we portray notionally, in our introductory materials, as "layers" within ARR growth.

Starting at the top with new business from new logos, in 23Q4, for the fifth straight quarter, this accounted for about 3% in ARR growth, led by our SMB initiative and ongoing digital experience investments towards self-service automation.

Reinforcing confidence in continued such momentum: in 23Q4, Virtuoso subscriptions attracted over 700 further new logos—for the eighth straight quarter of over 600—in addition to over 400 separate new-logo SMB accounts where, in 23Q4, we achieved, what I suspect, was a competitive displacement through a perpetual license sale.

The other layers of growth are those which aggregate to our net revenue retention for existing accounts.

Because NRR takes into account only recurring revenue and not license sales, the mix change in China from subscriptions to licenses is increasingly impinging on this measure.

So, while NRR declined in 23Q4 to 109%, excluding China—and Russia, which is also a factor now, as this looks back over the trailing two full years—NRR would have remained at 110%.

Our most significant initiative to sustain NRR accretion is our E365 consumption subscription program for enterprise accounts.

You see here, in green, the incremental magnitude and proportion of ARR reached through E365 accretion and expansion in 23Q4. Although it being a fourth quarter, with its greater concentration of E365 prospect renewals, we upgrade relatively more ARR to E365 than in other quarters. In 23Q4, it remained the case that a relatively small portion of E365 growth was from our next-largest accounts upgrading to the program, with the majority of E365 growth representing NRR within accounts already on E365.

E365 renewal negotiations for the largest accounts now almost always entail resetting the individualized floors and ceilings, which serve to bound what we can charge for the account's consumption. Increasingly, we—and they—have preferred to allocate our respective risks of consumption upside and downside proactively, progressing over multiple future contract years, rather than to renegotiate every year.

Our own priority is to maintain floor and ceiling parameters, which, in each case, enable and incentivize double-digit ARR growth—when effectively combining consumption volume, mix, and annual pricing escalation. During 23Q4, one negotiation resulted, for our first time, in a total contract value in nine figures USD.

Such multiyear E365 arrangements reinforce our accounts' commitment to BSY and to going digital for mutual long-term growth. However, the contract length has *no* bearing on E365's straightforward ratable revenue accounting and annually recurring cashflow.

And while much of our non-E365 subscription revenue is subject to "606" vagaries across the quarters of a contract year, we have almost none of the multiyear bookings and/or billings, which cause confounding obscurity for many other peer companies. By contrast, over and above the compelling transparency of E365 ratable consumption accounting, multiyear floors and ceilings work out to everyone's advantage, including investors, because they preserve our incentives and upside while improving and extending the visibility of our ARR, revenue, and cash conversion.

Back to the outlook for each accretion layer. Our annual price escalation—which can vary by country and product, mindful of competitive conditions—is, on average, more or less calibrated to stay ahead of inflation in our own costs, which are primarily for colleague compensation. For each of 2022 and 2023, we realized, on weighted average, escalation in mid-single-digits. For

2024, it must be acknowledged that peak inflation in the world seems behind us, so escalation will contribute less ARR growth going forward.

As to consumption volume, we face another putative headwind, with the demographics of retirement tending to reduce the infrastructure engineering workforce. And, in theory, increasing productivity through going digital can even be at the expense of usage volume. The only offsetting gains in application usage volume could come from competitive displacement opportunities on the margin.

On balance, we cannot now expect nor rely upon net increases in user volume. However, the widening engineering resource capacity gap, between a static number, at best, of infrastructure engineering professionals, and the burgeoning demand for world resilience and adaptation, is in fact the greatest and most durable driver of our ARR growth—because going digital is the compelling key.

Recall that the 2023 *Year in Infrastructure* [and] *Going Digital Award[s]* finalists documented an average of 18% savings in engineering time through the digital advances we enabled for them. Quite noticeably, our enterprise accounts are now explicitly prioritizing E365 blueprints, which most deliver savings in manhours and usage days, to our ultimate mutual benefit.

And accordingly, "application mix accretion," which measures the pace of our users upgrading to our more specialized and relatively more costly applications to increase their productivity, continues to more than offset demographically constrained usage volume. In accelerating application mix accretion, which is our average revenue per application usage day, holding pricing constant for the calculation, our User Success functions, especially by way of E365's digital workflow blueprints, are literally leading the way.

So, I'm pleased to report accelerating annual progress, with annual application mix accretion having grown from about 4.5% for 2022 to about 6% for 2023. This also captures the usage of ProjectWise attached to these application user-days.

So, this measures closely corresponds to what we've shown that the ENR top engineering firms, a representative quarter of our business, spend with us. Since that spending only averages about 1% of the amount that they bill to their clients for that usage time, I believe there's lots of headroom for application mix accretion to continue to expand indefinitely.

And looking to what's new, although we're confident in this long runway ahead for our strong and consistent consumption-per-user-based business, I believe that here in 2024, we're finally at the point where our third aspiring growth initiative—after E365 for the enterprise market, and

Virtuosity for SMB have become firmly established—will finally take off, after having been promised in our intro deck, as you see here, for years.

This third growth initiative leverages digital twin opportunities to be incrementally monetized through cloud subscriptions charged per asset. While I think that, by rights, this can grow to become larger than the provision of software-per-user, the challenge has been that scaling digital twins takes a surrounding ecosystem of digital integrators to provide the related services around data quality and engineering proficiencies, which complete the use cases.

To that end, we, along with others, have been determinedly evangelizing the infrastructure digital twin potential, spanning delivery and performance, to thus both the infrastructure project delivery supply chain and, of course, to owner-operators directly. Frankly, institutionalized conservatism has made this a slow sales cycle, with success by the ones, and primarily in Asia Pacific.

To gain experience in the meantime, we have assembled our own Cohesive digital integrator to show the way. Its now nearly $100 million dollar services business is opportunistically anchored by being the leading global implementor, and emerging cloud hosting provider, of IBM's Maximo, the primary incumbent choice of infrastructure owner-operators for enterprise asset management.

Thus, over time, Cohesive can open doors for our iTwin Platform to integrate engineering technology (ET) and operational technology (OT) with Maximo's IT for digital twins to optimize operations and maintenance. This represents the extreme of an enterprise approach to digital twins from the top down.

But because that takes so long, we are trying also to widely catalyze digital twin opportunities from the bottom up. Hence, our priority to infuse and connect all of our existing offerings with our iTwin Platform, starting with our Bentley Infrastructure Cloud, ProjectWise, and SYNCHRO for delivery, and AssetWise for performance—and this year with natively hybrid capabilities in our modeling and simulation applications. However, even this is, at best, an evolution towards digital twin workflows.

So, I am very pleased to say that we have now validated a breakthrough "bottoms-up" entry point for digital twin monetization that is, by contrast, "instant-on," both technically and commercially.

Accordingly, our main departure for 2024 will be a focus on this asset analytics opportunity. It leverages AI with our iTwin Platform to generate discrete and actionable insights from enlivened

reality modeling of infrastructure assets, with the digital twin OT uniquely enhanced by ET and IT.

Our learning curve in asset analytics was initiated with OpenTower, which we developed around a small acquisition of cell tower-specific AI for our structural modeling and iTwin Platform. Since I showed this with operating results almost three years ago, the AI value to communications operators for Capex provisioning and Opex inspection and maintenance has grown exponentially. What is new are the global household names in the broadband infrastructure ecosystem looking to join forces to institutionalize cell tower digital twins.

Our other foray to date in asset analytics is Blyncsy, acquired and described late last year, where the monetized asset is a mile of roadway, and what we charge depends upon how frequently the AI is run on fresh crowd-sourced imagery to detect actionable maintenance conditions. Because its crowd sourcing is ubiquitous, Blyncsy asset analytics can be literally instant-on in a blink.

In each asset analytics case, our role can be behind the scenes, providing the iTwin Experience cloud services, our AI as a service, and all of the automated processing at scale and at standard volume-based pricing. Ecosystem partners can variously bundle and provide the survey imagery, their own proprietary asset-specific engineering analytics, and enterprise integration with the owner-operators' environments.

The financial opportunity is here and now. Our ARR for asset analytics cloud services is in three digits per cell tower. In 23Q4, OpenTower won procurements, including for new business ARR in seven digits; and, in 2024 we are competing for eight-digit subscriptions. And with our go-to-market coverage of transportation owner-operators, Blyncsy is now also pursuing procurements that can exceed seven figures of ARR. In each of the cell tower and roadway verticals, it is thus already clear that there is an asset analytics TAM in nine figures, and that our existing global footprint gives us the pole position with both the owner-operators and the required ecosystem partners.

So, for 2024, our investment focus will be to organizationally consolidate OpenTower and Blyncsy with further potential such acquisitions, for growth and operational synergies, and to leverage and expand our asset analytics head start. This will have a higher priority than continuing either our iTwin Venture program of fractional investments, or even our traditional programmatic acquisitions of known mature companies to fill white space in modeling or simulation.

As there don't tend to be potential asset analytics acquisitions beyond early-stage companies, the capital requirements should fit well within what would have otherwise been the magnitude of our historical programmatic acquisitions. And while OpenTower and Blyncsy themselves merit rapid

investment to add capacity within their ripening markets, this is already sufficiently accommodated in our 2024 outlook for operating margin, including stock-based compensation, which continues our consistent annual improvement target of 100 basis points.

Moreover, to the extent we succeed in making further outright acquisitions in asset analytics and thus presumably end up, actually, for accounting, consolidating early-stage losses—which would have been below the line had we been merely VC-investing to fund them—we will commit to corresponding increases in our ARR growth rate, so that BSY's literal rule of 40—if you do the math for 2024—is not significantly in jeopardy this year.

So, while I have been generally emphasizing maintaining, into our 2024 outlook, our favorable overall operational and market consistency and momentum from 2023, this significant change to our acquisition priorities will make a difference.

As you see here, the contribution to our business performance of ARR acquired with programmatic acquisitions had already been declining to a new low in 23Q4. But since, in 2024, we will be targeting asset analytics acquisitions, which will necessarily be in early stages, this layer will probably end up more ARR-light than ever before.

This is reflected in our 2024 outlook for ARR growth business performance, which is in the range of 10.5% to 13%. Nominally, that appears below what was our outlook for 2023 a year ago and, at the midrange, below our 2023 actual outcome. But, in fact, we plan for quite consistent underlying robust ARR growth, especially ex-China—but subject as measured, though, to these effects of the accelerating China subscription transition, of somewhat moderated escalation, and of lowered expectations for ARR from programmatic acquisitions.

Finally, the wider range than 2023 reflects the greater variability in the emerging asset analytics business model.

To summarize, we are responding to very healthy end-markets with appropriate and, by now, proven initiatives to sustain 2023's performance, with incremental upside now including asset analytics. In any case, I think you can take away confidence in our principal demonstrated investment premise—consistently delivering profitability, after stock-based compensation, which has grown at a compounded rate remaining on the order of 16% per year since 2018, with distinctively transparent cash conversion.

And now, over to Nicholas for operational perspectives behind these directions and developments.

Thank you!

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Nicholas Cumins: Thank you, Greg.

First, I also want to congratulate our teams around the world who worked tirelessly to deliver another great quarter and year. We accomplished a tremendous amount that positions us even better to take advantage of the favorable dynamics for infrastructure, and that we see continuing into the foreseeable future.

In fact, in Q4, we saw no major changes to the macro trends we have discussed throughout the year, and we expect these trends to continue in 2024.

The engineering resources capacity gap to fulfill the demand for infrastructure is widening. In the most recent ACEC quarterly survey, U.S. engineering firms across all sectors continue to expect a higher backlog of projects 12 months from now. This fits what we are hearing from users around the world—they are struggling to find the people and skills necessary to fulfill the demand. All of this is fueling the need for infrastructure organizations, large and small, to go digital and leverage software to be able to do more with less in better ways.

Moving to our performance in Q4—it was also very consistent with previous quarters. Starting with our infrastructure sectors, our largest sector, public works and utilities, continues to be the main growth driver for the company, benefiting from infrastructure investments around the world, whether in transportation, water utilities, or the electric grid. In this context, Power Line Systems, our applications for analysis and simulation of overhead transmission infrastructure, continued to perform very well.

In terms of resources, we are seeing consistent trends to last quarter. Seequent performed as expected, given the slowdown of new mine investments continuing to weigh on its growth rate.

Industrial remained mixed, as growth with EPCs continued to slow down, especially in Asia Pacific.

The commercial and facilities sector remained relatively flat.

Moving on to regions—North America continued its strong performance. The Infrastructure Investment and Jobs Act remains a tailwind. To date, about 35% of the 1.2 trillion dollars, five-year total, has been announced for projects selected to receive funding. The majority of funding has been for transportation. Last call, we discussed how we helped state Departments of Transportation in their efforts to win federal Advanced Digital Construction Management Systems grants. I am happy to report that many of those DoTs were successful in winning grants. We also supported DoTs in their federal SMART grant applications, which will fund technology projects to improve transportation efficiency and safety.

Beyond transportation, IIJA investments have started in water infrastructure and for the electric grid as well. Most of the activities have been around improving the current grid, but we expect more growth to come from the much-needed expansion of the electric grid to transmit electricity from renewable sources of energy, with the U.S. permitting process as the main limiting factor.

EMEA had another strong quarter led by public works and utilities across the region. We continued to see investments in transportation, in particular rail, as well as water and energy.

In Asia Pacific, we had solid growth in Southeast Asia, driven by outsourcing to local engineering talent. Australia and New Zealand continued to have strength in resources. Within India, the growth continued to normalize after many quarters of rapid growth.

Regarding China, I was able to visit the country in December. On one hand, they are making huge investments in the energy transition, and the government is now mandating the use of 3D modeling for new road projects, both of which create opportunities for us. On the other hand, the preference for local software is real and growing, as well as the preference for perpetual licenses, in case the geopolitical situation worsens. The overall takeaway being that we expect China to continue to weigh on broader ARR growth in the foreseeable future, but we continue to believe in the substantial, longer-term opportunity.

I would like to take a couple of minutes to talk specifically about our subsurface software company Seequent. Their core business is mining, but we are seeing increased momentum with their software in civil engineering, which was obviously one of the main strategic objectives for the acquisition of the company back in 2021.

Understanding the subsurface is critical for infrastructure. The largest element of technical and financial risk lies in the ground, according to the Institution of Civil Engineers. More than one-third of project overruns are related to unexpected ground conditions. Using technology to help reveal what lies beneath can help reduce risks, costs, and the environmental impact of infrastructure projects.

A great example is HS2, the high-speed rail line that will connect London to Birmingham, and which requires a massive amount of earthworks—approximately 21 million cubic meters of material was earmarked for excavation along the 90-kilometer rail route. The project team needed to identify efficiencies that could minimize waste and help HS2 meet its environmental commitments.

By combining Bentley Infrastructure Cloud and Seequent geoprofessional applications, Mott MacDonald was able to optimize mass haul movements during construction, which provided critical insight into material reuse across the project. It helped the team cut 400,000 tons of

carbon emissions and saved the use of a quarter of a billion liters of water. The 3D models also provide a foundation for the development of a digital twin to support future earthworks projects.

We are seeing more of these subsurface civil projects. For example, the Gelnhausen-Fulda rail line in Germany. Two-thirds of the route options run through tunnels. The firm Professor Quick und Kollegen was hired to perform the subsurface investigation to determine an optimal route option using Seequent geoprofessional applications.

Projects like these, which bring together engineering and subsurface data to support the full lifecycle of infrastructure assets, demonstrate both the value of integrated digital twins and the opportunity for Bentley.

I will now hand over to Werner for details of our financial results.

Werner Andre: Thank you, Nicholas. We are pleased with another strong quarter to finish out a great year.

Total revenues for the fourth quarter were $311 million, up 8% year-over-year, or 7% in constant currency. Our fourth-quarter revenues were impacted by timing from the continued upgrades of our accounts from traditional annual subscriptions with upfront revenue recognition to our E365 commercial model, where revenues are recognized on a more ratable basis. Such E365 upgrades, and the associated timing impact on revenue recognition, were slightly higher than what we modeled. Otherwise, the quarter was in line with our expectations.

For the full year, total revenues were $1.228 billion and grew 12% on a reported and constant currency basis. Subscription revenues for the quarter grew 8% year-over-year, or 7% in constant currency, and represented 88% of our total revenues. As just mentioned, subscription revenues were impacted by the timing aspects from our continued E365 upgrades. E365 now reflects 38% of our 2023 subscription revenues, up from 32% in 2022. For the year, subscription revenues grew 13% on a reported and constant currency basis. Our E365 and SMB initiatives continue to be solid contributors to our subscription revenues growth.

Perpetual license revenues for the fourth quarter grew 6% year-over-year in reported and constant currency. For the full year, perpetual licenses revenues grew 6% in reported, and 7% in constant currency. Even though perpetual license sales make up only 4% of total revenues and will certainly remain small relative to our recurring revenues, they have grown in significance to us, and we expect their relative importance to our commercial offerings to continue—particularly for SMB and in China, due to local preferences.

Our professional services revenues for the quarter grew 9% year-over-year in reported, and 7% in constant currency. For the year, services revenues grew 7% on a reported and constant currency basis, and benefited from the acquisition of Vetasi, which we acquired within our Cohesive digital integrator group in 22Q4.

Now, before moving to our recurring revenues performance, I want to highlight our change in methodology for calculating constant currency growth rates. Starting this quarter, we transitioned to the transactional methodology from the previous functional methodology, when reporting constant currency growth rates. The transactional methodology aligns with how we manage our business, and how we have historically provided guidance. For us, historically, both approaches typically delivered similar results. However, the increased significance of Seequent's U.S. dollar-based international billings out of Bentley Ireland, combined with increased FX volatility period-over-period, created bigger differences between the two methodologies. We provided our constant currency results under both methodologies in our Q4 results release, and you will see further comparisons and reconciliations within the MD&A of our 2023 Form 10K filing. On a prospective basis, starting with Q1 2024, we will report constant currency results on a transactional basis only. Our GAAP results, as reported, are, of course, not impacted by this change.

Moving on to our recurring revenue performance. Our last 12-months recurring revenues increased by 12% year-over-year in reported and constant currency, and represent 89% of our total revenues.

Our last 12-months constant currency account retention rate is back at 98%, and our constant currency recurring revenues net retention rate was 109%, led by continued accretion within our E365 consumption-based commercial model.

All of our recurring revenue measures are on a trailing 12-months basis, with 2022 as the comparative period. As a result, they are all impacted by our exit from Russia mid-2022, when Russia represented approximately 1% of our subscription revenues run rate.

We ended Q4 with ARR of $1.175 billion at quarter-end spot rates, with our E365 and SMB growth initiatives remaining the key growth drivers.

On a constant currency basis, our trailing 12-months ARR growth rate was 12.5% year-over-year, and 3.2% on a sequential quarterly basis. Q4 continued to be impacted by headwinds in China and a greater preference there for perpetual licenses.

Overall, as Q4 is our biggest contract renewal quarter—and, thereby, represents the quarter with our biggest ARR growth opportunity—we were pleased with the finish of the year.

Now, moving to profitability performance—our GAAP operating income was $38 million for the fourth quarter, and $231 million for the year.

We have previously explained the impact on our GAAP operating results from amortization of purchased intangibles, deferred compensation plan liability revaluations, and acquisition expenses.

There are two other items I would like to highlight this quarter. During the fourth quarter, we initiated a strategic realignment program, our first since 2020, to better align our resources with our strategy, address market opportunities, and to support our growth. We incurred a realignment charge of $12 million, mainly for severance, which we expect to be fully accounted for in our operating cash flows during the first half of 2024. We expect to fully reinvest run-rate savings into priority areas, such as AI in product development and marketing. Secondly, during the fourth quarter, we recognized a net discrete income tax benefit of $171 million relating to an internal legal entity restructuring and continued alignment of our Seequent IP ownership with our operating model. The associated deferred tax assets represent the anticipated undiscounted future cash tax benefits, which we expect to realize through tax amortization over the next 13 years.

Moving on to adjusted operating income with stock-based compensation expense, our primary profitability and margin performance measure. Adjusted operating income with stock-based compensation expense was $75 million for the quarter, up $11 million, or 16% year-over-year, with a margin of 24%, up 150 basis points. In line with our plan, and as discussed on our last call, our Q4 margin was impacted by relatively higher Opex, compared to Q3, mainly caused by incremental promotional activities, and IT system implementation cost associated with our new financial system.

For the full year, our adjusted operating income with stock-based compensation expense was $325 million, up $51 million, or 19%, with a margin of 26.4%, also up 150 basis points year-over-year.

With respect to liquidity, our operating cash flow was $87 million for the quarter, and $417 million for the year, up $143 million, or 52%. Our conversion from adjusted EBITDA was 100% for the full year, and benefited from timing of collections at the beginning and at the end of the year, and our increased focus on working capital management.

As previously discussed, our business model produces reliable and efficient cash flows over a trailing 12-months period, but with some variability between quarters due to timing. For 2024, we estimate that our conversion rate of adjusted EBITDA to cash flow from operations will be approximately 80%. Based on the expected seasonality of collections and expenditures, we

expect that approximately 55% to 60% of our cash flow from operations will be generated during the first half of 2024.

For 2024, our cash flow expectations include a number of puts and takes, including: approximately $12 million of severance payments relating to our strategic realignment program; around $15 million to $20 million of cash expenditures associated with our IT system upgrades, which we expect to be amortized into Opex starting in 2025; and incremental estimated cash taxes of approximately $8 million, which does reflect the cash tax benefits from the legal entity restructuring I mentioned before. These increases are partially offset by a reduction in cash interest, net of the benefits from our $200 million interest rate swap. This is achieved by us having already fully paid down our revolving line of credit, our only expensive debt, by the end of January 2024.

With regards to capital allocation, in 2023, along with providing sufficiently for our growth initiatives, we deployed $259 million paying down bank debt, $59 million on dividends, $59 million on effective share repurchases to offset dilution from stock-based-compensation, and $38 million on acquisitions and investments.

As of the end of Q4, our net senior debt leverage was 0.5 times; and including our 2026 and 2027 convertible notes fully as debt, our net debt leverage was 3.5 times. We continued our strong de-leveraging trajectory, de-levering 1.2 times adjusted EBITDA since the beginning of 2023. With our strong free cash flow generation profile, we expect to organically de-lever and to increase our balance sheet strength, while maintaining our programmatic M&A readiness, our dividend, and share repurchases. From a rates exposure perspective, now that we have fully repaid our revolving line of credit, substantially all of our debt is protected from high or rising interest rates, through either very low fixed coupon interest on our convertible notes, or our $200 million interest rate swap, expiring in 2030. We remain very comfortable with our capital structure, our leverage, our maturity profile, and interest rate exposure, and will continue to evaluate ways to optimize as conditions change.

Moving to our 2024 outlook, which reflects our confidence in continued favorable market conditions and in the momentum of our growth initiatives. It also assumes a slightly larger than normal range of possible ARR outcomes to account for our commercial model shift in China, from ARR, lower acquisition expectations, reduced escalations now that peak inflation is behind us, and the incremental upside from asset analytics, as Greg discussed.

Our outlook also reflects our continued margin improvement commitment of approximately 100 basis points. Accordingly, we expect total GAAP revenues based on current exchange rates in the range of $1.350 billion to $1.375 billion, with constant currency growth between 10% and 12%. This is reflective of our mix, with services revenues expected to grow about half of

company average, and license revenues growing more slowly. We are projecting constant currency ARR growth between 10.5% and 13%. We expect an adjusted operating income with stock-based compensation margin reflecting approximately 100 basis points annual margin improvement. Any FX impact on our margin is expected to be significantly mitigated by our natural hedge. We expect our effective tax rate to be approximately 20%; we expect cash flow from operations to convert from our adjusted EBITDA at a rate of approximately 80%; we expect capital expenditures of approximately $22 million.

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 our dividend, which we have raised by 4 cents for 2024.

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

Eric B: Thanks, Werner. In order for everyone to ask a question today, we ask that you limit yourself to just one. Our first question comes from Matt Hedberg from RBC.

Matt Hedberg: Great, thanks, guys. Thanks for taking my question. So, I guess I had a question from IIJA funding—a lot of good content in the prepared remarks. And I think you noted, 35% of the $1.2 trillion of funding has been announced. I guess, beyond transportation and now water and electric grid, how should we think about the release of those dollars to additional verticals? And how should we think about just the potential tailwind that could be for you guys over the next several years?

Nicholas C: So, 35% of the project funding has been announced. And mind you, there is a bit of a time gap between when it's announced and when it's awarded, which can range quite a lot from one project to the other. In general, it does take time to percolate down from the federal agencies to the state authorities and/or owner-operators to the contractors.

Most of it has been for transportation, as you noted, and we explained in the prepared remarks. We see it coming now for water. We see it coming for electric grid. The biggest issue we see for electric grid, unfortunately, is the permitting process in the U.S., because it can take many, many years for a project to get started once we have all the approvals, all the permitting done, right?

So, this remains the main limiting factor right now in order to have investments in electric grid as an even stronger tailwind, right? Most of the activities we've seen for electric grid—actually, all of them—are about resilience of the existing transmission lines, analysis of their current state. But it's not yet about expansion. When it comes to expansion, this is when you need permitting. This will be a significant additional growth opportunity.

Eric B: Thanks, Matt.

Matt H: Thanks. Congrats on another good year.

Eric B: Our next question comes from Kristin Owen from Oppenheimer.

Kristen Owen: Hi, good morning. Thank you for taking the question. I wanted to ask about your AI priorities, just given the shift this year in capital allocation. Can you help us put some parameters around what you feel Bentley needs to itself build versus partner, versus maybe acquire in some of the priorities that you've outlined. And just as a related follow-up, remind us, with the success of the cell tower business over the last three years, just what those unit economics look like as an ongoing AI business model. Thank you.

Nicholas C: I would be happy to. We see two main use cases for AI in the infrastructure sector. The first use case is actually asset analytics, where we use AI to understand the exact physical condition of an infrastructure asset and its context. We can detect any corrosion, any crack. We can detect vegetation. And we can trigger engineering workflows based on this. We can also trigger, by the way, commercial workflows, to understand the full utilization of a cell tower and if there is space for more equipment, if necessary.

So, this is the first use case for AI in infrastructure sector. And it's quite advanced. And then, Greg can talk about the kind of financials we see there. But the second use case, which is also quite promising, is the use of AI when it comes to design and using AI as a copilot for engineers to be able to do more. That engineering resource capacity gap that we've talked about is indeed widening. We're simply not, as a full ecosystem, not creating enough engineers fast enough to cope with the demand. So, it's all about making them more productive. And we think AI has a tremendous potential to make them more productive.

And here, our investments are around site engineering, using AI to automate the proposal of site layouts, to automate drawings production. It's still very early stage. We're very much at the cutting edge here. But we're working together with a lot of representative users, a lot of representative accounts, who are fully endorsing the direction given its potential.

Now, across both AI for asset analytics and AI for design, there is a true platform opportunity at the most fundamental level. It's the digital twin platform. When we do AI analytics, we actually create a digital twin of an infrastructure asset. When we power infrastructure engineers to do better design through copilot capabilities, we also leverage digital twin technology.

So, across both, we have the iTwin Platform. And then, when it comes to asset analytics specifically, through our investments with iTwin Ventures, our corporate venture arm, we have

looked at so many companies in that space and we realize there is definitely a lot of redundancy. They all build the same capabilities over and over again. So, we see a clear platform opportunity for us, on top of digital twin technology, in order to do asset analytics.

Greg B: Well, I'll only add that, Kristen, I realize it's been three years since I talked about the cell tower opportunity as a forerunner for what should become digital twins in every infrastructure asset type. And the AI has gotten better and better. And the value has gotten more and more over that period of time. But the business has had the fits and starts of the power co's wanting digital twins, but their own ecosystem of providers and their own internal enterprise systems not being ready.

So, that has come and gone to where what's going on now, however, is it's in prime time with the household name providers of broadband infrastructure on board with this potential, as they remake 5G networks. And our role is behind-the-scenes provider of the AI and the AI processing and reality modeling. And we're generating three digits per tower and participating in procurements that will help institutionalize this, finally. So, it will have taken the rest of this year, on top of the three years, for these forerunners to establish the potential of asset analytics. But I'm very much a believer that we're at this turning point now.

Eric B: Thanks, Kristen. Our next question comes from Clarke Jeffries from Piper Sandler.

Clarke Jeffries: Hello, hello. Thank you for taking the question. Greg, I'm reflecting on your comments about no longer being able to rely on that user volume growth and maybe an expectation for longer-term application accretion expansion.

Are we at the point where you expect that to be a pretty linear cadence each year? Or is this a comment about the longer term that you'd expect continued expansion? I'm trying to understand if we're at the point where user growth is not growing net-per-year or if we're trying to increase the monetization, uplevel the individual employee with the application mix as soon as 2024.

Greg B: Well, first I might say that our observation about user volume is particular, or we see it most, so, in the E365 universe, where we literally charge per application day. And it's those accounts, the large ones, that have—the latest data we saw, one out of every 10 positions is open, and they face retirements faster than they can add new colleagues. So, they're literally emphasizing workflows that save user days, and we're delivering those through blueprints and more specialized applications.

I think that can inflect even faster because these firms are the same ENR top firms who spend 1% of what they bill on software and realize that it's smarter for them to have more productive hours, and that's the only way for them to grow their business and meet their backlog. So, I don't

think it has to be only a linear progression from what is spent now per infrastructure engineer to what could be spent, and is already spent, by other types of engineers on software. We've been talking about that comprising our TAM, if you like, for a long time. And the pressures are causing it to accelerate now, I think.

Eric B: Thanks, Clarke. Our next question comes from Jason Cellino from KeyBanc.

Jason Cellino: Let's see. There we go. Good morning.

Greg B: Cheers, Jason.

Jason C: Maybe one for Werner. The 10.5% to 13% ARR growth guidance for the year—I know you mentioned it's wider than normal range. But any way to unpack what the headwind is in China, the lower M&A contribution, and then the third piece that was mentioned in the press release?

Werner A: Yes, well, on acquisitions, we had 100 basis points in the outlook in '23, and we just expect that this is coming down from that level. Actually, we had—in '23, the contributions were less than the 100. We were at 70 basis points in '23 and '22. And so, we're taking expectations down.

Also, underlying what Greg mentioned, between China, lower escalations, we don't really want to break it out, clicking down further. It's a wide range of potential outcomes.

And, as I said, momentum for our key growth drivers is very consistent. Macro trends are pretty consistent. And there's incremental upside from the asset analytics business that we talked about. So, it's a wider range of outcomes.

Jason C: OK, great. That was helpful. Thank you.

Eric B: Thanks, Jason. Next question comes from Michael Funk from Bank of America.

Michael Funk: Hey, good morning. How are you doing? Yeah, so Greg, thank you again for all the incremental color on digital twins. Really helpful and good to hear the updated commentary on the tower business. As we're thinking about how that business scales, it'd be helpful, though, to get maybe some more metrics there.

So, Greg, there might be approximately about 160,000 towers in the U.S., for example. Can you give us a sense of how many towers you're actually servicing today and how that's ramped the last couple of years? And the related question—are the tower construction companies like

MasTec, are they also a gating factor, as the tower codes might have contracts with them for maintenance? So, something about how quickly that business can ramp based on those factors.

Greg B: Well, I think it's mainly a business for the existing towers, and our subscriptions have gone up and down over time based on the preparedness of the ecosystem to manage the digital twins. The business—it starts the year in seven figures of ARR. I'm very confident we'll end the year in eight figures of ARR, but there are very sensitive procurements going on at the moment that preclude me saying more than that.

I believe there is equal opportunity in Blyncsy, which is proposing the crowdsource-based AI for maintenance condition detection, which can run every day or multiple times per day to multiple of our DOTs. And we can make those AI insights even more valuable by relating them to the ET and the IT regarding maintenance. It's very exciting to put them together. We will have, Michael, I think, a quarter from now a full announcement with a new name and so forth for that business. Right now, we're busy winning it, but we'll get to communicating more about it over the course of 2024.

Michael F: That's great. And just for clarification, Greg, so the tower business, you're charging per asset. And then for the Blyncsy business, you're charging per mile. Can you give us a sense of the economics there? What you charge per tower monthly, quarterly, annually, and the same for the Blyncsy business?

Greg B: Per tower, it's three digits per year per tower. And we have standard pricing. Per roadway mile, with Blyncsy, it also is a standard pricing, but it depends on which AI insights you want and how frequently you want them. But we're trying to make all of this standard price book. We want to have many partners selling for us, the engineering firms to be offering this to their owner-operator accounts, where they can add their proprietary analytics on top of ours and where they won't have to worry about doing the back-office processing because we're going to be very proficient at doing that at scale and economically and at high quality.

Michael F: Thank you. It's all very helpful.

Eric B: Thanks, Michael. Next question comes from Jay Vleeschhouwer from Griffin Securities.

Jay Vleeschhouwer: Hi. Good morning. Thank you. Greg, in your comments about the 2024 developments, you noted the asset analytics. The question there is, would you put that in the context of the industry solutions concept you've spoken of previously, for example, at YII? And if so, could you speak more broadly about some other critical product deliverables that you foresee for 2024? And is there any reason to believe that customers might be more inclined to adopt new technology these days more quickly than they might have in the past?

Greg B: Well, I think everyone is conditioned to say, what can AI do for me now? And that's the difference with asset analytics is we want an instant-on entry point so that you don't have to say, well, you start with a whole concept of digital twins, and that's from the beginning of the lifecycle and so forth. If you take the example of Blyncsy with crowdsourced imagery, you can have it the next day. There's not even any special survey that needs to be done for that.

I would say the principal difference from industry solutions is here with asset analytics, we really have an ecosystem in mind. We're trying to be the platform to be ecosystem-friendly so that the ecosystem can get into this AI opportunity without having to start from scratch with bringing together the ET and the IT and the OT. And then, we want to come to market primarily through ecosystem partners who either are maintenance organizations or engineering firms or the types of partner that Michael mentioned. So, the whole thing is, how can you get into this opportunity now? Because owners are aware and interested now. The term AI has aroused them to say there probably is something that can do for me right now to start with, and that's the difference.

Jay V: Thank you.

Eric B: Thanks, Jay. Next question comes from Matt Martino from Goldman Sachs.

Matt Martino: Yes, good morning. Thanks for taking the question. So, Greg, you called out a potential displacement in SMB from perpetual license, which I believe has been kind of a multi-quarter trend here now. So, can you perhaps talk about what's kind of driving this proclivity towards licenses and SMB, and the extent to which this is benefiting broader SMB momentum and competitive takeouts? Thank you.

Greg B: Well, Matt, it's really interesting. Our license sales went down year after year after year determinedly because, of course, we prefer subscriptions. It's clear why in China, if they're worried about Americans being able to continue to do business with them, they prefer to buy a perpetual license now, and Nicolas saw that for himself firsthand in December.

But over in SMB, we all scratch our heads a bit. Why would you prefer a perpetual license? As you know, our competitor doesn't offer a perpetual license. So that's the reason to call it a competitive differentiator.

And anecdotally, what we hear from those who—then it's 400 of them, new logo license purchases in SMB in this quarter. And they say the sun is shining, our business is good, we'd rather buy our software now and be able to continue to use it for multiple years. And we say, that's a different way of looking at the way you trade off discounted cash flow and so forth if you're a sophisticated large business, but let's not dictate to them how they should look at their choice of acquiring technology. Let's get on with it. So, it's a good opportunity for us. It's not

large in the scale of our overall ARR, but we hope to continue to grow these new logos forever into our conventional enterprise programs.

Eric B: Thanks Matt. Next question comes from Joshua Tilton from Wolfe Research.

Joshua Tilton: Hey, guys. Can you hear me?

Greg B: Yes.

Joshua T: I just have a bit of a high level one, but I guess if I step back, it sounds like you guys are focusing more on new logos. You expect less contribution from M&A than you have previously. You called out a strategic realignment, and there's a bigger focus on perpetual.

So, I'm just trying to understand—is there, like, bigger changes in strategy going on under the hood, or am I just reading too deeply into the commentary that you guys gave us today?

Greg B: No, I think it's stay the course on what is working very well. We concluded the year with our ARR growth, that which we particularly chase and measure, at our all-time high-water mark—except for China, where we're purposefully changing the business, for the reasons we just mentioned. It's just that we'd be glad to grow faster with these AI opportunities, and the digital twin opportunity has been hanging around. Now, AI gives us this entry point. And back on SMB, we just become more convinced every year that we have been—we've neglected that potential in the market, and we're very excited about that now.

Our overall strategy, Joshua, is we commit to improving our operating margins, including stock-based compensation, by 100 basis points per year. But subject to that, we want to grow ARR as fast as we can. And the ideas you just mentioned are all timely and ones we can act upon during this coming year.

In M&A, you see that we only spent $38 million last year, including VC investments. We are going to focus in particular this year on opportunities and asset analytics. We may not find them. We hope we do. If we do, we want to do outright acquisitions like Blyncsy. Blyncsy was an opportunity that came to us as a potential VC investment, and we want to incorporate and consolidate those and have this platform advantage and be the back-office provider of the AI and reality modeling processing at scale because we think it's difficult otherwise for organizations that have good proprietary analytic capabilities but don't have the resources to provide an experienced back office. And we're going to get very good at that.

So, I know I'm bubbling over with what's new and exciting and interesting, but it's not a substitute for what's growing better than ever in the mainstream business.

Joshua T: Super helpful. Thanks, guys.

Eric B: Thanks. Our next question comes from Blair Abernethy from Rosenblatt.

Greg B: We can hear you, Blair.

Blair Abernethy: OK, great. Sorry. Trying to get the video on.

Thanks for doing this. Just back on the IIJA for a second, if we could, now that we've sort of—35% of the projects sort of announced, is there any—what sort of trends are you seeing in terms of what the DOTs are doing? Are they standardizing on their software? Are they going project by project and making the decisions that way? Just kind of want to get a sense of what the competitive aspects have been looking like now that this has been a year and a half or so into the process.

Greg B: Well, most are standardized in terms of what they use on Bentley software. On the other hand, their supply chains are at full capacity, and they're beating the bushes. Something to say about the DOTs is they're spending more state money as well, along with the incremental federal money. I think the state money is up 11% year-on-year. And that taxes everyone, and some of the new logo opportunities for us are civil engineering firms that primarily have done site engineering in the past and are now gravitating toward roadway.

All hands are needed on this for the reasons we talked about—the demographics and the shortage of users and user days in the U.S. especially. But I think the main picture is hire for longer rather than hire—it can't be in transportation any faster than it is at the moment.

Nicholas, do you want to add something to that?

Nicholas C: I will say DOTs are leveraging IIJA to accelerate what they were already embarking on, in particular digital delivery—so, using a model-based approach from design through construction, all the way to operations. Now, as you know, there are multiple grant programs. One of them is called SMART, and SMART is to encourage or to help the DOTs pilot new technology. And what we've seen with the SMART grants are some DOTs leveraging that fund in order to do drone-led inspection of infrastructure assets. So, going back to asset analytics, the DOTs themselves are leveraging technology to automate inspections.

Greg B: Now, just overall, when we talk about accelerating and relatively faster, it isn't necessarily faster than the rest of the world. It isn't necessarily faster than—yeah, these are organizations that have a long legacy and lots of enterprise constraints and their own challenges for talent and so forth. But the appetite is greater than ever. 4D construction is one of this year's big priorities for us and them. So, lots going on, but it's needed.

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Blair A: Great. Thank you.

Eric B: This will conclude the Q&A portion. Werner, do you want to touch on seasonality real quick?

Werner A: Yeah, one more comment on ARR seasonality. So, we had our last programmatic acquisition with meaningful ARR contribution with Easy Power in 23Q1, which, at the end of Q1, will drop into the trailing 12-months baseline. And then, we had a larger proportion of our E365 accounts that just had floor resets in Q4.

They will work their way through the flow into the usage area throughout the year. So, we expect Q1 to be at a seasonal low for us in terms of ARR growth, and then work our way up as we go through the year. So, just in terms of ARR seasonality.

Eric B: All, right, so that concludes our call today. We thank each of you for your interest and time in Bentley Systems. Look forward to updating you on our progress in coming quarters.