

Michael Fischette: Good morning, everyone. And thank you for joining us for Bentley Systems' operating results webcast for the third quarter of 2022. I'm Michael Fischette, Bentley's vice president and deputy general counsel. On the webcast today, we have Bentley Systems' Chief Executive Officer Greg Bentley, Chief Financial Officer Werner Andre, Chief Operating Officer Nicholas Cumins, and Chief Investment Officer David Hollister.

Before we begin, allow me to provide a disclaimer regarding forward-looking statements. This webcast, including the question-and-answer portion of the webcast, may include statements related to the expected future results for our company and are, therefore, forward-looking statements. Our actual results may differ materially from our projections and our forward-looking statements due to a number of risks and uncertainties. These risks and uncertainties are described in our operating results release and other SEC filings. Today's remarks will also include references to non-GAAP financial measures. Additional information, including a reconciliation of our non-GAAP financial information to our GAAP financial information, is provided in the press release and supplemental slide presentation. This webcast will be available for replay on Bentley's Investor Relations website at investors bentley.com. After the presentation, we will conclude with Q&A. With that, let me introduce the CEO of Bentley Systems, Greg Bentley.

Greg Bentley: Hello, and thanks as always for your interest in Bentley Systems.

Our 2022Q3 operating results presentation will follow our usual sequence that starts with the tone of our business.

In the past, I have used the description "no-drama" for BSY. And by contrast to the dramatic impacts of Russia (echoed in China) during 22Q1, and our resolute response during 22Q2 to fully exit Russia, 22Q3 can be characterized as rebalanced business-as-usual, absent Russia, and, in fact, sufficiently improving, as we had hoped, to be back on our annual targets.

Because throughout 2022, to date, the loss of Russia (and associated impact in China) has tended to be offset by multiple favorable factors, we don't consider that there has been a sufficiently material change to warrant amending our established financial outlook for 2022.

This is particularly the case given that what we (and, I think, you) consider to be our key operating performance indicator—business performance year-over-year ARR growth rate—is expressed in constant currency, unaffected by ambient FX oscillations, which consternate comparisons to the outlook.

It happens that our annual financial outlook for total revenues included the constant-currency growth range, which continues to pertain.



And Werner here quantifies, as we did last quarter, the impact of actual 2022Q3 FX rates being different than the rates assumed at the time of our outlook, and cumulatively assuming current rates remain in effect for the balance of the year.

Although Adjusted EBITDA dollars are exposed to reported currency FX, our annual financial outlook for Adjusted EBITDA margin of 33% is relatively resilient, thanks to our natural operating hedge with tolerably matching revenue currencies and expense currencies.

Back in constant currency, the 22Q3 business performance ARR growth rate year-over-year, and again after absorbing the Russia and related China setbacks during the year, remained nominally stable at 11.5%, which again doesn't include 2.5% of ARR growth from the onboarding of PLS during 22Q1.

But to better understand our 22Q3 tone of business, I would like us to look more closely at this year-over-year business performance ARR growth rate, compared to the same rate in 2022Q2.

We measure this KPI on a year-over-year basis because of intrinsic seasonality, due to the historical deliberately unequal distribution by quarter of contractual renewal dates of our annual subscriptions that would otherwise obscure sequential quarterly trends in ARR growth.

By always including all four calendar quarters to abstract from such seasonality, sequential changes in year-over-year business performance ARR growth rate are meant to "signal" real trends in the tone of business, rather than other "noise."

And hence one would expect that year-over-year ARR growth to trend, whether up or down, relatively smoothly rather than abruptly. But looking back at 2021, we see that unusually, in 21Q3, the year-over-year ARR growth rate jumped from 10% to 13%. In retrospect, this seems to largely reflect pandemic-lockdown volatility.

But it is also the case that, compared to our many programmatic acquisitions throughout 2021, this year's have been few and small while our business performance ARR growth in other respects has been comparatively stronger in 2022.

And for the baseline of 2022Q2's trailing four quarters of year-over-year growth, 22Q3's year-over-year progression has to make up for the dropping out of the aberrantly high 21Q3 growth.

Accordingly, although 22Q3's year-over-year business performance ARR growth reads nominally the same, at 11.5%, as 22Q2, in effect, it's *more* than comparable, implying an incremental uptick in tone of business, which we also can confirm subjectively.



And indeed, adjusting for the earlier Russia and related China one-time ARR losses, business performance ARR is effectively growing year-over-year at the highest levels we have experienced.

A quantitative summary is that this year, after three quarters, and after absorbing the Russia-related ARR losses, and at the appropriate constant currencies, we have reached cumulatively about 70% of the ARR growth implied by the mid-range of our annual outlook. Our 22Q3 uptick in new business momentum leads into our seasonally strongest fourth quarter of renewals and ARR growth opportunities.

All considered, in light of the risk of more geopolitical disruptions, such as in 22Q1, especially in China—as shown here, and not including 2.5% from the PLS platform acquisition onboarding—we continue to reaffirm the range of our full-year 2022 constant-currency business performance ARR growth outlook.

While Nicholas will follow me by reviewing the tone of business at the level of products and regions, the headline is accelerating new business momentum in the U.S. (which constitutes fully half of our business, at current exchange rates), consistent with long-standing expectations about the inception of funding from the Infrastructure Investment and Jobs Act.

To drill down on the tone of business for U.S. civil engineering firms, many of us track the Dodge Engineering News-Record quarterly survey of trends in their backlog, which looked like this last quarter.

And here, we can see this quarter's further expansion in the current multiple of the backlog these firms consider "ideal." Given this dilemma, their preference is certainly to increase their infrastructure engineering capacity by *going digital* rather than to reduce their intake of this new business.

Turning now to the latest ACEC quarterly survey of engineering firms, not limited to civil, one can see the magnitude of these current backlogs, tending around one year. The point is that this bulge in backlogs provides these firms with perhaps unprecedented visibility.

In fact, the ACEC survey includes these expectations about the level of backlogs a year from now. I think the increase expected here corresponds to these engineers' tracking of the IIJA flows.

I believe this "crowd-sourcing" can help us to anticipate BSY's forward tone of business also.



We took note last quarter of this dichotomy between engineering firms' skepticism about the overall economy, and their optimistic sentiment about engineering workloads, and their own prosperity—which has only become more extreme in each direction since then.

And finally, back to the survey of civil engineers, this confidence significantly extends throughout the next two years—the extent of the survey timeline.

I turn now from the U.S. engineering firms' tone of business, as that is so thoroughly surveyed, back to our own usual "color" by infrastructure sector, which last quarter showed a rather gratifying balance of green in terms of our new business productivity, which for us that refers to proportionate ARR growth by sector.

The industrial sector continues its recent modest improvement to its modest rate of new business. While EPC's overall particularly improved—but haven't nearly recovered to pre-pandemic levels—to a greater degree, this was due to the EPCs' business in the resources sector, rather than industrial.

The commercial/facilities sector continues to surprise me with its directional resilience.

But in our mainstay sector, public works and utilities, new business continues its sustained dependability, led by civil engineering in the U.S., as we've already covered.

The resources sector continues to lead as to relative new business strength, in Seequent's mining and other environmental modeling, and in offshore engineering, increasingly for wind power.

All in all, I think, we are seeing a pleasingly sustainable balance of new business across all infrastructure sectors.

From sectors, let us now move on to review tone of new business and ARR growth by account segment and commercial model. Starting with the SMB segment, among our 2020's growth initiatives, Virtuosity has already propelled our new business productivity in SMB to now be comparable proportionately to our enterprise comfort zone, and is still literally taking off.

Again, this quarter we sold over 600 new logos—which continues to amaze me—contributing again 3% within our business performance ARR growth.

But, of course, most of our new business opportunity is for accretion in our existing accounts, where our net retention rate is now 110%.

Our most productive source of accretion, by far, continues to be our E365 consumption-based commercial model, which, again, in 2022Q3, contributed the majority of our ARR growth, and



to which we, again, upgraded dozens of enterprise accounts by invitation upon their annual renewals.

In turn, the majority of E365 ARR growth comes from consumption increases, including "application mix accretion" to use of more valuable products.

Within E365, we appropriately share the consumption risk with our E365 accounts. It is to our advantage that these accounts are prioritizing *going digital* more than ever before.

Last month, I attended the annual CEO conference organized by AEC Advisors, which literally brings together the top executives of the firms who do the great majority of infrastructure engineering in at least the Western world.

As the only sponsor, Bentley Systems helped again this year in the preparation of the second annual Going Digital survey of these CEOs. I will now briefly go through AEC Advisors' report of the results to share these firms' perspective on *going digital*, as that establishes the potential for our E365 success.

In fact, here are the infrastructure engineering CEOs ranked priorities for *going digital*. It's good for us that winning more business and increasing capacity are now more important to the CEOs than merely reducing costs.

Importantly, high priority is also assigned to quality improvement, new business models, and automation, which only *going digital* can accomplish.

The conservatism of infrastructure owner-operators is reflected in this breakdown by the CEOs of the deliverables their clients prioritize today. *Going digital* helps in generating more value by moving to the right.

So, note how much change is finally expected by the CEOs as to their clients' priorities within three years. *Going digital* is a relatively urgent necessity for their firms to remain competitive.

Here are the most common digital investments reported as underway in their firms by the CEOs, including the comparison to last year's survey.

I highlight the greater emphasis over just the past year, in the prerequisites for infrastructure digital twins: investments in drone surveying capabilities, and in datasets to "train" machine learning for proprietary analytics. These active investments bode well for us.

And as to the theoretical ROI on *going digital* to even greater extremes, I find it very interesting that only 38% of the CEOs say that they would *not* invest in a putative "digital AEC disruptor."



And here are the most common digital offerings that the CEOs consider that their firms already can offer—although, I find this assessment of their current readiness a bit optimistic.

And I note the significant increases, over the past year, in offerings that our iTwin platform cloud services can better expedite and institutionalize, helping these engineering firms evolve towards becoming digital integrators for owner-operators. This is a key part of our strategy to improve the engineering firms' business models, while also helping us to extend digital twin advancements to all infrastructure owners.

Finally, as to their galvanizing priority, consider the AE CEOs' consensus as to the proportion of their firm's market value that they expect to be attributable to their success in *going digital*: 10% so far, 20% in three years, 36% in 10 years, and, in the next generation, a majority of their firm's market value.

So, that's the range of views from the CEO's office in a typical E365 account. I think their aspirations tolerably correspond to Bentley Systems' own priorities and advancements. But their firms tend to be managed, at the next level, by fairly staunch adherents to the status quo—with *going digital* having been more deliberate than urgent.

That's the challenge for our enterprise success teams, led by our Chief Success Officer Katriona Lord-Levins. In introducing new digital workflows within E365 accounts, we need to operate at a level sufficiently strategic to respond to and discernably help towards these C-suite aspirations, but at the same time, we need to operationalize and organize our Success Force to communicate the potential down the ranks and to steadily advance in practical steps with palpable benefits that pay off each quarter.

Nicholas, after covering your operational perspectives on the tone of business across regions and brands, would you please introduce Kat to tell us what it is that's demonstrably working, and why and how—ideally in ways we can measure and count and institutionalize for E365 success?

Nicholas Cumins: Thank you, Greg. Let me provide an operational perspective and add some color commentary, starting with regions.

You already mentioned the most notable development in Q3: the clear acceleration of our growth in North America. We tend not to talk about North America, as it has become as reliable as it is large. It represents about half of our business, and half of our new business, so its direction correlates with Bentley overall. But in Q3, the region achieved strong performance, across all sectors, in particular those that are poised to benefit from incremental IIJA funding.



Our accounts are busier than ever; they are constrained only by the available talent that they have. The word "balance" that Greg used to describe our performance across sectors applies across regions as well. In every region, market conditions remain positive for infrastructure engineering software. India, Southeast Asia, and Middle East continue to stand out.

Europe is trending favorably overall. Growth picked up in Northern Europe, remained steady in Central Europe, with Southern Europe lagging this quarter.

In China, lockdown restrictions against COVID continue to weigh on the economy. President Xi Jinping called for an all-out effort to boost infrastructure back in July, and we expect funds to be released following the Communist Party congress in October.

For all other regions, Q3 was business as usual.

In Q3, we announced a strategic alliance with FUKUI, a leader in civil engineering software in Japan. Civil infrastructure projects are substantial and critical in Japan, given the terrain and seismic risks. The Japanese government's i-Construction mandate is to accelerate *going digital* in infrastructure engineering and project delivery. The unique opportunity is a combination of global software with domestic leadership for the needed localization and on-the-ground distribution. FUKUI has adapted OpenRoads for Japanese requirements, following the same playbook we used successfully in China. And FUKUI will leverage our iTwin platform, to offer new digital twin solutions in Japan, as another strong example of our ecosystem approach to iTwin.

Switching to products.

OpenRoads and other civil engineering products performed very well in Q3, in North America and India in particular.

Our growth remained strong with our structural analysis products, in particular STAAD and SACS in energy production, including offshore wind platforms, and PLS and SPIDA for energy transmission and distribution.

Our growth continued to accelerate with OpenFlows for the water infrastructure.

When I joined Bentley more than two years ago, I was impressed by the breadth and depth of infrastructure engineering expertise in the company, across engineering disciplines, including civil, structural, and geotechnical. Greg likes to call these colleagues our "Success Force." And they are indeed instrumental to the success of our users. But what we were lacking however, was the science of Success Management, a function which is now well established in cloud companies.



It is that science and experience that we brought into the company by welcoming Kat Lord-Levins as our chief success officer.

Kat, could you please take a few minutes to describe how we are ensuring the success of our users, especially with the E365 program, which is becoming such an important part of their business and ours?

Katriona Lord-Levins: Thank you, Nicholas, and thank you all for your time.

I joined Bentley a little over two years ago and, as Nicholas said, Bentley long believed in the importance of putting customers at the center of the company and, to be frank, it is one of the reasons that I joined Bentley. The leadership team had ambitions to do even more, and this was the inception of this iteration of the Success Force.

Our User Success organization is made up of a team that is 670 industry and product subject matter experts, as your heard from Nicholas—people who came from within the industry, who are the boots on the ground, did the jobs, and understand our users, understand the industry.

Their very purpose is to have a relentless focus on creating loyal users by helping them realize their business goals. We are very proud of this team. They understand how to, above all else, keep the users front and center—from our voice of the customer teams who have many touchpoints along the user engagement corridor listening to our accounts, to our support people who respond to the issues impacting our users in a very timely manner, all the way through to the consultants and success managers who walk the halls alongside our accounts, understanding the problems they have to solve and representing these problems back in Bentley's halls with Bentley's product leaders, giving our users a unique seat at the table.

As Greg explained, our E365 program is an increasingly important part of our business. In building out the E365 program for enterprise accounts, we created a program that was tailored to their needs, giving them easy access to the software they need, when they need it, providing them transparency, reporting, and insights into their engagements—a plan that delivers real-time help to get users up and running fast, help them transform to the new ways of doing business, helping their people to embrace new technology.

Our engagements start with a joint success plan, based on their business problems that our accounts are seeking to solve, and then leveraging one of the great values of our E365 program: our blueprints. Accounts in our E365 program get a defined number of credits to spend on blueprints. Now, blueprints are targeted engagements designed to accelerate the business outcomes of our accounts, helping them to tackle anything from very specific business problems



all the way through to transforming their business practices. Blueprints have been very well received by our accounts as they try to navigate change.

So, when we talk about proven, 50% of blueprints have been executed at least five times by our enterprise accounts, all with proven outcomes, which we validate through our exit surveys. Our library of blueprints have been designed to be the rinse and repeat, leveraging lessons learned every time, lessons we pass on to our accounts.

We track the progress with our accounts through our quarterly business reviews, engaging with the leadership teams at the accounts to determine how well we are jointly meeting our goals. The program is working as designed. It's helping our accounts transition; it's helping them grow and win more business.

Overall, we're seeing the results of our User Success programs for our accounts, and it translates into, for them, increased projects, increased revenues, and overall efficiencies. And for Bentley, through our relentless focus with those accounts and users, we're getting great insights, great feedback, and, of course, higher consumption and usage.

E365 as a program works. The Success Force engagement works. And it works because great service matters, great service delivers—for our accounts, our users, and for ourselves.

Thank you.

Greg B: Thank you, Nicholas and Kat. Along with Chief Marketing Officer Chris Bradshaw, they are top-level members of our operating council, which Nicholas leads, who have joined Bentley Systems during and since our IPO, with public-company experience.

And to me, our most important corporate development during 22Q3 was, similarly, Mike Campbell joining us as chief product officer, to succeed Nicholas in that role.

My gauge of Mike's importance throughout his 27-year career at our peer PTC is that on his watch, PTC went from category leader in modeling applications, to inventing and leading in data-centrism (PLM), to perhaps the most successful business lines anywhere in Industrial IoT and augmented reality.

This is all to say that Mike has largely blazed the trail towards product, in PTC's case, digital twins. Mike enthusiastically transitioned from management of PTC's mainstream products to spearhead its cloud services from startup and from acquisitions—just as we will be asking and helping many of our developers and product managers to do.



Of course, Mike has jumped in here with both feet and will be participating in our product keynote at our *Year in Infrastructure* event in London—where I am now—next week.

Of particular interest to investors, as a proxy for the pace of adoption of digital twins in infrastructure engineering, we report each year on the proportion of *Going Digital* Award finalists—and there are 36 presenting here next week, selected by independent juries in 12 categories—who credit digital twin advancements in their project playbooks.

In each case of ContextCapture for reality modeling, generally from drone video, SYNCHRO 4D construction modeling, and our iTwin platform cloud service, there is steady progress, but still mostly upside, in the digital twin potential, even among these best projects.

You will have the chance to meet firsthand not only Mike Campbell, but also these finalists, if you can make it to London next Tuesday, November 15. Our keynote sessions will be livestreamed for all, but investors and analysts are invited to attend in person for a concierge experience of the event, and for an interactive lunch with many of our management and board members.

Our colleague Simon Horsley—who retired after more than 25 years at BSY, most recently as our U.K. regional executive, and who now helps part-time with investor relations in Europe—will be your host. I look forward to seeing many of you there.

I will conclude my report of corporate developments with a non-development on the corporate front, regarding insider ownership. Our S-1 prospectus back in 2020 contained this table detailing the Bentley family majority economic ownership at that time. I think the long-term orientation assured by this economic alignment between ownership and management is to the advantage of all of us as shareholders.

So, it concerns me to have heard recently from investors new to BSY their impression—for instance, based on this Bloomberg page—that our insider holdings are only on the order of the 22% shown. On the one hand, that might make our controlled-entity status and dual-share structure seem egregious from a governance standpoint, if it were the whole story. But in the worst case of perceptions, it might even seem to imply that the Bentley's have sold large quantities of BSY shares since the company became publicly traded.

So, we will add this further explanation of ongoing beneficial ownership to our next proxy statement, to be updated regularly. While the brothers do own only 22% personally, as a result of years of estate planning, our immediate families own a further 37% for a total Bentley family economic ownership interest of 59% presently. That consists of a rather similar number of shares



as in the S-1, so it's a lower ownership percentage mainly because the company has issued new primary shares in our capital market offerings, and in some acquisitions.

That is not to say that family members won't go about some diversification, but that has been relatively immaterial.

And you will now see such regular sales as reported in this recent Form 4 for me, under pre-filed plans, by those of us receiving long-scheduled distributions from the company's Deferred Compensation Plan. That's because of the company's policy change earlier this year: to no longer issue shares net of tax obligations that were historically paid by the company. Recipients like me now receive the gross total of shares, on which we are obliged to pay our own taxes, necessitating such sales for cash to do so.

I will now hand over to David Hollister to cover, as usual, the quarter's Bentley Investments developments. David will also, as usual, introduce Werner to review our 22Q3 numbers. And then after, Werner and I will be back for your questions. Thanks!

David Holister: Thank you, Greg. I'll first give a run-down on iTwin Ventures activities and developments, then I'll update on the performance and opportunities in our acceleration group, and in particular, our grid integration solutions, and will close out with a few comments on acquisition activities.

We are now nearing the two-year mark of having launched our iTwin Ventures corporate venture capital fund, which we formed to stimulate entrepreneurialism in developing digital twin applications, including those leveraging our iTwin platform capabilities.

In addition to investing in more traditional early and growth stage businesses, which I'll discuss in a moment, an element of our charter and focus is to find and fund very early-stage ventures, even seed and pre-seed businesses, where we can more readily influence technology platform decisions and comprehensively introduce iTwin technologies. Building on the success of our initial Ecosystem Sponsorship Program, we are now introducing our iTwin Activate Program.

With the iTwin Activate Program, we recruit and sponsor a sector or domain-specific group of early-stage businesses into a cohort, and infuse intensive Bentley expertise and resources, as well as funding in the form of SAFE notes, with such funding staged upon achieving development milestones towards solutions addressing very real infrastructure engineering challenges. Our first cohort is a group of transformative startup organizations focused on addressing compelling utility grid issues. These will include remote capture and modeling of physical grid assets, as well as analytics and forecasting to enable planning and interconnection of distributed energy



resources and electric vehicle charging stations for use by our OpenUtilities solutions, among others.

The expected outcome from these cohorts is a more integrated, timely, and relevant solution to engineering challenges, endorsed and supported by Bentley Systems, and, of course, leveraging Bentley solutions and iTwin platform technologies, as well as go-to-market synergies with Bentley Systems.

We'll have more discussion about our iTwin Activate Program next week at our *Year in Infrastructure* Conference. We're excited about this program and foresee lots of opportunity to run cohorts, for example, around Infrastructure IoT, transportation and mobility, and mining, just to tease a few that are on our radar.

Since I last presented our iTwin Ventures portfolio, we've added some additional portfolio investments, including Teralytics, which is the result of us having contributed our Streetlytics traffic simulation data business into Teralytics, as well as a new portfolio investee Overstory, which contributes to grid infrastructure operations by applying AI and machine learning to satellite imagery for a real-time vegetation encroachment management solution.

Of course, our BSY Investments team is also focused on our acquisition and acceleration activities, with the latter including the incubation of new opportunities, such as our joint venture strategies in China, where our first JV will launch the iLink collaboration solution at the end of this year, and where we then expect its revenues, and our economics, to begin accumulating starting in early 2023. We also expect to formalize our next China JV focused on engineering applications by the end of this year, and I plan to discuss that when we next meet.

I also would like to comment on the performance and opportunities in our grid integration group, which notably includes our recent acquisitions of Power Line Systems and SPIDA. Performance continues to exceed our expectations, which you may recall we previously disclosed was a business with growth rates and margin performance each at least twice that of Bentley Systems, and I here reaffirm that to be the case thus far. Short of providing any specific guidance—which we will only do once each year, and which will not be granular as to product, sector or geography—I do offer the anecdotal outlook that I see no change to our grid solutions trajectory and performance, supported largely by current strength and momentum, and a receptive macro environment with consensus mandates for grid hardening and expansion, energy security and transition, and the corresponding public funding in support of it—although, the delays in permitting reform are still impediments.

Lastly, just a comment on acquisitions.



While the platform Power Line Systems acquisition earlier this year is meaty, the closure rate on programmatic acquisitions is clearly down. The pipeline is there, and we are actively working many opportunities. Our programmatic acquisition appetite and strategy have not changed, but our discipline and this macro just haven't combined to bring the velocity we've historically seen.

While we stick to our historically successful programmatic strategy, we've worked diligently on the comprehensive integrations of a large number of programmatic acquisitions over the last two years, and, as mentioned, we have delivered everything we expected and more from our Seequent and Power Line Systems platform acquisitions.

The brief respite in closed programmatic acquisitions has also enabled us to take a bite out of leverage, which isn't a bad consolation prize.

And I know Werner will have more to say on liquidity and leverage when he discusses our financial performance, so I now hand over to him.

Werner Andre: Thank you, David.

We are pleased to report that our operating performance continues to reliably progress towards our full-year financial outlook, subject to foreign currency impacts from the strengthening U.S. dollar, which we started to discuss and quantify last quarter, and which continued to impact our "as reported" operating results at actual exchange rates.

Total revenues for the third quarter were \$268 million and grew 7% year-over-year, or 15% on a constant currency basis. On a constant currency basis, our 22Q3 revenues grew 12% in Americas, 14% in EMEA, and 23% in APAC.

Year-to-date total revenues grew 17%, or 23% on a constant currency basis.

Almost all of our revenue growth comes from subscriptions, representing 88% of our total revenues during 22Q3 and, on a constant currency basis, growing by approximately 18% year-over-year.

This growth is supported by our business performance, which you heard Greg and Nicholas describe as "balanced" across sectors and regions, and our platform acquisition of Power Line Systems in January 2022.

Our year-to-date 2022 constant currency subscription revenue growth of approximately 27% reflects the incremental impact from our platform acquisition of Seequent in June 2021.



The growth of our E365 program, and especially consumption growth within our E365 accounts, as well as the continued growth momentum of our Virtuosity subscriptions, remain solid contributors to our business performance.

Regarding our perpetual licenses and services revenues, there have been no material change in absolute amounts, or previously discussed trends, which are reflective of our focus on recurring subscription revenues.

I will next cover our other constant currency metrics.

Our account retention rate is now rounding up to 99%, and our constant currency recurring revenues net retention rate—which is a key measure of our success in growing recurring revenues within our existing accounts—increased to 110%, led by continued accretion within our E365 consumption-based commercial model.

Our constant currency ARR growth rate remained at 14% year-over-year, which is the combination of 11.5% from business performance, and 2.5% from the onboarding of PLS in 22Q1. Greg already discussed the intrinsic seasonal aspects impacting our ARR growth, the impacts of our exit from Russia, associated contract cancellations in China, and relatively lower contributions from programmatic acquisitions year-to-date 2022. Considering these factors, a nominally stable year-over-year constant currency ARR growth from business performance at 11.5% seems to reflect an uptick in tone of business fundamentals and gives us sufficient confidence about 22Q4 to maintain the range of our full-year constant currency ARR growth outlook.

So, in constant currency, our business remains robust, even net of exiting Russia.

Moving on now to actual currencies. Our last 12 months recurring revenues, at actual currencies, increased by 20% year-over-year, representing 88% of total revenues. Our platform acquisitions of Seequent and Power Line Systems, and their post-acquisition growth, contributed about 14 percentage points of this improvement.

The continued strengthening of the U.S. dollar resulted in significant year-over-year currency headwinds, reducing GAAP revenues at actual currencies. Relative to the foreign exchange rates assumed in our 2022 annual financial outlook, FX headwinds lowered our GAAP revenues for the quarter by approximately \$15 million. To further quantify the impact of the U.S. dollar strengthening on our annual financial outlook, if current exchange rates would prevail throughout the remainder of the year, our full year GAAP revenues would be negatively impacted on the order of \$40 million, relative to the revenues based on the exchange rates in effect when we determined our full-year '22 outlook at the beginning of this year.



Our GAAP operating income was \$55.5 million for 22Q3, and \$167.9 million for year-to-date 2022.

The comparative periods of 21Q3 and 21Q3 year-to-date reflect an approximately \$91 million one-time accounting charge related to the recharacterization of a portion of our nonqualified deferred compensation plan from an equity settled arrangement to an eventual cash settled arrangement. I refer you to last year's narrative and our 10Q for a more detailed discussion of the accounting for this matter.

Our GAAP operating results reflect charges for acquisition-related costs, notably for PLS in the first half of 2022, and for Seequent in the first half of 2021, and then, going into 2022, incremental amortization from purchased intangibles from these acquisitions, and incremental non-cash stock-based compensation, partly offset by mark-to market valuation gains from the revaluation of our deferred compensation plan liabilities.

As to stock-based compensation, the increased charges reflect the accounting for our post-IPO change to full-value RSUs in place of stock options used for pre-IPO awards. Also, certain of our top executives have a much higher proportion of compensation paid in stock than pre-IPO.

However, our board closely monitors stock-based compensation to minimize dilution, and our very favorable comparison to peers in the economic proportion of stock-based compensation is purposeful and permanent.

On the right, our third quarter Adjusted EBITDA grew by approximately 6% over 21Q3, and our year-to-date Adjusted EBITDA of \$273.9 million is an improvement of approximately 16%. Our year-to-date Adjusted EBITDA margin is 33.7%, and we remain on track towards our 33% Adjusted EBITDA margin target for 2022.

And while our Adjusted EBITDA in absolute terms is, of course, impacted by currency movements, the FX impact on our margin target remains significantly mitigated given our natural hedge. This has become more effective with the inclusion of New Zealand-based Seequent, whose invoices are primarily denominated in U.S. dollars.

With regards to liquidity, our third quarter GAAP operating cash flow improved 19% year-over-year, and year-to-date improved 14.8% compared to 2021. Our year-to-date operating cash flow of \$238 million represents a cash conversion ratio from Adjusted EBITDA of 87%, even after payment of acquisition-related expenses of \$13 million.



Our last 12 months operating cash flow of \$319 million represents a cash conversion ratio from last twelve months Adjusted EBITDA of 88%, after payment of acquisition-related expenses of \$14 million.

During the first three quarters of 2022, we spent approximately \$42 million on de-facto share repurchases associated with stock-based compensation, serving to offset the dilution from such compensation. As we discussed early this year, we significantly reduced such de-facto share repurchases starting in the second quarter, and, in Q2, announced a Stock Repurchase Program, which enables us to consider market conditions in flexibly re-prioritizing the application of our cash generation as between programmatic acquisitions, de-leveraging, and stock repurchases to offset ongoing dilution from equity compensation. During the second and third quarters, we repurchased \$28 million of our stock under this program, with \$15 million of these repurchases during 22Q3.

As of the end of September, our net debt senior leverage was 1.3 times, down from the 1.6 times as of the end of December last year, which I presented during our year-end 2021 operating results call on a pro-forma basis to reflect the financing of the acquisition of PLS.

When including our 2026 and 2027 convertible notes as debt, our net debt leverage was 4.7 times as of the end of September.

And as of the end of September, approximately 80% of our 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.

May I now remind you of our upcoming investor conferences, where members of the management team will present: The JP Morgan Digital Twin and Industrial Design Software Week, The Nasdaq International Investor Conference, and the Berenberg European Conference.

And then back to your questions.

Ankit Hira: Thank you. As a friendly reminder, please unmute your microphone, and turn on your camera when called on, and limit yourself to one question and one follow up in the interest of time. We'll start with Matthew Broome from Mizuho. Matthew?

Matthew Broome: Hello. Hi. Sorry. Can you hear me?

Greg B: Yes.

Matthew B: Okay, perfect. So, you provided the year-over-year constant currency growth rate for ARR. But what was the incremental FX headwind to ARR during the quarter? In other



words, it would be useful to know how much ARR increased by versus the second quarter on a net basis when excluding the incremental impact from FX changes over the last three months.

Greg B: Werner, I'm going to let you try that. But what I think is that it's too complicated to do every quarter a new comparison of actual to constant currency for ARR. So, what we did calculate is that year-to-date in constant currencies. Let me get that right. Well, Werner, can you—?

Werner A: No, I think you were right. So, the actual currency ARR, you can follow it in the presentation and in the queue of the FX headwind versus our constant currency ARR. We didn't calculate that way.

Matthew B: Okay. Yeah, no, it would definitely be—just given the current extreme FX movements, that's definitely something that I think would be useful for investors if you do get the chance to calculate that. And then, I guess my follow-up question, just in terms of linearity during the quarter, just in terms of what you're seeing from the perspective of pipeline growth, fundamental demand. And also, I guess what you are seeing in October in terms of the momentum carrying on. Thank you.

Greg B: So, I will say that our quota carriers are enthusiastic about the fourth quarter and the year as a whole. They say that conditions are as good as anyone has seen. And it's hard to imagine that changing during the balance of the year. You might then ask, why don't you narrow your range of outcomes?

And I must remind you that China is the exception to that. We are enthusiastic about China. There are many reasons to be so. And that includes our quota carriers there. The year so far has been spotty in China, starting with the geopolitical problems in the first quarter. But since then, it's more to do, we think, with pandemic lockdowns.

And we just don't know whether the fourth quarter is going to bring a return to the usual strong fourth quarter in China. It has characterized every other year. Maybe it will be even better by virtue of the infrastructure commitments of the government in China that now can start to flow and are meant to flow quickly. But on the other hand, there are the geopolitical headaches that haven't gotten any better fundamentally, even though we haven't seen their effect for the past couple of quarters nearly so much as in the first quarter.

Matthew B: Right.

Greg B: So, that's quite on our mind at this point in the fourth quarter.

Matthew B: All right. No, that's great. Thanks so much for answering my questions.



Greg B: Cheers, Matt.

Ankit H: Thanks. Next, we'll go to Joe Vruwink from Baird. Joe?

Joe Vruwink: Great. Hi, everyone. I wanted to go back, Greg, to your comment about new business accelerating noticeably in the states. When you think about your business over time, does this tend to serve as a leading indicator for how renewals end up going? And just on the renewal topic, since, as you said, 4Q is the important period, what do you just think here?

I think renewals is also when a lot of your customers end up making upsized commitments with you. If you're seeing it in new business generation already, does that maybe have positive implications for how renewals are going to go?

Greg B: Busyness of infrastructure engineering underlies all of those indicia that you mentioned. And I think we're at the beginning of that. And you saw that's the belief of the engineering firms in the U.S. as well. I will point out that the renewal propensity in the fourth quarter is not as relatively important for us as once it was.

It still is by far the most significant quarter for renewals. But the E365, as you see that that's grown now to nearly one-third of our subscription book, in effect, there's volatility each quarter in the usage within E365. But that's been going in the right direction as well.

Joe V: Great. And then, I guess this is on one part a bit of a retrospective question. As it pertains to your EPC business and the headwinds that you ended up absorbing in ARR, I think it began in FY20 and carried into FY21, can you just quantify what that headwind ended up being?

And then, when you think about a go forward basis—and I would imagine you're getting visibility from customers on their Capex intentions, and that informs what consumption might come back to—is 2023 a conceivable time frame for the magnitude of headwinds you have absorbed coming back and actually becoming tailwinds on ARR performance?

Greg B: For EPCs, I think yes. The magnitude of the EPCs' work subsidence was about 20%, I think, at the maximum. So, they continue to do 80% of their business with us. But otherwise, they had frankly laid off 20% of their people. It's not back nearly to 100% yet. However, I would say they are optimistic. And by virtue of having changed up their business mix to do more with energy transition and energy security, they would hope so. About '23, I think.

Joe V: Great. Thank you very much.

Ankit H: Thanks. Next, we'll go to Matt Hedberg from RBC. Matt?



Matt Hedberg: Hey. Good morning, guys. Can you hear me okay?

Greg B: Yes.

Matt H: Excellent. Greg, I wanted to ask you, it's great to hear the continued success of Virtuosity. The 600 new logos were impressive. And I think, as you alluded to, this segment has sort of just taken off. Can you provide a bit more detail on, thinking longer term with this new growth engine into really an untapped market, how material can this be to that long-term ARR growth algorithm?

Greg B: Well, I don't think we get our share yet. The analysis we did with Cambashi suggested that more than 40% of infrastructure engineers work in these smaller firms. We are on a path to make that our share of new business in ARR in a few years, perhaps. It certainly is worth our major investment now in what we call our digital experience platform. It's what we're mainly spending our discretionary investment now on and hiring for.

But it is years ahead. I would say it's comparable to as long as it'll take us to reach everyone with E365 among the enterprise accounts. It'll take that long to be done growing share, if I put it that way, before we get to growing with the market in SMB.

Matt H: Got it. And then I don't know if Nicholas is on. He may have mentioned—I think he was talking about the global demand environment, but I wanted to maybe just double click a little bit more on Europe. I think your results were impressive sort of globally, but maybe just a little bit more color on how the various regions of Europe are doing, how they're holding up, and just sort of the confidence into the last three months of the year.

Greg B: Yes, I'm filling in for Nicholas here, as he's on the case of our *Year in Infrastructure* for next week. We've really had Europe under the magnifying glass, as we've said, each quarter this year. In the first quarter, it was, I recall, central Europe brought up the rear. Last quarter, it was northern Europe, largely the U.K., where I am now, and which caught up fine in the second quarter. In the third quarter, it was southern Europe.

And they're growing, but not comparable to last year, which, it must be said, was strong growth over the year before. So, I think that's the matter of paying more attention to Europe. It is, however, behind North America.

And you saw that Asia is quite leading the way—most significantly there is India. And India, we've rarely seen such new business growth as there. And I think it's two different phenomena. On the one hand, there's a strong infrastructure investment program in India, and most of it is probably domestic. But India is the one place in the world where there's not a shortage of civil



and structural and geotechnical engineers. And I think more of the work in the world is moving to global design centers in India at the same time. And then, North America is a bit better, and Europe brings up the rear, but is—would be in light green, at least, and can get better.

Matt H: Thanks for the color, guys.

Ankit H: Thanks. Next, we'll go to Kristen Owen from Oppenheimer. Kristen?

Kristen Owen: Hi. Good morning, everyone. Can you hear me okay?

Greg B: Yes.

Kristen O: Great. So, you talked about this sort of divergence between what we're seeing in the overall macro indicators and then what your customers are seeing in terms of their backlog. I want to ask the question in the context of your E365 sort of onboarding process. Given that backlog and that disconnect, is there an opportunity for you to accelerate invitation to E365? What would need to be in place in order for you to move faster, as it were, in that area?

Greg B: Kristen, we're onboarding more accounts into E365 each quarter. It doesn't look like more ARR dollars because we started with the largest accounts, and we're down now in the middle of the field among the enterprise accounts. But we have a natural constraint, which is the supply of the quantity and quality of the people Kat talked about, who are doing the onboarding, who are setting up the quarterly business reviews. We have these 500 blueprints that we ration and so forth.

We don't want to dilute the quality of that, and especially we don't want to chisel among the accounts that are already expecting their enterprise success teams to continue doing this good job and delivering the accretion for us and the additional engineering capacity for the accounts. So, we're sort of constrained that way. But it must be said, you see that there is very little left of our original ELS program. And generally, our invitations are enthusiastically accepted by the accounts, as we work down the list now for E365.

Kristen O: And then, I wanted to maybe double click on some of the trends that you're seeing in resources and ask if you could provide some additional color there. Is that mostly in—are you seeing growth in resources in any one particular area, or what's sort of driving the strength in that business? Thank you.

Greg B: Mining is a great portion of that. And mining is all dark green. Every measure of mining new business is up and strong. I say that knowing that it's going to be cyclical, ultimately. But seeing as we have a lot of electrification and mineral requirements before that comes about. And then, of course, also in renewables, we have upstream oil and gas, which has new pressures. And



of course, renewables and offshore activity now is just as often or more floating and fixed wind platforms, where we're really important to the world.

And so, resources is setting a new standard. We haven't seen anything be as strong as it continues to be and, I think, sustainably it can remain.

Kristen O: Thank you.

Ankit H: Thanks. Next, we'll go to Gal Munda from Wolfe. Gal?

Gal Munda: Hi. Thank you for taking my questions. The first one is just I want to follow up on E365 as well. And maybe, Greg, I'm going to ask you. What is the potential when you look at—or split today when you look between the U.S. business and across the world specifically, and maybe even within the U.S.? I think we came across the fact that you're starting to introduce more of a consumption model even in a DOT structure. So, this isn't limited to just your commercial entities. Can you talk about that potential as well? Thank you.

Greg B: Well, we do like, as I say, sharing this consumption risk with our accounts. In the case of the government accounts, we have recently invented a variation of E365—we call it internally EPS365—for public service, which has banded. The government accounts have difficulty changing their purchase orders during the year, but they accept that we all have the right incentives if we want them to use more because they want to use more as well and pay for that. So, it gets kicked up when they hit a growth in a band.

I might say that this is the quarter when we're first introducing E365 in China, but it works that way also. It's a banded notion. We've learned in China that the certain adaptations to commercial models are appropriate. So, if you like, it's a temporary cap and floor until the usage goes through one way or the other. And that will—the remainder of the enterprise accounts will take advantage of a lot of that adaptation we've learned and how you do consumption-based business in a practical way for each type of account.

Gal M: It's perfect, thank you.

And then, we just want to focus on the resources business as well, and thinking about, like you said, when you became public, you obviously had a big headwind from the EPCs, especially on the oil and gas side. And now, thinking about getting Seequent to the mix, and diversifying the whole risk of it, how do you—what is the outlook if you dig deeper, especially because of the fact that traditional energy business is also having a better outlook from oil prices where they are. And also, having some sort of a Capex tailwind expected to come over the next year or two.

How do you balance the new versus the old, I guess?



Greg B: In that mix, don't forget PLS, and the exposure to energy transmission and distribution, which is the bottleneck for all the rest of it. If you spend more on energy transition and spend more on renewable sources, it doesn't help unless there's more and more reliable energy capacity, which is why, David Hollister, called it out. In our favor certainly are the tailwinds you mentioned in the sectors we've already been in, but are deliberate platform acquisitions in these fast growing sectors. David, do you want to add anything on PLS?

David H: No, nothing we haven't already talked about.

Gal M: Well, Greg, thank you so much.

Ankit H: Great, thanks. Next, we'll go to Andrew from Berenberg. Andrew?

Andrew D: OK. Thanks for taking my question. I guess first, Greg, I wanted to maybe talk about your comments earlier. In particular, how you were surprised, pleasantly surprised about the strength in the commercial facility side, as well as the SMB element of the business. And I just wanted to understand if you were pleasantly surprised because the macro environment is negative for those areas, or was it more that internally, you executed better than what you originally planned?

Greg B: My two surprises were that commercial facilities continues to grow in new business when I would have thought that the world has an oversupply of commercial facilities with respect to utilization of office, and institutional spaces, and so forth. And every quarter I say that, and every quarter, I'm wrong about the direction there. It's not strong new business growth, but it is new business growth.

In the case of SMB, what continues to surprise me is over 600 new logos for Virtuosity in the quarter. Because I would have thought there wouldn't be another 600 left, let alone that we would land them all in the same quarter. So, there just turns out to be that we don't know the SMB space as well as we should. And we'll continue to focus on them.

Andrew D: That's helpful. And then maybe, David and Werner, on the programmatic acquisition front, you did flag that slowing a bit. I guess maybe first of all, would you say it's slowing from a perspective of evaluation point of view, or is it your own appetite for risk at this stage? And then maybe, how did that relate to the contribution to ARR for next year if this pace of programmatic acquisitions continue at this rate?

David H: So, Andrew, I wouldn't say that we are looking at any fewer opportunities this year than we always do. We always have a full pipeline, which, frankly, includes lots of opportunities for businesses that aren't for sale. We're constantly building those relationships and working



them towards a potential transaction. What has slowed is just the—our discipline about evaluation. We have reframed our views on valuation just given the macro.

And a lot of it is just chance. I mean, it's pretty volatile. We hit on a lot of them, as you saw in 2021 and 2020, for that matter. There have been a couple this year, which followed the traditional pattern, and there have been many, many this year that, for lots of reasons that we can't do anything about, didn't come to closure. But again, what I'd like to emphasize is that there are opportunities out there.

We are reasonable about valuation, and I expect that we'll continue to have programmatic acquisitions as a part of our strategy, both in terms of growth, but, importantly, as in terms of building on our solution portfolio, and our comprehensiveness, and expanding that moat.

Greg B: And I will add that, from my standpoint, capital allocation doesn't put any pressure on that. We would be glad and prefer to be continuing the usual programmatic acquisition activity.

David H: So, the indications, Andrew, to growth and outlook, if you will, for next year, I would again like to emphasize that our programmatic acquisitions in the main are very small tuck ins. We're not buying revenue. We're buying tech and talent, and we're expanding our solution portfolio. So again there, it's a 1-1.5% impact on our growth rate historically, and I would expect that to continue.

Andrew D: Great. Thank you, everyone.

Ankit H: Next, we'll try Michael Funk from Bank of America. Michael?

Michael F: Yeah, hi, guys. Good morning. Thank you for the question. A couple, if I could. I'll just go back to one of the earlier questions Matthew asked about the quarter-over-quarter constant currency ARR growth. And I think you responded, it's a complicated metric to provide. I just wanted to know, is it complicated because you don't have the data? Or have you not run that data yet? I'm trying to better understand what you might provide in the future.

Werner A: So, what we—Greg, should I go first?

Greg B: Yeah, please.

Werner A: Yeah, so what we provide is the constant currency ARR growth rate. And what we disclose as well is what the actual currency ARR is every quarter. You see it in the queue. You see it in the presentation. You see the AR growth. It's probably fair to say that our AR growth and the FX impact correlates with the FX impact that we see on our subscription revenues, which is a significant contributor towards ARR.



And the FX impact that we had this year for subscriptions from the beginning of the year, it's approximately 4% headwind. On a constant currency basis, if we compare revenues to prior period, it's a 6% headwind.

Greg B: But I think if you work it out, it's a stock versus a flow at the end of the quarter, as opposed to the average rate during the quarter. So, those are the complications. But for ourselves, we worked it out when we did the calculation that we're at 70% so far after three quarters of the mid-range of the full year's constant currency ARR growth rate over the beginning of the year.

Werner A: That's correct.

Michael F: Great.

Greg B: That was commented. We know—

Michael F: Yeah.

Greg B: We'd have to scratch our head to figure out how to do it every quarter.

Michael F: I know you're smart guys. So, I think it's maybe figured that you guys can work it out. And then, just on pricing. Yeah, I know you mentioned the press release that you were largely hedged to the FX moves, presumably based on expenses, but can you just remind me where or if you price in dollars versus local currency?

Greg B: Normally, we price in local currency. So, our hedge would consist of our people being distributed all over the world, where their revenues are. However—and that would leave us, because of our margins, with an excess of dollar revenues. But Seequent turns out to be the exception to that. Seequent bills in U.S. dollars everywhere but incurs all their costs outside U.S. dollars because they're in New Zealand, and Canada, and elsewhere in the world. So, that tends to serve to rebalance in our favor the natural hedge.

Michael F: Understood. Maybe one more quick one if I could. I know we're running towards the end of time here. But just on pricing, Greg, in your philosophy around price increases, I think historically, we said annually and pretty consistent price increases. Are you reevaluating that policy in the current environment?

Greg B: Well, we're pretty resilient against inflation in the following respect. There's a lag though. So, we have annual escalation in our subscriptions. Almost all of our subscriptions are billed and paid annually. Our history is, we say, a software developer price index, if you like. That's my way of putting it. And it's not an across-the-board escalation. It differs by country and by product.



But if it's averaged, say, 3% to 4% in recent years, this year, it'll be a couple percent higher than that. But it rolls in in the following way. We work it out in the first quarter of every year. It takes effect during the second quarter immediately for our quarterly and monthly term licenses. But for all the others, it's the annual renewals when they're reached at the end of the second, or third, or fourth quarter. So, most of that lies ahead of us for the escalation adjustment, of which we're in the cycle now. So, we are pretty well—

Michael F: And that's a fixed price escalator, Greg? That's a fixed price escalator in the contract?

Greg B: No, well, the contract simply allows us to set escalation every year. We don't set it across the board or even by country. It's by individual product in each country. It just tends to have a tendency to be about, if you like, a price index. And I'm calling that a software developer price index because we're not tied to a particular macro price index.

Michael F: Okay. Hey, thank you guys so much for the time. I really appreciate it.

Ankit H: Thanks. And with that, apologies, we're now at time. So, we'll end the call here. Thanks for your time, everybody. And we'll see you next quarter.

Greg B: Cheers.