



Comments from CEO Pat Gelsinger and CFO Dave Zinsner

Intel's chief executive officer and chief financial officer offer comments after the company released its fourth-quarter and full-year 2022 earnings.

Jan. 26, 2023 — Pat Gelsinger, Intel chief executive officer ([bio](#)):

Good afternoon, everyone. Q4 revenue came in at the low end of guide and was impacted by persistent macro headwinds, which began in Q2 and underscored a 2022 characterized by unprecedented volatility, which will continue in the near-term. We made meaningful progress on several fronts in CY22 (calendar year 2022), notwithstanding all the challenges, but we readily admit our results and our Q1 guidance are below what we expect of ourselves. We are working diligently to address the challenges brought on by current demand trends and remain confident in our long-term plans and trajectory.

Accordingly, we are even more aggressively executing on the cost measures we described in Q3, even as we keep the investments critical to our long-term transformation intact; with a clear eye on making the right capital allocation decision to drive the most long-term value. Today I'd like to address three areas: (1) Our view on the macro and the markets in which we participate, (2) the operational progress we made in 2022, and (3) as we enter the new year, outlining the commitments we are making to all our stakeholders.

First on the macro. We expect macro weakness to persist at least thru the first half of the year, with the possibility of second-half improvements. However, given the uncertainty in the current environment, we are not going to provide revenue guidance beyond Q1. Dave will provide guidelines for capital spending, depreciation and adjusted FCF (free cash flow) in his prepared comments.

Having said that, let me give you additional color regarding our view of our markets in 2023. To various degrees, all our markets are being impacted by macro uncertainty, rising interest rates, geo-political tensions in Europe, and COVID impacts in Asia, especially China.

In the PC market, we saw further deterioration as we ended CY22. In Q3 we provided an estimate for the CY23 PC consumption TAM (total available market) of 270 million to 295 million units. Given continued uncertainty and demand signals we see for Q1, we expect the lower end of that range as a more likely outcome. Near-term, the PC ecosystem continues to deplete inventory. For all of CY22, our sell-in was roughly 10% below consumption, with Q4 under-shipping meaningfully higher than full-year, and Q1 is expected to grow again, to represent the most significant inventory digestion in our dataset. While we know this dynamic will need to reverse, predicting when is difficult.

Importantly, PC usage data remains strong, reinforcing that use-cases brought on by COVID are persistent even as the economy has re-opened. And, as we highlighted in our recent PC webinar, strong usage, an installed base which is roughly 10% higher than pre-COVID levels and what we see as a conservative refresh rate support a longer-term PC TAM of 300 million units plus-or-minus, post this period of adjustment. We intend to capitalize on this TAM thru a strong pipeline of innovation, and based on the growing strength of our product portfolio, customers are increasingly betting on Intel. We grew share in the second half of '22 and we expect that positive momentum to continue in '23. We remain clear-eyed on managing to near-term weakness in PCs, but we also see the enduring and increasing value PCs have in our daily lives.

In the server market, the overall consumption TAM grew modestly in CY22, albeit at diminishing rates as the year progressed. Inventory burn drove server CPU shipments down mid-single digits year-on-year in CY22, with hyperscale up, offset by declines in enterprise and ROW (rest of world). Our share in CY22 was in line with our



subdued expectations and our revenue volatility was a function of TAM, especially given our outsized exposure to enterprise and China.

We expect Q1 server consumption TAM to decline both sequentially and year-over-year at an accelerated rate, with 2023's first-half server consumption TAM down year-over-year, before returning to growth in the second half. While all segments have weakened, enterprise and ROW, especially China, continue to be weaker than hyperscale. However, we'd highlight that the correction in enterprise and ROW where we have stronger positions are further along than hyperscale.

Lastly, in our broad-based markets like industrial, auto and infrastructure, demand trends throughout CY22 were strong, but not completely immune to the macro volatility. Strong demand in these markets was mirrored by strong Q4 and record CY22 revenue in NEX (Network and Edge Group), PSG (Programmable Solutions Group), IFS (Intel Foundry Services) and MBL (Mobileye). We see CY23 as another growth year for us in these areas even though the absolute rate is difficult to predict today. This is in contrast to the semiconductor market ex-memory, which third parties expect to decline low to mid-single digits.

We enter 2023 with a view that much of the macro uncertainty of the last year is likely to persist, especially in the first half of the year. As such we are laser-focused on executing to our \$3 billion in CY23 cost savings that we committed to on our Q3 earnings call. We are making tough decisions to right-size the organization, and we further sharpened our business focus within our BUs (business units) by rationalizing product roadmaps and investments. NEX continues to do well and is a core part of our strategic transformation, but we will end future investment on our network switching product line, while still fully supporting existing products and customers. Since my return, we have exited seven businesses, providing in excess of \$1.5 billion in savings. We are also well underway to integrating AXG (Accelerated Computing Systems and Graphics) into CCG (Client Computing Group) and DCAI (Data Center and AI Group), respectively, to drive a more effective go-to-market capability, accelerating the scale of these businesses while further reducing costs.

While it is important to focus on what we are doing to address the current macro uncertainty, it is also important to highlight that despite disappointing financial results, CY22 did see considerable progress towards our transformation. We remain fully committed to executing to our strategy to deliver leadership products anchored on open and secure platforms, powered by at-scale manufacturing and supercharged by our people.

Success starts with our people and execution follows culture. In CY22, we took important strides to rebuild the leadership team, promoting from within and adding fresh perspective from the outside. This includes the board of directors, with the addition of Lip-Bu Tan and Barbara Novick, both of whom have already made significant contributions, and the appointment of Frank Yeary as chair. In addition, a year ago we re-established OKRs to drive accountability and transparency across the organization and we re-introduced Tick-Tock-2 to establish a rigorous methodology of design and product development. Both are key sparkplugs to our execution engine.

Rebuilding the culture has begun to show benefits in manufacturing and design. Our progress against our TD (Technology Development Group) roadmap continued to improve throughout CY22, and every quarter our confidence grows. We are at or ahead of our goal of five nodes in four years. Intel 7 is now in high-volume manufacturing for both client and server. On Intel 4, we are ready today for manufacturing and we look forward to the MTL (Meteor Lake) ramp in the second half of the year. Intel 3 continues to show great health and is on track. Intel 4 and 3 are our first nodes deploying EUV (extreme ultraviolet lithography) and will represent a major step forward in terms of transistor performance per watt and density. On Intel 20A and Intel 18A, the first nodes to benefit from RibbonFet and PowerVia, internal test chips, and those of a major potential foundry customer, have taped-out with silicon running in the fab. We continue to be on track to regain transistor performance and power performance leadership by 2025.

Progress in TD continues to be validated by our IFS pipeline. I am very happy that we were able to add a leading cloud, edge and datacenter solutions provider as a leading-edge customer for Intel 3. Including prior customers such as MediaTek, we now have lifetime deal value of greater than \$4 billion for IFS. We also have an active pipeline of engagements with seven out of the 10 largest foundry customers coupled with consistent pipeline growth to include 43 potential customers and ecosystem partner test chips. Additionally, we continue to make



progress on Intel 18A, and have already shared the engineering release of PDK 0.5 (process design kit) with our lead customers and expect to have the final production release in the next few weeks. In addition, we are working hard to complete the Tower acquisition, which will further amplify our momentum as our foundry business becomes even more compelling to customers.

On the product front, the PRQ (product release qualification) of SPR (Sapphire Rapids) in Q3 and the formal introduction of our 4th Gen Intel® Xeon® Scalable CPU and Xeon® CPU Max series, better known to many of you as SPR and SPR HBM (Sapphire Rapids with high bandwidth memory), respectively, on Jan 10 was a great milestone. It was particularly satisfying to host a customer-centered event including testimonials from Dell, Google Cloud, HPE, Lenovo, Microsoft Azure and NVIDIA, among others. We are thrilled to be ramping production to meet a strong backlog of demand and we are on track to ship 1 million units by mid-year. In addition, as part of AXG's move into DCAI, it is noteworthy that our Intel® Flex Series, optimized for and showing clear leadership in media stream density and visual quality, is now shipping initial deployments with large CSPs (communication service providers) and MNCs (multinational corporations), enabling large-scale cloud gaming and media delivery deployments.

Our DCAI roadmap only improves from here. Emerald Rapids is sampling and has completed power-on with top OEM (original equipment manufacturer) and CSP customers, and it remains on track to launch in the second half of 2023. Granite Rapids, our next performance core addition to the Xeon portfolio is on-track to launch in 2024, running multiple operating systems across many different configurations. Further, our first Efficient-core product, Sierra Forrest, is also on on-track for 2024. Lastly, it is appropriate to continue to highlight PSG for its stand-out performance, delivering record Q4 revenue, up 42% year-over-year. We are planning to have a more fulsome look at our progress in DCAI at our next investor webinar later in Q1 – stay tuned for the invitation.

In CCG, we continue to build on our market share momentum across the PC stack by focusing on delivering leadership products with our broad, open ecosystem. I'm particularly pleased that our clear performance leadership at the high end drove record client ASPs (average selling prices) in the quarter. In Q4, the 13th Gen Intel® Core™ desktop processor family, code-named RPL (Raptor Lake), became available, starting with the desktop "K" processors and the Intel® Z790 chipset. In partnership with ASUS, we officially set a new world record for overclocking, pushing the 13th Gen Intel Core past the 9 gigahertz barrier for the first time ever. Hands down, we provide desktop enthusiasts and gamers with the best processors and features for overclocking in the PC industry. We also introduced our NB (notebook) RPL family at CES, including the world's fastest NB CPU and the first with 24 cores. We look forward to ramping the more than 300 mobile design wins we have already secured in the first half of 2023.

Meteor Lake, our first disaggregated CPU built on Intel 4, remains on track for the second half of the year. And with MTL progressing well, it's now appropriate to look forward to Lunar Lake, which is on track for production readiness in 2024, having taped-out its first silicon. Lunar Lake is optimized for ultra-low power performance, which will enable more of our PC partners to create ultra-thin-and-light systems for mobile users. In addition, as we outlined on our webinar, we are excited by the strength of the Evo™ brand, the introduction of Unison™ for leadership multidevice experiences as we ramp the more than 60 design wins, and the uniqueness of vPro® in the enterprise market, helping our customers drive an almost 200% return on investment by deploying vPro platforms to their end users. Lastly as consumer graphics re-integrates into CCG, enthusiasm for our latest Alchemist-based discrete graphics products continues to build and we expect volume ramp through the year.

Turning to NEX and MBL: Both businesses have performed well in Q4 and CY22, partially insulated by some of the market forces impacting PCs and servers. NEX hit key product milestones with Mount Evans, RPL P&S, and ADL N (Alder Lake) and SPR to drive a second consecutive year of double-digit year-over-year growth in CY22. We expect market share gains and outperformance to continue in CY23. MBL increased revenue by almost 60% year-on-year in Q4 and is on a solid growth path for CY23. CY22 design wins including SuperVision, are projected to generate future revenue of approximately \$6.7 billion across 64 million units.

In addition, our manufacturing organization performed well throughout CY22, starting the year navigating the worst supply constraint environment in over 20 years only to have to pivot in Q2 to respond to rapidly changing demand signals which are now driving near-term underloading in our factory network. More importantly, we



continue to push forward with the next phase of IDM 2.0, creating an internal foundry, and evolving our systems, business practices and culture to establish a leadership cost structure. This new approach is already gaining momentum internally.

As a reminder, the internal foundry model will place our BUs on a similar economic footing as external IFS customers, and will allow our manufacturing group and BUs to be more agile, make better decisions, and uncover efficiency and cost savings. We have identified nine different subcategories for operational improvement that our teams will aggressively pursue. In addition to establishing better incentives, this new approach will provide transparency on our financial execution, allowing us to better benchmark ourselves against other foundries and drive to best-in-class performance. It will also provide improved transparency to our owners as we expect to share full internal foundry P&L in CY24 – ultimately allowing you to better judge how we are allocating your capital and creating value. We expect additional efficiencies as we implement our internal foundry model, which is a key element to accomplish our \$8 billion to \$10 billion of cost savings exiting 2025, as we outlined on our last call.

I want to remind everyone that we are on a multiyear journey. We remain focused on the things that are within our control as we navigate short-term headwinds while executing to our long-term strategy. While I remain sober that we have a long way to achieve our financial expectations, I am pleased with the transformation progress that we are making. I can tell you, in addition to obviously focusing on the day-to-day running of the company, we continue to examine numerous additional value-creating initiatives for 2023, as we always do. We will update you as we move along on any we deem appropriate.

Rest assured, we remain committed to creating value for our owners and to delivering the long-term strategic roadmap we laid out at the beginning of this journey, and we are confident in our ability to do so. We will: (1) Deliver on five nodes in four years, achieving process performance parity in 2024 and unquestioned leadership by 2025 with Intel 18A; (2) execute on an aggressive SPR ramp, introduce EMR (Emerald Rapids) in the second half of 2023 and GNR (Granite Rapids) and SRF (Sierra Forest) in 2024; (3) ramp MTL in the second half of 2023 and PRQ LNL (Lunar Lake) in 2024; and (4) expand our IFS customer base to include large design wins on Intel 16, Intel3 and 18A this year.

We also need to improve our cost structure and drive operational efficiency. On this front, we will (1) return to profitability and deliver the benefits of our CY23, CY24 and CY25 efforts to reduce costs and drive efficiencies; (2) execute on our internal foundry P&L by 2024; and (3) expand the use of our Smart Capital strategy to leverage multiple pools of capital including SCIPs and CHIPs in the U.S. and Europe to balance our long-term capacity aspirations with near-term realities.

Before I turn it over to Dave, I want to close by saying we take our commitments to all our stakeholders extremely seriously and, ultimately, we strive to create value for each of them. For our customers, it is rebuilding our execution engine to provide a predictable cadence of best-in-class products to support their ambitions. For our employees it is to provide them with the opportunity to develop and bring to market world-changing technologies – it is what inspires each of us inside of the company. For our external owners it is to make thoughtful deliberate decisions around capital allocation, which drives the highest return on investment we make with your capital. Our ambitions are equaled by our passions – and our efforts across manufacturing, design, products and foundry are well on their way to driving our transformation and creating the flywheel which is IDM 2.0.

[Dave Zinsner, Intel chief financial officer \(bio\)](#):

Thank you, Pat, and good afternoon, everyone. We saw solid business execution in the fourth quarter despite persistent macroeconomic headwinds impacting the semiconductor industry. As Pat indicated, we expect challenging macro conditions to continue through at least the first half of the year. As outlined last quarter, we will continue to prioritize investments critical to our transformation, prudently and aggressively manage expenses near-term and drive fundamental improvements in our cost structure longer term. We are executing well toward our \$3 billion spending reduction target in 2023 and \$8 billion to \$10 billion exiting 2025.



Fourth-quarter revenue was \$14 billion, landing at the low end of our range and down 8% sequentially. Revenue from DCAI and NEX were in line with expectations, while CCG was impacted by softening demand for PCs. Gross margin for the quarter was 44%, slightly better than we had expected for the low end of our revenue range. Q4 gross margins were impacted 220 basis points from factory underload charges, offsetting a sequential 170 basis point benefit from an insurance settlement.

EPS (earnings per share) for the quarter was 10 cents, 10 cents below our guide on lower revenue and increased inventory reserves. Operating cash flow for the quarter was \$7.7 billion. Net CapEx (capital expenditures) was \$4.6 billion, resulting in an adjusted free cash flow of \$3.1 billion, and we paid dividends of \$1.5 billion.

We finished FY2022 (fiscal year 2022) with revenue of \$63.1 billion, gross margin of 47.3% and EPS of \$1.84. We generated \$15.4 billion of cash from operations and an adjusted free cash flow of approximately negative \$4 billion, at the low end of the range we provided last quarter, despite approximately \$3 billion of capital incentives that shifted from Q4 into 2023.

When we spoke at Investor Day last February, we forecasted revenue of \$76 billion and adjusted free cash flow of negative \$1 billion to \$2 billion for FY22. As macroeconomic conditions deteriorated at a rapid pace in the second half of 2022, we committed to optimizing the areas of the business within our control. Through reductions in spending and significant working capital improvements, we offset a \$13 billion reduction to revenue expectations to come within about \$2 billion of our initial adjusted FCF guide, while still making the needed capital investments in support of our IDM 2.0 strategy and to position ourselves for long-term growth in a market expected to reach \$1 trillion by 2030.

Our balance sheet remains strong with cash and investments balances of more than \$28 billion, modest leverage and a strong investment-grade profile.

Moving to fourth-quarter business unit results: CCG revenue was \$6.6 billion, a decline of 36% year-over-year as PC TAM deteriorated faster than expected due to macroeconomic headwinds. Customer inventory remains elevated beyond our previous expectations and will continue to burn into the first half of 2023. CCG realized record CPU ASPs, up 11% year-over-year, as we continue to see relative strength in our premium segments driven by leadership performance and attractive features of our Evo and vPro platforms. Fourth-quarter operating profit was \$0.7 billion, down year-over-year on lower revenue and increased Intel 7 product mix.

DCAI revenue was \$4.3 billion in Q4, up 2% sequentially with higher ASPs offsetting demand softness, and down 33% year-over-year, driven by TAM contraction and competitive pressure. DCAI operating profit for the fourth quarter was \$371 million. While still unsatisfactory, profit was up more than \$350 million sequentially on reduced factory costs. Operating profit was down substantially year-over-year, impacted by lower revenue, increased advanced node start-up costs and higher product costs.

Within DCAI, PSG achieved record Q4 revenue, up 42% year-over-year, along with record full-year revenue, up 29% year-over-year, through increased ASPs, improved external supply and strength in the infrastructure segment. PSG enters 2023 with still significant unfulfilled backlog.

NEX quarterly revenue was \$2.1 billion, down 1% year-over-year as declining global GDP impacted the edge business, offsetting growth in Xeon network CPUs and the ramp of our Mount Evans infrastructure processing unit. Despite second-half macro headwinds, NEX set another full-year revenue record at \$8.9 billion, up 11% year-over-year and marking consecutive years of double-digit revenue growth. Operating profit was \$58 million in the fourth quarter, down year-over-year on mix shift to lower-margin segments and higher factory start-up costs.

AXG achieved record quarterly revenue of \$247 million, up 34% sequentially and up 1 point year-over-year, supported by the launch of Sapphire Rapids HBM. Operating loss was \$441 million, down \$63 million sequentially with inventory valuations negatively impacted by softer demand, especially for crypto processors.



Mobileye delivered another record revenue quarter of \$565 million, up 26% sequentially and growth of more than \$200 million and 59% year-over-year. Full-year revenue of \$1.9 billion was also a record for Mobileye, growing 35% year-over-year. Fourth-quarter operating income of \$210 million represents 71% growth year-over-year.

IFS achieved record quarterly revenue of \$319 million, up 87% sequentially and 30% year-over-year on increased automotive shipments. Operating loss was \$31 million, a \$72 million improvement sequentially on higher revenue.

We continue to reshape the company to drive to world-class product costs and operational efficiency. We remain committed to the \$3 billion of 2023 cost savings outlined on our Q3 earnings call, while mindfully protecting the investments needed to accelerate our transformation and ensure we are well positioned for long-term market growth.

Before turning to Q1 guidance, let me take a moment to discuss an accounting change that will impact our results beginning in the first quarter. Effective January 2023, we increased the estimated useful life of certain production machinery and equipment from five years to eight years. This change better reflects the demonstrated economic value of our machinery and equipment over time and is more aligned with the business model changes inherent to our IDM 2.0 strategy. The growth of the IFS deal pipeline will extend the life of manufacturing nodes beyond what was practical within IDM 1.0; disaggregated CPU architecture allows performance and cost optimizations for each chiplet, better leveraging older nodes; and we are optimizing our core business around more sustainable capacity corridors to improve equipment utilization and maximize ROIC (return on invested capital).

The change will be applied prospectively beginning in Q1 2023. When compared to the estimated useful life in place as of the end of 2022, we expect total depreciation expense in 2023 to reduce by roughly \$4.2 billion – an approximate \$2.6 billion increase to gross profit, a \$400 million decrease in R&D expenses and a \$1.2 billion decrease in ending inventory values. This change will not be counted toward the \$3 billion short-term or \$8 billion-\$10 billion long-term, structural cost improvements we committed to last quarter and is intended to provide the most accurate reflection of company financial results to our owners.

Now turning to guidance: For Q1, we expect first quarter revenue of \$10.5 billion to \$11.5 billion. In addition to continued macro headwinds, we expect customers will burn inventory at a meaningfully faster pace than the prior few quarters in response to macro TAM softness, impacting CCG, DCAI and NEX lines of business. We see potential for market conditions to improve faster than typical seasonality as third-party data shows macro headwinds easing in the second half of the year.

While we are progressing toward a \$3 billion spending reduction with significant austerity across the company given the fixed cost nature of our business, we expect the sequential revenue decline will result in negative operating margin in the first quarter. We are forecasting gross margin of 39%, a tax rate of 13% and EPS of negative \$0.15 at the midpoint of revenue guidance, inclusive of \$350million to \$500 million of operating margin benefit from the useful life accounting change, split approximately 75% to COS (cost of sales) and 25% to OpEx (operating expenses). Factory underload charges are projected to impact Q1 gross margin by about 400 basis points. We continue to evaluate all investments and will remain laser-focused on optimizing for ROI, adjusting for market conditions across operating expenses and capital assets.

While we are not providing guidance beyond Q1, I will touch on a few elements of our outlook. At Investor Day, we noted that during the investment phase of IDM 2.0 from 2022 through 2024, our model was to operate at approximately 35% net capital intensity. For FY23, despite the lower revenue level, we expect to be at or below the 35% model. Imbedded in our assumptions are capital offsets of around 20% to 30% of gross CapEx including our innovative SCIP partnership with Brookfield. We expect FY23 operating expenses of under \$20 billion, a roughly 10% year-over-year decline, consistent with committed cost-cutting measures totaling \$2 billion adjusting for the depreciation change. Adjusted FCF will be below our Investor Day guide of approximately neutral in the first half of 2023 and return back toward guardrails in the second half of 2023.



In closing, we remain committed to the strategy and long-term financial model we laid out at Investor Day last year. The opportunity for strong revenue growth across our business unit portfolio and free cash flow at 20% of revenue remains. While we are not satisfied with near-term results, this market downturn represents an opportunity to accelerate the transformation necessary to achieve our long-term goals. I look forward to providing updates on our transformation journey as the year progresses.

Closing – Pat Gelsinger, Intel chief executive officer:

So, with that, let me just wrap up our time together. First, I'd like to say thank you. We're grateful for you joining us today, and for the opportunity that you've given us to update you on our business. We're pleased with the execution progress we made even though we're not happy with the reported results, and we know we have a lot more work to do there. The macro backdrop remains difficult, but we are laser-focused to control the things we can and to accelerate our transformation. We look forward to seeing many of you throughout the quarter and to updating you on our progress next quarter.

About Intel

Intel (Nasdaq: INTC) is an industry leader, creating world-changing technology that enables global progress and enriches lives. Inspired by Moore's Law, we continuously work to advance the design and manufacturing of semiconductors to help address our customers' greatest challenges. By embedding intelligence in the cloud, network, edge and every kind of computing device, we unleash the potential of data to transform business and society for the better. To learn more about Intel's innovations, go to newsroom.intel.com and intel.com.

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