Operator

Ladies and gentlemen, thank you for standing by and welcome to the Second Quarter 2020 Intel Corporation Earnings Conference Call. At this time, all participants' lines are in a listen-only mode. After the speakers' presentation, there will be a question-and-answer session. [Operator Instructions] Please be advised that today's conference is being recorded. [Operator Instructions]

I would now like to hand the conference over to your host today, Mr. Trey Campbell, Director of Investor Relations. Thank you. Please go ahead, sir.

Trey Campbell

Thank you, operator, and welcome everyone to Intel's second quarter earnings conference call. By now, you should have received a copy of our earnings release and the earnings presentation. If you've not received both documents, they're available on our Investors website intc.com. The earnings presentation is also available in the webcast window for those joining us online.

I'm joined today by our CEO, Bob Swan and our CFO, George Davis. In a moment, we'll hear brief remarks from both of them, followed by Q&A.

Before we begin, let me remind everyone that today's discussion contains forward-looking statements based on the environment as we currently see it, and as such, does include risks and uncertainties. Please refer to our press release for more information on the specific risk factors that could cause actual results to differ materially.

A brief reminder, that this quarter, we have provided both GAAP and non-GAAP financial measures. Today, we will be speaking to the non-GAAP financial measures when describing our consolidated results. The earnings presentation and earnings release available on intc.com include the full GAAP and non-GAAP reconciliations.

With that, let me hand it over to Bob.

Bob Swan

Thanks, Trey. And thank you all for joining our call.

Amid a very challenging environment, cloud and network infrastructure and PC capabilities have been vital in allowing businesses and people to continue to work, learn, stay connected, and provide critical goods and services. Those trends contributed to a very strong quarter in which we generated

$19.7 billion in revenue, and delivered $1.23 in earnings per share. We exceeded our guidance by $1.2 billion on the top line and $0.13 on the bottom-line. Our data-centric businesses grew 34% and drove approximately 52% of the Company's revenue, and our PC-centric businesses grew 7%.

I continue to be amazed by our employees and supply chain partners who have diligently worked to keep our business operating at a high level during this unprecedented challenge. COVID-19 has driven redesigned workflows and added additional environmental stress that I know has strained employees and ecosystem partners as they try to maintain productivity in this new world. I want to thank our employees and partners for their incredible contributions. Our primary focus continues to be ensuring the safety and well-being of our global workforce, delivering for our customers and helping the communities in which we operate.

On each earnings call, I give updates about our progress against three key priorities: Accelerating the growth of the Company; improving our execution; and continuing to thoughtfully deploy your capital. Let me give you a few thoughts on each.

We're transforming the Company to accelerate growth. That means not just playing defense but positioning our business to grow share in the largest market opportunity in our history. We've built scale businesses indexed to key technology inflections such as cloud, AI, 5G, and the intelligent and autonomous edge. We see a world where everything increasingly looks like a computer, including our homes, our cars, our cities, our hospitals, our factories and now even our schools. In this new world, our opportunity set becomes more than just the CPU; it's more and more Intel silicon, inside more and more computers, so we can have a larger impact on our customers' success. That diversity is one critical factor in driving today's results. I'll highlight a few examples from the past 90 days.

AI use cases are becoming pervasive, and we are embedding AI capability into all our products. Our Xeon platform is foundational for data center AI, with value, scalability, built-in AI acceleration and inference leadership. This quarter, we launched our third-generation Intel Xeon Scalable processor Cooper Lake, which is the first mainstream server CPU bfloat16 support, which increases AI throughput by reducing the amount of data required for the same accuracy. Developers can use and test the latest Intel-optimized versions of TensorFlow and PyTorch to train their models using bfloat16, and the Intel distribution of OpenVINO to deploy optimized inference from cloud to edge.

In Q2, both our cloud and comms service provider businesses grew more than 40% year-over-year as critical cloud-delivered applications continued to scale and 5G build-outs accelerated. Leading cloud service providers, including Alibaba, Baidu, Facebook and Tencent, announced they are adopting our third-gen Intel Xeon Scalable processors into their infrastructure and services.

Also this quarter, Azure introduced several new Xeon Scalable instances, including general purpose and memory-optimized Azure Virtual Machines. We were also excited to be a part of an industry first with Rakuten's full-scale commercial launch of its mobile carrier service. This service is the world's first end-to-end fully virtualized cloud-native mobile network and it's powered by Intel processors and FPGAs from the radio access network to the 5G-ready mobile core.

Compute capabilities are moving from the cloud to the edge and catalyzing a vast array of new usages and market opportunities. The largest opportunity we see at the edge is the $230 billion 2030 TAM for ADAS, data and mobility-as-a-service technologies. Since the last call, we acquired Moovit, a leading mobility-as-a-service solution company. Combining Mobileye's market-leading ADAS and AV technologies with Moovit accelerates our ability to become a full-stack mobility provider and truly revolutionize transportation.

The most important demonstration of the power of our technologies is the commitment of our customers, and we were excited this week to announce a significant design win with Ford. Design wins to date in 2020 include multiple new ADAS production programs representing cumulative volume of over 20 million units.

We're also driving incredible innovation for our customers across a wide spectrum of PC use cases. This quarter, we introduced three new additions to our 10th gen processor family, extending our leadership in gaming and business. The Core S and H series processors for desktop and mobile gaming deliver speeds out of the box reaching up to 5.3 gigahertz, making them the world's fastest gaming processors, and our new 10th Gen Intel Core vPro processors delivered uncompromised productivity and hardware-based security for commercial PCs. Q2 also marked the launch of Lakefield, featuring our new Intel Hybrid Technology, which is a hybrid CPU architecture for power and performance scalability.

We also continue to work on improving our execution. Intel employees and our supply chain partners have role-modeled teamwork in navigating difficult conditions while working to support customer upsides during this crisis. We have made significant progress in increasing our capacity and improving our

supply, while delivering $2 billion above our plans through the first six months of the year. We're on track to return to more normal levels of PC inventory as we work through the second half of the year.

Acceleration of our next-generation products continues. We now expect to increase our 10-nanometer-based product shipments for the year by more than 20% versus our January expectations. Customer demand for our family of 10-nanometer -based SoCs for 5G base station designs is also very strong. We delivered a full node of performance improvement within our 14-nanometer-based products by optimizing our product and process together, and the power of our intranode improvements continues with our next-generation 10-nanometer-based client product, Tiger Lake. Tiger Lake delivers breakthrough performance in CPU, graphics and AI, and will be shipping to customers in a matter of weeks. We are also targeting initial production shipments of our first 10-nanometer-based Xeon Scalable product, Ice Lake, for the end of the year. And we have a pipeline of exciting new product architectures for 2021, led by Alder Lake for client and Sapphire Rapids for server. Both products will start initial production shipments in the second half of 2021.

Let me provide some updates on our technology roadmap. We continue to demonstrate proof points of our breakthrough advanced packaging technologies. Our Lakefield product, which I mentioned earlier, delivers scale production of our 3D packaging technology, Foveros, combining both 10-nanometer and 22-nanometer capabilities in a disaggregated architecture. This quarter also marked a significant milestone in our data center GPU technology. We successfully powered on a petaflop-scale GPU with high bandwidth memory using our advanced embedded multi-die interconnect bridge or EMIB 2D packaging technology.

Turning to our 7-nanometer technology. We are seeing an approximate six-month shift in our 7-nanometer -based CPU product timing relative to prior expectations. The primary driver is the yield of our 7-nanometer process, which based on recent data, is now trending approximately 12 months behind our internal target. We have identified a defect mode in our 7-nanometer process that resulted in yield degradation. We've root-caused the issue and believe there are no fundamental roadblocks, but we have also invested in contingency plans to hedge against further schedule uncertainty. We're mitigating the impact of the process delay on our product schedules by leveraging improvements in design methodology such as die disaggregation and advanced packaging. We have learned from the challenges in our 10-nanometer transition and have a milestone-driven approach to ensure our product competitiveness is not impacted by our process technology roadmap.

Our overarching priority is to deliver product leadership for our customers, and we are taking the right steps to produce a strong lineup of leadership products. We will continue to invest in our future process technology roadmap, but we will be pragmatic and objective in deploying the process technology that delivers the most predictability and performance for our customers, whether that be in our process, external foundry process or a combination of both. Our advanced packaging technologies combined with our disaggregated architecture give us tremendous flexibility to use the process technology that best serves our customers. As an example, our data center GPU design, Ponte Vecchio, will now be released in late 2021 or early 2022, utilizing external and internal process technologies combined with our world-leading packaging technologies.

We now expect to see initial production shipments of our first Intel-based 7-nanometer product, a client CPU in late 2022 or early 2023. We are also focused on maintaining an annual cadence of significant product improvements independent of our process roadmap, including the holiday refresh window of 2022. In addition, we expect to see initial production shipments of our first Intel-based 7-nanometer data center CPU design in the first half of 2023.

Finally, while process technology is very important, it is only one of the six technology pillars of innovation that drive differentiation in our products. You will hear more about advances across all six technology pillars, process; packaging; architecture; memory; interconnect; and security/software at the upcoming Intel Architecture Day.

Last, we are focused on the thoughtful allocation of your capital. We are investing to grow our capabilities even as we deliver significant free cash flow this year. Since 2015, we have grown R&D spending by more than $1 billion while divesting non-core assets and reducing overall spending as a percentage of revenue by 9 points. We also look for opportunities to augment our product lines and speed the pace at which we can grow the Company.

As discussed earlier, we acquired Moovit this quarter, investing approximately $900 million to dramatically accelerate our capability to capitalize on the $160 billion mobility-as-a-service opportunity. We also announced a $250 million investment in Jio Platforms, a high-speed wireless connectivity and digital services provider, to help fuel digital transformation in India.

Our purpose to deliver world-changing technology that enriches the lives of every person on earth has never been more essential. But the global problems we face are bigger than any one company can solve alone. That’s

why we established 2030 corporate responsibility goals, which call for a collective response to revolutionize health and safety, make technology fully inclusive and help address climate change. We've also committed more than $50 million and extended our expertise, global reach and influence to combat COVID-19 as well as social injustice. The early results of our Pandemic Response Technology Initiative, which we announced earlier this week, underscore Intel's unique ability to partner and collectively solve critical problems.

In closing, I want to thank all our employees who are working through this challenging time to deliver our purpose and support our customers.

George Davis

Thanks, Bob and good afternoon, everyone.

The atypical seasonal effects of COVID-related demand for mobility products and data center infrastructure continued in Q2, resulting in record Q2 revenue for CCG, DCG and memory. Revenue came in at $19.7 billion, up 20% year-on-year and $1.2 billion higher than guide. Data-centric revenue of $10.2 billion, up 34% year-on-year, represented 52% of our total revenue, an-all time high. Strong demand for NAND and 5G networking solutions and richer server mix drove most of the upside versus our expectations. Q2 PC-centric revenue was $9.5 billion, up 7% year-on-year on strong notebook PC sales, enabled through increase manufacturing supply on capacity additions over the past year.

Gross margin for the quarter was 55%, slightly below expectations on higher product costs from faster uptake of our 5G ASIC products, which are margin dilutive relative to the Company average and also continued acceleration of 10-nanometer products overall, partially offset by a shift of costs from cost of sales to R&D related to 7-nanometer product timing. As a reminder, we expected an approximate 3-point reduction in gross margin in the second quarter on the effect of pre-PRQ reserves for our Tiger Lake client product. This is largely a timing item with respect to the full year as we benefit from the zero dollar units in our initial sales of product, which will begin this quarter.

Operating margin of 31% in the quarter was approximately flat versus last year as spending efficiency offset lower gross margin. Q2 EPS was $1.23, $0.13 above our guide as stronger than expected operating results from notebook, memory and a richer mix of server products, along with higher gains in our trading asset portfolios, offset increased costs from our 10-nanometer acceleration and the effects of a discrete foreign tax item.

In Q2, we generated $11.2 billion in operating cash flow, and invested $3.4 billion in CapEx with $7.7 billion of free cash flow, up 92% year-over-year. We returned $1.4 billion to shareholders via dividends. As a reminder, we paused our share repurchase program in Q1 as we felt it was prudent to do so in the current economic environment. We expect to complete the balance of our $20 billion share repurchase program and return to our historical capital return practices when market dynamics stabilize.

Moving to segment performance in Q2. Data Center Group revenue of $7.1 billion was up 43% from the prior year, coming in higher than expectations with strength across our customer segments. Year-over-year platform volumes in ASPs were up 29% and 5% respectively. DCG adjacencies also delivered significant growth with revenue up 118% year-on-year on strong adoption of 5G networking solutions. While year-over-year comparisons for DCG benefited from a weaker Q2 '19, revenue in the quarter came in at the second highest level ever for DCG and the highest revenue ever in our cloud business. Revenue year-over-year was up 47% in cloud, 34% in enterprise and government, and 44% for communications service providers. Operating margin was 44%, up 8% year-on-year on higher revenue and high-end compute mix.

We see increased competition this year but we've also seen strong customer response to our product portfolio and now expect to end the year with market share that is somewhat higher than our original expectations.

Our other data-centric businesses were up 14% year-over-year, primarily on the NAND dynamics in Q2, despite significant COVID headwinds impacting demand in our more GDP sensitive businesses, IOTG and Mobileye. IOTG revenue and operating income declined 32% and 76% respectively, primarily on lower revenue from industrial, retail and vision segments. Mobileye revenue was down 27% and operating income turned to a modest loss as the decline in global auto sales more than offset continued ADAS penetration and new IQ program launches.

NSG's record quarterly revenue of approximately $1.7 billion was up 76% year-on-year on strong NAND bit growth and improved pricing. Q2 was an all time record for quarterly revenue for our memory business. The business also returned to profitability this quarter, generating approximately $300 million in operating income. PSG revenue grew 2% year-over-year on cloud strength, which was partially offset by weaker demand from embedded and communications segments.

Operating income was up 54% on richer product mix and improved unit costs. CCG revenue was $9.5 billion in Q2, up 7% year-over-year, driven by notebook demand and higher modem and Wi-Fi sales, which more than

offset lower desktop volumes. PC unit volumes were up 2% year-over-year on higher notebook demand and increased supply.

We expect our share to improve throughout the remainder of the year as we begin to recover unit share in notebooks utilizing our smaller Core products, which we have not been able to fully serve given the strength of demand for our large Core products. Operating margin was 30%, down 12 points year-on-year as higher unit costs associated with the ramp of 10-nanometer products and the pre-PRQ reserves ahead of our Q3 Tiger Lake launch more than offset the benefits of higher revenue.

Moving now to our third quarter outlook. Based on demand signals from our customers, we expect continued strength in cloud and comms infrastructure and consumer notebook PCs in Q3. But we expect that the weak economic environment will impact our commercial PC business, particularly the desktop form factor, and also drive lower demand for the enterprise and government segment in DCG and in IOTG and Mobileye. As a result, we expect total revenue of $18.2 billion with PC-centric and data-centric businesses down mid-single digits year-over-year. In Q3, we expect the PC TAM to be down high single digits year-over-year on OEM inventory draw-down softer desktop demand and the effects of the global recession.

Gross margin is expected to be approximately 57%, down 3.5 points year-over-year as accelerated ramp of 10-nanometer products and lower platform revenue more than offset NAND margin improvement.

We are expecting a tax rate of approximately 15.5% in Q3. This is approximately 2 to 2.5 points above our previous expectations, primarily due to a lower FDII [ph] benefit in the year, a temporary reduction in R&D tax credits in California, and the effect of a push-out of a foreign grant.

The higher tax rate is reducing our EPS in the quarter by approximately $0.03 versus our prior rate expectation. As a result, Q3 EPS is expected to be approximately $1.10 per share.

Moving to full year. We’re providing full year guidance although visibility remains somewhat limited into the fourth quarter. Still, we do expect some part or the Company’s first half outperformance will be additive to our estimate for full year revenue. We are now forecasting revenue of $75 billion and EPS of approximately $4.85. We expect our PC-centric business to be flat to slightly down against the PC TAM that is down mid-single-digits year-over-year. Following a very strong first half of the year, we expect demand trends to moderate in the second half as weaker global GDP and the maturing Win 10 commercial refresh drive a lower PC TAM. Again, we also expect to increase our market segment share as we have greater supply for

entry PC designs. Additionally, we are forecasting lower modem revenue in the second half.

We expect revenue from our data-centric businesses to be up approximately 10% for the full year on strong cloud demand and increased 5G buildouts. After significant cloud expansion in the first half and into Q3, we expect capacity expansion to moderate as CSPs move to a digestion phase. We're also planning for an increasingly competitive environment as we move into the second half. We expect continued global GDP-related impacts to our IOTG and Mobileye businesses in the second half of the year.

Overall, our implied first half, second half revenue contribution is an anomalous 53% to 47%, as opposed to a more typical year with underserved seasonal buying patterns of 46% and 54%, respectively. Gross margin is expected to be 58% for the year, down 1 point versus our reasonable expectations for the year and 2 points lower year-over-year. This change is being largely driven by higher costs from higher than expected demand for our 10-nanometer products, and the push out of a government grant for our memory business. These effects coupled with softness in our IoT businesses, more than offset the stronger overall demand, improved mix in DCG, and the shift in some spending between OpEx and cost of sales related to the product timing delays Bob discussed earlier.

Spending for the year is expected to be approximately $19.7 billion or 26% of revenue, down one point year-on-year. Full year spending is up versus our January expectations on higher R&D expenditures, including the previously discussed shift between OpEx and cost of sales, and costs related to COVID, partially offsetting the cost reductions on the modem exit and other portfolio actions, as well as ongoing SG&A productivity gains. The resulting operating margin is 32%, down 1 point, year-over-year.

The tax rate is expected to be 14.5%, reflecting the impact of discrete items and the lower FDII benefit. Full year EPS of $4.85 is $0.15 below our January expectations as increased server and notebook PC demand, and slightly higher equity gains are more than offset by COVID-related impacts to IOTG and Mobileye, higher product costs from accelerating 10-nanometer, a higher tax rate and the impact of improving our liquidity by raising additional debt and temporarily pausing our share buyback.

The combination of our liquidity actions and the higher tax rate alone impact full year EPS by more than $0.15. We expect 2020 CapEx of approximately $15 billion and free cash flow of approximately $17.5 billion. To conclude, I'd like to join Bob in thanking our employees worldwide. Very much appreciate the hard work of our employees and contractors who delivered excellent results in the face of a very difficult environment.

With that, I'll hand it back to Trey and we'll get to your questions.

Trey Campbell

All right. Thank you, George. Moving on now to the Q&A. As is our normal practice, we would ask each participant to ask just one question. Operator, please go ahead and introduce our first caller.

Question-and-Answer Session

Operator

[Operator Instructions] Our first question comes from Vivek Arya with Bank of America.

Vivek Arya

Thanks for taking my question. I wanted to dig into the competitive and the financial implications of the 7-nanometer delays that Bob you mentioned. So, on the competitive side, by the time you come up with 7, TSMC is planning to be on the 3-nanometer, so will still be a generation ahead. So, what's the market share implication of that? And then, related on the financial side, what's the CapEx and gross margin implications, and even pricing implications if you stay on 10-nanometer longer next year? And I guess, the bigger question that a lot of investors would have is, at what point Intel should just consider outsourcing a lot more to foundries, so that you can keep in line with the state-of-the-art and manufacturing technologies?

Bob Swan

Yes. Thanks, Vivek. I mean, first, our primary focus is on ensuring that we're delivering leadership, an annual cadence of leadership products each and every year for our customers in a predictable manner. So, what we talked about today is a strong lineup for 2020, 2021, 2022 for both client and server. And we feel very good about that lineup. And our expectation on 10-nanometer, much like what we're able to do on 14-nanometer is to get another node of performance within that -- within 10-nanometer in and of itself. So, we feel very good about our product roadmap through 2022.

That being said, as we think about that next generation of products in late '22 and '23 and beyond, we need to make sure that we continue to deliver strong performance. And our priority in the ideal world is leadership products on our process technology, so we capture the economic benefits of IDM. But, the focus will be leadership products. So, to the extent that we need to use somebody else's process technology and we call those contingency plans, we

will be prepared to do that. And if we do, there's lots of moving parts. But, the economic implications in the event that we decide to move to somebody else's foundry, and with our scale, how do you get ASPs in line with our costs, continue to deliver leadership products, so we capture attractive ASPs, and reduce the amount of capital that we have to deploy to build a foundry on an older node, or on a last gen kind of process node. So, in the aggregate, for the last couple of years with the real focus on product leadership, we've been engaging with the ecosystem in a much more holistic way. We've been designing our products and advancing our packaging technologies, so that we have much more flexibility to decide if when we will use our fabs or somebody else's to deliver that annual cadence for leadership products. We feel very good through '22 timeframe. And now, we're evaluating the optionality that we have on '23 and beyond.

George Davis

Hey, Vivek. Let me just comment on your question around what we're going to see -- what we might see next year? Next year is still going to be, as it was, when we talked about last in May '19 is still going to be largely a 10-nanometer with some 14-nanometer year. And the dynamics there are, as we're coming into it with having moved a little bit further along the yield curve, as we've seen more demand for 10-nanometer products in 2020 than we had expected. So, we're not going to update '21 at this time. But, I think, we're more concerned about what the global economy is doing than where we are on 10-nanometer.

Vivek Arya

Thank you.

Operator

Thank you. Our next question comes from C.J. Muse with Evercore. Your line is now open.

C.J. Muse

Yes. Good afternoon. Thank you for taking the question. I guess, a follow-up question on the 7-nanometer delay. I guess, curious, how should we think about the implications for CapEx and required capacity adds at 10-nanometer and 14-nanometer? And then, just to circle back on the comment around contingency plans after '22. Considering your first data center CPU will launch in first half '23, are you suggesting that that could be found out and not be built internally at Intel? Thank you.

Bob Swan

I think, the first part of your question, with 2022 be in -- in essence say, it's full array of 10-nanometer product, the expectation is, all else equal, little more 10-nanometer spend and less 7-nanometers spend, provided we decide to continue to do all of our production inside. In the event we decide that we're going to leverage third-party foundries more effectively, we would add a little more 10 and a lot less 7. And that's kind of the optionality that we've try to build in as we evaluate the future of Moore's law. And that's in technology development leadership. In the event we're not there and there's a better alternative, be prepared to take advantage of it.

Operator

Thank you. Our next question comes from John Pitzer with Credit Suisse. Your line is now open.

John Pitzer

Yes. Hi, guys. Thanks for letting me ask a question. Sticking on the same topic of 7-nanometer. Bob, if you could just help me understand yields are 12 months behind where you would expect them but the product ramp is only 6. If you could square that circle that'd be helpful. But more importantly, you had multiple sort of push-outs of 10-nanometer. You're identifying this 7-nanometer push-out today. What confidence level do you have that this is sort of a one and done issue and it doesn't turn in to a repeat of 10 where you kind of had multiple periods of push-outs?

Bob Swan

Thanks, John. I mean, first, product schedule slippage of roughly two quarters while process we expect now to be roughly four quarters. The difference of the gap is driven by a couple of things. One, a buffer and our planning process between process and product to make sure that we don't -- minimal disruption on customers, because of process. Second, as I've mentioned in the prepared remarks, die disaggregation and advanced packaging gives us the ability for a given SoC to do some stuff inside and some stuff outside, and therefore further compress the product delivery in light of process slippage. So, that's why, we've been able to be confident in a six-month products slip, even though process was moving out 12 months.

In terms of -- I think your second question was about, we've seen this movie before, maybe. And I think, the important of our many lessons coming out of 10-nanometer. One of them was how do we ensure that we have contingency plans, in the event that our advancements in process technology, as it gets increasingly complicated, do not play out the way we hope, how do we make sure that we can continue to deliver leadership products for our customers on that annual cadence?

So, I'm sure things won't play out exactly the way we want. We think we've dialed in a 7. But, at the same time, what's different is we're going to be pretty pragmatic about if and when we should be making stuff inside or making outside and making sure that we have optionality to build internally, mix and match, inside and outside or go outside in its entirety, if we need to. And that's kind of one of our learnings coming out of 10 is in the event process doesn't move along as we expect, let's make absolutely sure with advanced contingency planning, and real milestones that we can switch the best we can to leverage somebody else and not slip product schedules in light of process complexities.

Operator

Our next question comes from Ross Seymore with Deutsche Bank.

Ross Seymore

Hi, guys. I'm going to stick with the theme and ask about the 7-nanometer as well. I guess, Bob, it's great to hear that you're being -- you're saying you're going to be more pragmatic about internal versus external. But, it seems like contingency plan three years down the road is how the external option is being treated. I think investors are frustrated with how long this execution on manufacturing has happened. Are there steps where instead of being a contingency plan, you actually start making the external side the primary source before 2023? Obviously on the design side, more than the revenue side. And maybe a follow-up, if three to five years down the road, the 20-80, 20 external, 80 internal mix, do you think that changes?

Bob Swan

Maybe, I'll flip those around. Over the last couple of years, we've been talking about, as we expand our capacity, evaluating more holistically, when do we use third-party foundries, rather than do everything ourselves. And we call that engaging in the ecosystem in much more holistic ways for a variety of different reasons, so we don't have to build everything ourselves as the capital associated with each node becomes a bit higher. So, in general, I would say for planning purposes, we've been engaging with the ecosystem much more. And all else equal, I would expect that roughly 28% to be a little bit higher as we focus on growing the business.

Your first question in terms of planning then, we feel like we have a real solid product roadmap, again for the second half of this year for '21 and for '22 and that we'll do it on our existing 10-nanometer that's ramping fast than we expected, it yields in line with what we expected. So, for the near-term, we think we got a great lineup of products and we expect to fight and

protect our share, while standing the role we play in a variety of different places in the industry.

But, now is when we're planning for '20, '23. And we are evaluating now in light of where we are, where we think the industries, the competition or third parties are, evaluating now what's the best option for us to make sure that we can deliver an annual cadence of product leadership for our customers. And those decisions are not decisions that we'll make in 2023. Those decisions, based on the information that we have along the way, will be made long before then. Whether it's decisions that are about how much capacity we need to put in place or decisions about how do we leverage more effectively somebody else's process capabilities and factories, so that we can get real good incremental returns on capital deployed.

Operator

Our next question comes from Stacy Rasgon with Bernstein Research.

Stacy Rasgon

I want to ask about the acceleration in 10-nanometer. Is this really because yields are getting better and there is higher demand, or because you're trying to offset the 7-nanometer delay? Because it's hitting the margins big time, which doesn't really tie in my head to like yields getting hugely better versus where you thought they were going to be in January. So, how do we think about the drivers of that 7-nanometer acceleration in light of the 7 -- or 10-nanometer acceleration in light of the 7-nanometer delay, given what's going on with margins?

George Davis

Hey Stacy, this is George. Maybe I'll just cover it in general on the margin picture for the year. So, this clearly -- it's having an impact there. The acceleration is really definitionally tied to the fact that we're growing faster than we expected in 2020 and where part of that growth is a higher mix on the PC side and I would say on the comms and 5G ASIC side, higher demand for products that are on 10-nanometer than we have forecast for the year. So, that's why you're seeing a little less flow-through on revenue than we would have expected for the year. It's a positive growth story in that. Again, we're seeing customers attracted to the 10-nanometer product…

Stacy Rasgon

Wait a minute. If I look at your annual guidance now versus [Technical Difficulty] higher, but it's actually lower in the second half versus what you had implied when you first gave the annual guidance six months ago. How

does that imply that demand is higher versus where you were, given you've actually lowered the second half?

George Davis

It's the demand for 10-nanometer products within the mix of our overall revenue space.

Bob Swan

Well, I think I'll start with our full year demand relative to where we were at the beginning of the year is our guidance is up by $1.5 billion in revenue.

Stacy Rasgon

Yes. But you just…

Bob Swan

Let me just finish this. I think it's a good question that maybe if you could give me a chance to answer it. So, full year demand to the Company is higher. Secondly, the yields for 10-nanometer, we've kind of said are in line with what we expected coming into the year through the first six months. And we feel pretty good about where we are on yields. Third, the overall demand for our products on PC side and for the 5G SoC in the comms sector is higher than we expected. That is part of the contribution to the $1.5 billion of higher revenue for the year. And as we accelerate 10 faster, both because customers are demanding it more, the implications are that our margins all else equal, will be lower. And George kind of highlighted those are the primary drivers of a 1 point decline. 10-nanometer products are ramping faster and our 5G comms business in the data center group is growing much quicker than we had anticipated.

I put that -- I put ramping of 10-nanometer faster in the good category. We feel -- we know margins are lower when we start a new node versus exit an old node. 10-nanometer margins are lower than 14 at this stage of the game. Ramping 10, we think it's a good thing for customers. We do take a dip in yield if it's more of our growth than we had anticipated. All else equal margins will be a little bit lower. And that's kind of the updated guidance for the year. Higher growth in a more challenging market, more demand for our 10-nanometer products that we're ramping as we -- ramping yields as we expected with more volume all else equal will have a modest impact on our gross margin for the full year. Thank you.

Operator

Thank you. Our next question comes from Timothy Arcuri with UBS. Your line is now open.

Timothy Arcuri

Hi, thanks. I wanted to ask also on the same manufacturing topic. So, I think, Bob, when you were talking about Ponte Vecchio, I think you said that you're going to package it internally, but it seemed like you were implying an external foundry contingency, even for this first GPU product. I guess, my question is, did I read that right? And also, I wanted to ask George, what the long-term implications are, if you move to somebody else's fab? What does this do to your 57% to 63% long-term gross margin? And how does it impact free cash flow? I mean, obviously, it saves you on CapEx but can it be accretive to free cash flow?

Bob Swan

Yes. On Ponte Vecchio, originally the architecture of Ponte Vecchio includes an IO based die, connectivity, a GPU and some memory tiles, all kind of package together. That's kind of the design of Ponte Vecchio. From the beginning, we would do some of those tiles inside and some of those tiles outside, and again leverage the packaging technology as a proof point of how do we mix and match different designs into one package. So, that was the design from the beginning. And again, when we talk about disaggregation, more flexibility, optionality in our designs, use some stuff inside some stuff outside, Ponte Vecchio is really -- Ponte Vecchio on the data center side and Lakefield on the client side, were kind of our test products, both -- one of which we've launched, the other one which is in development. So, that design disaggregation gives us lots of flexibility.

As we go forward now, we can think about whether we introduce Ponte Vecchio with -- I think, I said some of those tiles are inside and outside from the beginning. Now, as we go forward, we can assess whether we swap out one of our tiles for a third-party foundry or not. Again, that's the beauty and value of this change and design methodology that gives us much more optionality and flexibility. So, in the event, there's a process slip, we can buy something rather than make it all ourselves.

George Davis

And with respect to the long-term outlook, first off, our long-term margin outlook is not 57%, we've talked about it being well above that over time. But in terms of as we dynamically move, potentially move product depending on where it is best provided, I think that certainly gives us more flexibility to optimize our capital spend, get a higher return on that capital spend. And it should be accretive to free cash flow. So, we talked a little bit

about that actually back in May of '19 that embracing the ecosystem and balancing some of our activity externally is going to be important as we look to improving returns over time.

Operator

Our next question comes from Weston Twigg with KeyBanc Capital Markets.

Weston Twigg

I wanted to ask about the data-centric revenue heading into Q3. The mid-single-digit decline year-over-year implies a pretty big decline from Q2. You helped a little bit on the call, but I'm wondering if you could help us better understand the reason for that big quarterly drop. And kind of as an aside, you also mentioned increased competition in DCG in the second half, and I'm just wondering what exactly you were referring to on that side?

George Davis

As you look at the data-centric revenue, we'll see a number of factors that play. Obviously, year-over-year you're going to see the impact of the fall of in IoT and in Mobileye. But what we're seeing in the data -- or the DCG side is, we think we peaked on cloud in the second quarter, and it was an all time record, so not a bad peak. We've probably peaked back in Q4 of '19 on enterprise and government. And while it was reasonably strong in Q1, it's -- you can see it coming down over the next few quarters. It may have -- it often has a little bit of a bounce in Q4, we'll have to see. And our comms provider, I would say, we expect Q2 to have been a peak there.

And it'll start rolling off from there. So, everything on the DCG side is got a step down from a very strong Q2 and probably continues down on cloud and comms as our current outlook. Does that help?

Weston Twigg

Yes. That's helpful. And then, the comment on increased competition in DCG in second half?

George Davis

Yes. We expected, based on the competition's product roadmap that we would see increasing competition in the second half of this year. We also thought -- we've been a little bit pleasantly surprised in the strength of the demand for our products in the first half of the year and it's continuing into the second half. So, we don't think the impact will be quite as large

competitively in the second half as we had thought. And as I said on PC, we think we're going to actually gain share.

Bob Swan

When we guided back in January, in the context of our guidance, we made that statement. So, George is just reiterating that we see a more competitive world and we'll be prepared to deal with it. And we factored that into our outlook for the second half of the year.

Trey Campbell

Operator, I think, we have time for one more question, and then we'll turn the call back over to Bob to wrap things up.

Operator

Thank you. And our final question comes from Srini Pajjuri with SMBC Nikko.

Srini Pajjuri

Thank you, George. I have a question about your guidance for the full year. I think, it implies DCG declining again in Q4, pretty much in double-digit sequentially. So, just trying to understand, I mean is it primarily because of digestion that you talked about? And also, if you can talk about to what extent do you have visibility into Q4 or are you just taking a conservative stance because you just simply don't have visibility into Q4?

George Davis

I think, as I said on the last question that we have a reasonable view that spending is going to be coming down in the cloud and in enterprise and even comms, off very-high levels. And we expect that we continue into Q4. And so, again, I think, when we look at the full year, stronger than expected overall. This would be -- in many ways, we're delighted to be as close to our forecast as we were given all of the things going on in the world. But again, we've seen very strong demand peaking for cloud in the third quarter -- excuse me, the second quarter, peaking for comms in the second quarter, and it's just going to be a period of a little bit of digestion as one would expect.

Srini Pajjuri

Thank you.

Bob Swan

Yes. Let me just kind of close out and end where we began. First, over the last couple years, as you know, we've expanded our TAM in the quest to play a much larger role in our customers' success by investing in key leading technologies like 5G, AI and intelligence at the edge. And we feel pretty good about the investments that we've been making. And last year, we wrapped up our year best year in the Company's history, entering2020. Obviously, this year has been an incredibly challenging year on multiple fronts. But, at the same time, we expect '20 to be the best year in our Company's history, our fifth record year in a row, delivering better results than we expected in January at a time when the market is worse than we expected. So, competitively, we feel stronger as we exit 2020.

Third point I'd make is our execution is improved. Capacity and supply is in place. We're ramping a slew of 10-nanometer products across our portfolio. We are ramping 10 faster than we had planned. And we have a strong pipeline over the next several years. And we believe we can deliver another node of performance on 10-nanometer itself.

Fourth point, at the same time, our 7-nanometer products will be delayed. We pushed out the timing of the 7-nanometer node. But along the way, we have taken steps, die disaggregation, advanced packaging, deeper engagement with the ecosystem and contingency planning as a sign of strength, not as a sign of weakness that gives us much more flexibility to make the decisions where it's the most effective way to build our products to deliver that annual cadence of leadership for our customers. And we feel pretty good about where we are, though we're not happy. I'm not pleased with our 7-nanometer process performance. But, as we sit here today, six months through the year, our people are safe. We're delivering for our customers. The communities we operate in are better as a result of our presence and the passion of our employees for making a difference. And next 90 days from now, we'll talk more about our efforts to create world-changing technologies that continue to enrich the lives of every person on earth.

So, thanks for joining us. And we'll talk to you soon.