Q3 2021 Earnings Call

Company Participants

- George Davis, Chief Financial Officer
- Pat Gelsinger, Chief Executive Officer
- Tony Balow, Head of Investor Relations

Other Participants

- Blayne Curtis, Analyst
- C.J. Muse, Analyst
- John Pitzer, Analyst
- Joseph Moore, Analyst
- Matt Ramsay, Analyst
- Pierre Ferragu, Analyst
- Ross Seymore, Analyst
- Stacy Rasgon, Analyst
- Timothy Arcuri, Analyst

Presentation

Operator

Thank you for standing by, and welcome to the Q3 2021 Intel Corporation Earnings Conference. At this time, all participants are in a listen-only mode. After the speaker presentation, there will be a question-and-answer session. (Operator Instructions). I would now like to hand the conference over to your host, Vice President and Director of Investor Relations Tony Balow. Please go ahead.

Tony Balow {BIO 21936645 <GO>}

Thank you, Operator.

Welcome to Intel's Third-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 are available on our investor 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, Pat Gelsinger; and our CFO, George Davis. In a moment, we'll have brief remarks from both 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, it 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 will be speaking to the non-GAAP financial measures when describing our consolidated results. The earnings presentations and earnings release available on intc.com include the full GAAP and non-GAAP reconciliations. With that, let me hand it over to Pat.

Pat Gelsinger {BIO 1740128 <GO>}

Thank you, Tony and good afternoon everyone. Q3 was a solid quarter where we navigated the challenging supply environment to deliver year-over-year growth in the topline while beating expectations on gross margin and EPS. We had record third quarter revenue a DCG and Mobileye while IOTG had an all-time record as it continued its recovery from COVID slowdowns.

Our focus on execution continued as we delivered on our initial IDM 2.0 commitments. We broke ground on new FABs, shared our accelerated path to regain process performance leadership and made our most dramatic architecture announcements of the decade.

We also announced major customer wins across every part of our business, including in the data center with AWS and Google. New Evo designs and client and exciting Mobileye partnerships with ZEEKR and Sixt SE. The demand for semiconductors remained strong and our factories performed exceptionally well in a highly dynamic environment where match sets post huge challenges for our customers and overall industry supply remained very constrained. The resilience of our factory network was on display delivering considerable upside and reacting to rapid demand shifts reinforcing the unique and strategic value of IDM 2.0.

While we are still in the early stages of our journey we are getting better every day. It is clear that we have to move even faster be even more nimble and invest now to achieve our goals of undisputed leadership down the road. I can see the enormous potential that lies ahead and I could be prouder of the Intel team and the progress that we are making.

Let me begin with what we're seeing in the market. Demand remained strong across all of our segments and I continued to believe that we're just starting a cycle of sustained growth, which we are well-positioned to capture. The digitization of everything accelerated by the four superpowers of AI, pervasive connectivity, cloud to edge infrastructure, and ubiquitous compute are driving the sustained need for more semiconductors and the market is expected to double to $1 trillion dollars by 2030.

In that timeframe. The market for leading-edge nodes will rise to be over 50% of the total. While the market for leading-edge foundry services will grow at twice the rate of the semi industry overall. We are one of the few companies with both the technical and financial resources to win in a market that is increasingly leading edge and challenged by the extreme physics of rejuvenated and continuing Moore's Law. PC demand remains very strong and we believe the 2021 TAM will grow double-digits even as ecosystem shortages constrain our customers ability to ship finished systems. Dell, HP, Lenovo, along with other OEMs and ecosystem partners agree that PCs are now a structurally larger and sustainably growing market.

As we head into 2022. We expect the ecosystem supply situation to gradually improve and the PC market will continue to grow as tailwinds from win-11[ph] hybrid work models a larger installed base and compelling new platforms drive PC density, shorter replacement cycles, and penetration of new markets.

Against this backdrop, our products have strong momentum driven by compelling platforms including 30 new EVO Tiger Lake designs for 13 of our OEMs. Tiger Lake has shipped more than 70 million units this year, making it our fastest ramping notebook ever. We are raising the bar again with Alder Lake our first performance hybrid architecture product, which I am pleased to say began shipping in Q3 on Intel 7 and we'll start to launch next week at innovation.

The Alder Lake family will offer customers significant advantages across a range of workloads including gaming, content creation, and AI acceleration. Alder Lake will scale from ultra mobile to desktop and we'll go to market across our range of segments, form factors, and power envelopes faster than any new architecture in Intel's history.

Turning to the Data Center, new and existing workloads continued to move to the cloud, security and privacy requirements are driving enterprise deployments and the 5G build out is powering networking. I remain confident about the long-term of the data center despite regulatory changes in China and short-term ecosystem supply constraints impacting some customers. Customers continue to choose Intel for the data center needs and our third-gen scalable Xeon Processor Ice Lake has shipped over 1 million units since launching in April and we expect to ship over 1 million units again in Q4 alone.

All of our OEMs are currently shipping systems and we expect all our major cloud customers have announced instances[ph] by the end of the year. This includes Google as well as AWS who have already launched their highest performing Xeon EC2 instances ever. A tremendous milestone resulting from our close collaboration of almost 15 years. Looking ahead, customers remain very excited by Sapphire Rapids, which we expect to have in production in Q1.

Sapphire Rapids sets the standard for next-generation data center processors. It was recently selected by the US Department of Energy to power compute-intensive modeling supporting their stockpile stewardship program. In core and mobile networks Intel is powering the transformation to virtualized cloud native deployments. 50% of new core network deployments are now running on off the shelf servers and we expect that to increase to over 80% by 2024.

The next generation transformation is the virtualization of the Radio Access Network known as VRAN. We are working with service providers globally to enable this transition including Verizon, Rakuten, Dish Network, and others. Today nearly all early commercial deployments are running on Xeon and our FlexRay and Software Reference architecture. We see tremendous opportunity in VRAN and in Q3 we announced the collaboration with Juniper Networks to accelerate future deployments.

Overall, we expect global VRAN base station deployments to move from hundreds to hundreds of thousands and eventually millions with private 5G over the next several years. Finally edge compute needs continue to grow and our IOTG business had an all-time quarterly record in Q3. And mobility. The market for automotive silicon is expected to more than double to $115 billion by the end of the decade as AVs begin to move from the garage to the street.

Mobileye is helping to lead this change and we recently announced that we will begin offering driverless Robotaxi service starting next year, in collaboration with Sixt SE. From PC the data center to the network to the edge Q3 was full of examples of the increasing need for semiconductors and we're customers continue to choose Intel.

Since my return we've normally laid out our roadmap for success, but more importantly, we've already started executing and what I'd like to say is a torrid pace. Back in March when we unveiled our powerful new IDM 2.0 strategy I outlined our course for a new era of innovation at Intel where I committed to; one, expand our internal and external manufacturing to address unprecedented global demand for semiconductors. Two, open our doors to be a world-class foundry. Three, regain process leadership. Four, deliver leadership products in every category in which we compete.

We are driving progress in every area. So let me talk through each one starting with how we are expanding our manufacturing capacity and our Foundry business. Our factories are executing superbly and construction is on or ahead of schedule across all major sites. Last month, we broke ground on our two new fabs in Arizona, three months ahead of schedule. As we expand capacity we're using a smart capital approach so that we can adjust quickly to opportunities in the market and to gain share while managing our margin structure and capital spending.

There are three elements to Smart Capital. First, we are focused on aggressively building our shelves[ph], which are the smaller portion of the overall cost of a fair but have the longest lead time. Having available shelf space gives us flexibility and how and when we bring additional capacity online.

Second, we will make effective use of external foundries leveraging some of their unique capabilities to ensure we are delivering leadership products. We're already one of the largest foundry customers and this quarter we announce the key products such as Meteor Lake and Ponte Vecchio will leverage third parties for some of their titles.

Finally, we expect our plans to benefit from investments from governments who understand that a healthy semiconductor industry is vital to their economic well-being and National Security with bipartisan support in both houses. We are hopeful the chips act will be passed by the end of this year, allowing us to accelerate decisions for our next

US site. This will also enable a more level playing field with our competitors who enjoy significant support from their governments.

We've also seen considerable interest in the EU with the European chips act and the process to select our next site in Europe is proceeding rapidly. Intel remains the only global company committed to building a leading edge foundry in the US and Europe for customers around the world. Together IDM 2.0 with smart capital uniquely positions for an enormous and unique market opportunity, including our foundry ambitions.

IFS will enable Intel to grow faster, expand monetization of our process and packaging capabilities, leverage our design IPs more broadly, and provide sustainable superior cash flows from our assets. Since March we have shipped our first IFS packaging units for revenue, engage with well over 100 potential customers including several large customers who are working with us on our leading edge Intel 18A and we have multiple customers planning test strips and Intel 16 that will be in our factories early next year.

We also had a significant win with the US government which selected Intel to provide commercial Foundry Services in the first ramp of its ramp C program. We are proud of this achievement and the confidence the US government has in us to deliver them a trusted foundry capability. In July at our Intel accelerated event, the team and I share the most detailed road map, we've ever provider for process and packaging technologies. A roadmap that brings us to performance parity in 24 and clear leadership in 25.

I am happy to share that Intel 7, Intel 4, Intel 3, Intel 28, and Intel 18A are all on or ahead of the timelines we set out in July. For example on Intel 4 we said we have taped out our compute tile for Meteor Lake and this quarter, it came out of the FAB and powered up and within 30 minutes with outstanding performance right where we expected it to be.

All told, this is one of the best lead product start-ups we have seen in recent memory, which speaks to the health of the process. In fact, we are using a pre-production release of Intel 4 in our newest Neuro Morphic Computing Chip Loihi 2. Finally, on the product front, we are intent on delivering leadership products in every category in which we compete. In August at our Architecture Day we started delivering on that promise we made five major architecture announcements, our most dramatic updates in the last decade.

We introduced hybrid computing with two new generations of x86 cores enabling power-efficient designs that our performance for the most demanding workloads. We unveiled our Intel Arc brand for discrete graphics, starting with our Alchemist product, which will be on shelf in Q1 of next year. We continued our central role in the evolving data center landscape with Mount Evans our first ASIC based infrastructure processing unit or IPU.

Developed in close collaboration with a major cloud provider our IPUs enabled superior security capabilities and let our cloud customers move infrastructure task off the CPU thereby allowing them to rent 100% of the CPU capacity to their customers. We also gave additional detail on Sapphire Rapids and it's compelling AI and accelerator capabilities and last but not least, we opened the curtain on Ponte Vecchio with our highest ever compute density, the 100 billion transistors device delivers industry leading flops to accelerate AI HPC and advanced analytic workloads. Early Ponte Vecchio silicon is already demonstrating leadership performance setting an industry record in both inference [ph] and training throughput on popular AI benchmarks.

Next week at our Intel innovation event, we will take the next step forward. With a renewed commitment to developers and a host of new tools, technology, and product announcements, announcements that really underscore how we are rapidly bringing the key back. As I have said, we are repositioning the company for long-term growth and we are analyzing the investment plans required to achieve our goals and provide attractive long-term results for our shareholders.

It is abundantly clear to us that we must invest in our future right now to accelerate past the rest of the industry and regain unquestioned leadership in what we do. Our investment plan is aligned with our IDM 2.0 strategy to rapidly build our manufacturing capacity in response to the expanding market grow our share and to accelerate innovation enabling Intel to leap ahead with new businesses and capabilities in the future.

The recent reorganization around these businesses along with the new leadership we have added is already having an impact. However, our CFO, George Davis recently advised us that he has decided to retire in the first half of next year. We are very grateful to George for his dedicated surface and the leadership with the company and he will be working with us for a smooth transition. We are currently engaged in a search for George's successor and he is helping us with the process. I naturally want to give his successor an opportunity to participate in optimizing our long-range plan and we would not want to hold a critical Investor day without the new CFO being in place.

As such, we have decided to move our event to February 17 of next year. This has the added benefit of hopefully being a more in-person event while giving us a better view of the government investments from which we expect to benefit. We have made this decision for very practical reasons of George's retirement. The company is running well. We are confident in our process technology and product road maps. Our business is healthy and our markets remain strong and above all, we are executing on our plan. Given the new timing of our Investor Day, I do want to take this opportunity to paint a general picture of what our plan looks like and George will share a few more details in a few minutes.

We have a huge opportunity with new businesses and graphics, networking, foundry, and mobility all large and growing segments. When combined with the continued expansion of our current client and data center markets we cannot and will not miss this opportunity. Investing now will enable us to reposition the company to deliver double-digit revenue growth, as these investments pay off. While these investments will pressure free cash flow in the short term our operating cash flow will remain strong reflecting the high quality of our business and we remain committed to a healthy and growing dividend.

As with free cash flow our gross margins will be below current levels for the next two to three years before recovering, but we'll remain comfortably above 50% as we continue to exercise financial prudence. We have the utmost confidence that our investment plans will ensure the company's long-term success and deliver attractive returns for our shareholders. I look forward to sharing the details with you in Q1 and I am confident you will agree.

Before I turn it over to George let me finish by saying that when I came to the company. I had three goals for the year. Create this strategy, build the team, and rebuild the culture and execution machine. We are only eight months into the journey but we have already achieved a lot.

We now have a clear strategy. We've built the team by bringing in new leadership and adding over 6,000 new engineers to bolster our incredibly talented team. We've reorganized our business units to focus on our key markets and starting next year, we expect to begin breaking out our results to more closely align with these changes and to drive increased visibility and accountability.

And finally, as I outlined today, momentum is building as we drive a path to our roots of execution and innovation. The entire Intel team understands the work we have ahead of us, but we remain confident about our future. We have the right strategy, the right team and, we are motivated to win. I remain convinced that our best days are still ahead.

With that let me turn it over to George.

George Davis {BIO 3925391 <GO>}

Thanks, Pat, and good afternoon everyone. We delivered solid results with revenue up 5% and gross margin up 130 basis points year-over-year, driven by strong demand in our DCG and IOTG businesses. Despite the highly constrained industry-wide supply environment. Q3 revenue was $18.1 billion slightly below our guide due to shipping and supply constraints that impacted our businesses. Demand remains strong in our PC business with particular strength in commercial, desktop, and higher-end consumer notebooks offset by inventory digestion and lower end consumer and education segments.

Gross margin for the quarter was 57.8% exceeding guide by 280 basis points, primarily due to an increased mix of desktop and premium notebook products. Q3 EPS was $1.71, up $0.61 versus guide, $0.47 of this beat is predominantly due to a McAfee related special dividend associated with the divestiture of the enterprise business and a one-time tax benefit.

We had a strong operating beat of approximately $0.14 per share as well, largely driven by demand for higher-end products in client and lower operating expenses relative to guide. In Q3 we generated $9.9 billion of cash from operations and free cash flow of $5.9 billion and paid dividends of $1.4 billion.

Moving to segment performance in the quarter CCG revenue was $9.7 billion, down 2% year-over-year on a challenging compare and continued industry-wide component shortages that are restricting lower-end system sales. Note that when excluding the impact of ramping down our Apple CPU and Modem businesses CCG revenue is up approximately 10% year-over-year, this highlights the strong execution and underlying demand in our client business.

Platform ASPs in client were up 9% year-over-year and 16% sequentially on increased desktop volume and a richer mix of premium notebook products. Operating income was $3.3 billion, down $237 million year-over-year primarily due to increased investments in our technology and product roadmap.

DCG revenue was $6.5 billion, up 10% year-over-year on continued recovery in our enterprise and government segment and Ice Lake ramp. These results were slightly below expectations due to industry-wide component supply constraints that primarily impacted our enterprise customers and areas of softness in PRC including cloud as customers adapt to new regulations.

Platform, ASPs were up 3% year-over-year on improved mix driven primarily by increased enterprise and government volume. Operating income was $2.1, up 8% year-over-year on higher revenue, partially offset by increased investments in our technology and product roadmap. IOTG achieved all-time record quarterly revenue of $1 billion, up 54% year-over-year on a broad-base recovery from COVID driven lows with particular strength in the industrial and retail segments. Operating margin was $276 million, up 352% year-over-year returning to pre-COVID levels of profitability.

PSG revenue was $478 million, up 16% year-over-year. Demand continues to significantly exceed supply impacting Q3 results and Q4 forecast. Operating margin was $76 million, up 90% year-over-year. Mobileye revenue was $326 million, up 39% year-over-year and achieved an all-time Q3 record.

Operating margin was $105 billion up 123% year-over-year. Mobileye continues to execute well winning key design and rapidly growing revenue and profits. Moving to our Q4 outlook, we are forecasting $18.3 billion in revenue, up $200 million quarter-over-quarter with DCG seeing modest -- more modest growth than previously expected as China demand and supply challenges persist. CCG is expected to be relatively flat quarter-over-quarter as strong demand for our higher-end products, bolstered by the launch of Alder Lake are being offset by weaker OEM demand for lower-end products as they prioritize their limited component supply to support higher end system sales.

We see our Edge Businesses continuing to recover year-over-year from COVID related impacts. Gross margin is expected to be approximately 53.5%, unchanged from prior expectation and continues to include the impact of a one-time charge related to our Intel federal business excluding this charge gross margin be approximately 55%, down 3 points quarter over quarter on new product ramps and factory start up charges. We are forecasting EPS of $0.90 per share and a tax rate of 13%.

We had previously expected $0.13 of the Q3, ICAP gain to have occurred in Q4, which accounts for the change from prior Q4 expectations. Turning to our full-year outlook, we are holding revenue guidance at $73.5 billion with gross margin of modestly 57% and EPS of $5.28, up $0.48 from our prior guide. Consistent with the investment mode we are in under IDM 2.0 we expect CapEx of $18 million to $19 billion and free cash flow of approximately $12.5 billion, up $1.5 billion versus prior guidance. In our CCG business we expect full-year revenue to be approximately flat year-over-year as growth from an increasing TAM is offset by the ramp down of our Apple modem and CPU revenue and the exit of our home gateway business. Adjusting for all of the Apple and home gateway business CCG would have been up approximately 9% year-over-year.

For DCG we expect full-year revenue to be down low to mid single digits year-over-year due to a more competitive environment consistent with our expectations lower demand from China and industry-wide component supply constraints.

Before moving on to some comments on our longer-term performance I want to briefly cover changes to our non-GAAP reporting beginning in 2022 to more closely align with our semiconductor peers. First, we will be removing stock based compensation from our operating segment and non-GAAP results.

Secondly, we will exclude all gains and losses from our ICAP portfolio, the change that allows better comparability between periods by eliminating large variations and performance as we saw this quarter. We also expect to align our segment reporting with our announced new business unit configuration. We will have more details on what to expect here next quarter.

Moving to long-term financial guidance. As Pat mentioned, with the movement of Investor Day to Q1. We want to provide some insights into the early years of our plan. First, our revenue outlook reflects fundamentally strong TAMs across our operating businesses with growth driven by our leadership products. We see revenue in 2022 of at least $74 billion despite ongoing supply constraints. As supply normalizes and our investments add capacity and drive leadership products into the marketplace we expect to see our revenue growth accelerate to 10% to 12% CAGR over the next four to five years.

For gross margin with the impact of our investment in capacity and the acceleration of our Process Technology we expect gross margins between 51% and 53% over the next two to three years before moving upward. We are in a time of accelerated investment and capital process no acceleration and R&D as the foundation for changing the trajectory of the past few years.

In alignment with our IDM 2.0 strategy we are forecasting 2022 CapEx of $25 billion to $28 billion with potential for further growth in subsequent years. We believe our investments position the company for very attractive long-term returns. Before I hand off to Q&A as Pat mentioned, I plan to retire from Intel in May next year. I have been a public company, CFO now for 15 years and it is time for me to spend more time with family and friends as part of the next chapter in my life.

It has been a true privilege and frankly quite exciting to work with Pat an dthe leadership team on the launch of IDM 2.0 and I look forward to following our transformation over the next several years. There is no company like Intel and the immense talent here serves as a wonderful foundation for the transformation ahead.

With that let me turn it back over to Tony and get to your questions.

Questions And Answers

A - Tony Balow {BIO 21936645 <GO>}

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 the first caller.

Operator

Our first question comes from the line of Joseph Moore of Morgan Stanley, your line is open.

Q - Joseph Moore {BIO 17644779 <GO>}

Great, thank you. I wonder if you could talk about the gross margins next year. You know what is the, you talked about investment in 10 nanometer. But you took those ramps this year, is it the sort of simultaneous ramp of 10 and then start-up cost of 7 that pull that down and why wouldn't you recover from that in subsequent years, as you mature deals thereafter.

And I also wanted to ask, just as a follow-up does the accounting change with the numbers have been lower. If not for the change to take stock compensation out of the numbers.

A - Pat Gelsinger {BIO 1740128 <GO>}

Let me start with the margin question and I will ask George to step and help. First, I just say, this is a pivot point for the company. We are repositioning Intel for growth to be a long-term growth company. We see the massive opportunity that we have. Near-term, we could have chosen a more conservative route with modestly better financials, but instead the board, the management team, and this is why I came back to the company choosing to invest to maximize the long-range business that we have.

Overall, these are great markets that we're going to be leaning into with very unique positions that we have with our technologies and products. As you look specifically for next year's margins we see the decline is driven really by two factors, one is the new manufacturing nodes and as you've heard us say we're going to rapidly move through our 5 nodes in four years and this will have pressure on the margins near term as we ramp those up. But we'll quickly at an accelerated pace give us leadership capabilities that will improve margins over the horizon. We're also investing in our future.

These investments that we're making now in our road map will pay off as those products return to leadership, leadership products to get leadership pricing which we get leadership margins. So, as we said in our prepared remarks comfortably above 50% and we're confident in the multi-year recovery of the margins that result from again competitive process, competitive products, will produce great results for us long term.

So overall, a couple of years of pressure returning over that horizon, as we see these growth areas and our data center, our client business and these four new growth markets the networking, graphics, mobility autonomy, foundry and we've made a strong choice. We're going to be decisive and we're very transparent. All right and the upfront relaying out and understanding of where we're going and we elected to give that guidance earlier than we might have otherwise, not just for next year, but over the horizon as well.

So, now is the time and we're making that decision boldly and aggressively. George do you want help in the last part of the question?

A - George Davis {BIO 3925391 <GO>}

Yes happy to. Hey, Joe. The -- we're announcing the accounting change in 2022, just to give people heads up. It's -- we think it's a pretty modest impact on gross margin, so it works within the range that we've given for the next couple of years. Obviously, we guided the next two to three years not 2022. And so, Pat, did a good job of laying out what are the key drivers there and the changes that we're doing on the accounting side really we are out of alignment with the industry on stock-based comp and we're also I think like you probably we just assume not see these large adjustments in a quarter that are for ICAP related activities and so we're taking that out of non-GAAP as well.

Quite frankly, with those two combined that was net accretive with those together over the last couple of years, but we think it's the time to make these change and we think it's consistent with what the industry has done.

A - Pat Gelsinger {BIO 1740128 <GO>}

The other factor that we did talk about is also starting to give accountable units against our new business unit structures as well, which will give increased transparency to the marketplace and we'll also give increased accountability internally to drive the execution that we're laying out.

So with that, Tony. Next question?

Operator

Our next question comes from the line of Ross Seymore of Deutsche Bank. Your line is open.

Q - Ross Seymore {BIO 20902787 <GO>}

Hi guys, thanks for letting me ask the question and George congratulations on your retirement. Kind of a similar question on the longer-term side of things, Pat. If I look back over the last decade, Intel has grown double digits. I think once in a single year. So talk a little bit about what gives you the confidence in the company being able to be a double-digit grower a couple of years out from now.

A - Pat Gelsinger {BIO 1740128 <GO>}

Well, thank you. And as we look at these markets, we see clearly the client business with CCG. We don't expect that to be a double-digit grower. We do expect growth coming from the client business and even the IDC now is agreeing with us on growth next year. We do see the opportunity for us to be a share gainer as well as gaining more of the bill materials of the clients as well. But our expectations, there are modest in the growth of the client business. Clearly, the data center business we do expect to see stronger growth and as our products get stronger and as we've noted with Sapphire Rapids next year and the road map over 23, 24 and 25, but we do see yourself in the position that will be gaining leadership, which allows us to have pricing margin improvements in that product line and data center is growing, but it isn't just the data center it's also these four new business areas that we've laid out.

And next to data center, the networking business, we have a very strong position already, but also the ability to reach into the network and the large growth that we see in the edge where Intel is very uniquely positioned and the edge market as the 5G becomes an open RAN platform. Also the Edge deployment smart factories, smart cities, we are very well positioned, and we expect to see substantial growth there. In the graphics area, we have a good business today in the integrated graphics, but the opportunity for us to reach into this large and rapidly growing GPU business, discrete graphics business, high-performance computing we are extraordinarily well-positioned to be able to satisfy what we see almost is insatiable demand in that area.

And then of course the Mobility business we're already well underway with our Mobileye business very unique technology position another great quarter from that team. And then finally, the great synergies we get from leveraging our core manufacturing assets as well as our process technology innovations and as we noted in the formal comments, over half of the technology industry is going to be leading edge right. In the second half of this decade, very few companies can do that and we're finding great interest for our foundry business to be able to satisfy those.

So if you think about the growth in the core business plus these major new business areas and we've done a lot of modeling against this and really built a very robust plan to go execute it we feel very confident in the double-digit CAGR that we described. We're excited about it. The teams are leaning into it and even better than that. Our customers are excited about it. And with that customer enthusiasm. I'm very confident in what we've described here we are leaning in now it's the time to make it happen and we're making the investments to realize that today.

Q - Ross Seymore {BIO 20902787 <GO>}

Thanks, Pat.

Operator

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

Q - John Pitzer {BIO 1541792 <GO>}

Yes. Congratulations, guys, thanks for letting me ask the question. (inaudible) comments for George, congratulations on the retirement. Pat, I wanted to dig a little bit deeper into the long-term growth rate question that Ross just asked. But specifically towards the foundry business, I'm kind of curious, when you think about the gross margin guidance next year and the long-term CAGR of 10% to 12% what's the impact of foundry, I'm assuming foundry is still going to be relatively small next year in the business and I'm just trying to get a sense as foundry grows, how big of a contributor is into that 10% to 12% long-term CAGR and how do we think about the margin profile there as it unfolds?

A - George Davis {BIO 3925391 <GO>}

Yes. Thank you. Great question, John. And there is -- first will be that the revenue impacts and the investment impacts of foundry are fairly modest in the next couple of years. They don't add that much to the top line, they don't track that much from the bottom line as we're really building that business now. It's really in the later years where you're going to start to see the revenue impact really start to matter and this is very typical of the foundry business takes a couple of years for a customer to pick a foundry, move a design, start to ramp it into the industry.

So really has minimal impact for the next couple of years and then it will start to really deliver in years four and five, and in the second half of the decade more significantly. With respect to margin we expect that we are in our foundry business having very similar margin structures to the leader in this business today and we see that as a good business maybe a little bit lower margin than our best product margins today but still would allow us to comfortably be above 50% as I said, in the long-term guidance that we laid out.

This is a great market for us to be reaching into it allows us to leverage the R&D investments that we have in process technology to more markets. Many of our AFP blocks as we open up the x86 architecture for increasing innovation. If we get to leverage enormous amounts of R&D for new monetization opportunities. Also, we're leveraging our smart capital strategy where we build shelves and we start that process early that allows us to get those investments in the ground to start building some of that IFF capacity, but it also allows to have capacity for increased market share gains and leveraging the balance between our internal and our foundry customers as well.

And to leverage government investments we expect will be driven substantially to benefit the IFS business. So we take all of that together, unique technology position, more flexible and leverage capital positions, unique IP benefits that we bring to it. We're seeing great interest from our foundry customers already and we're seeing that on mature nodes like our Intel 16 but very much from some of the largest customers in the industry with our leading edge technologies where we're getting a lot of excitement to be on the best transistors that are available on the planet with the manufacturing capacity that we can bring. We see this as a great complement to our business and so far things are going, even better than I would have thought when I announced this business early in the year.

Q - John Pitzer {BIO 1541792 <GO>}

Helpful. Thanks, guys.

A - Pat Gelsinger {BIO 1740128 <GO>}

Thanks John.

Operator

Thank you. Our next question comes from Stacy Rasgon of Bernstein Research. Please go ahead.

Q - Stacy Rasgon {BIO 16423886 <GO>}

Hi guys, thanks for taking my questions. I wanted to ask a question on the current quarter results specifically data center ASPs so cloud was down 20% year-over-year. Enterprise was up 70% year-over-year and yet your ASPs were down -- were down pretty materially sequentially like how do I reconcile that given the mix there, especially with the Ice Lake ramp and everything should have gotten much better. What happened with data center ASPs in the quarter.

A - Pat Gelsinger {BIO 1740128 <GO>}

Yes, a couple of things Stacy. First, the mix of products in the quarter were more weighted towards what I would call ACC products down from ASP standpoint from our XCC and that -- part of that is coming out of the lower cloud than we expected. I would say the other piece is, we saw bounce up in our network SOCs and as you know, those have much lower ASPs and tend to be dilutive to ASP and that was relative to Q2.

Q - Stacy Rasgon {BIO 16423886 <GO>}

But enterprise is up 70% like shouldn't the mix has gotten much better like what impact was a competition[ph] or anything else, it seems like the there has to be something else going on, it can't just be mix?

A - Pat Gelsinger {BIO 1740128 <GO>}

Yes. One is the SOC the enterprise piece is, as I said, is a mix of products that we saw, it was skewed down from our XCC in the quarter with enterprise as well.

A - George Davis {BIO 3925391 <GO>}

But the ASPs of any individual product line we're still very in line with our normal ASPs for those individual products, Stacy. So overall, we just say it was a mix discussion this quarter, it wasn't an ASP discussion at that level, even though right you average those together you get different effects also, as we said for the data center business. We did have some unique issues in China this quarter, which led to some different behavior in that business. Some of the regulatory issues there.

So overall not where we would have expected the data center to be for the quarter, but still a very strong performance and we're happy with the growth that we're seeing in that business and as we've indicated, the momentum of Ice Lake is growing, Sapphire Rapids great interest in that product. So we're seeing that the overall competitiveness and the growth of that business area is looking very good for us for the future. We're excited about it and everything is going as we would have hoped for that business.

Q - Stacy Rasgon {BIO 16423886 <GO>}

Are those trying[ph] to regulatory issues permanent?

A - George Davis {BIO 3925391 <GO>}

As you might have seen there has been some regulatory questions around gaming in China. Right and all of the cloud vendors are adjusting their offerings[ph] to meet that new regulatory environment, so we expect there is a quarter two for them to digest what they would look like. We do expect that market to recover going forward.

And as you're probably aware, we have uniquely high market share in the Chinese cloud market. So as it recovers, we expect a nice recovery in that business area for us and we expect that there will be a return to normalcy next year in that area of our business.

A - Pat Gelsinger {BIO 1740128 <GO>}

And just for added clarity we expect it to continue in Q4.

A - George Davis {BIO 3925391 <GO>}

Yeah. Next question.

Operator

Our next question comes from Timothy Arcuri of UBS. Your line is open.

Q - Timothy Arcuri {BIO 3824613 <GO>}

Thanks a lot, George I wanted to ask about gross margin puts and takes more over the longer term. So, you're saying 51 to 53 over the next couple of years and then kind of moving higher after the next few years but at the same time, CapEx is also going to 25 to 28 next year and it sounds like it might be higher than that and the appreciation still only $11 billion right now.

So that's going to obviously go up a lot too. So I think that the obvious question is going to be how believable it is that gross margin can ultimately come back, given that I would think that depreciation is going to really be ramping in those years. So can you just sort of hold our hand there in terms of how believable what is the gross margin can come back when there is such a gap between depreciation and CapEx. Thanks.

A - George Davis {BIO 3925391 <GO>}

Yes. For sure. First off, I think part of the reason for spending this amount of CapEx is to catch up with the capacity shortfalls that we've had, and also to build in more flexibility. These things all support higher revenue over time which helps absorb as you know, some of the depreciation. That being said, it will be growing, no question. Our depreciation impact will be growing over the next couple of years. The impact of (inaudible) costs, which is the -- all the investment that is going on outside of depreciation in the note acceleration that Pat has been talking to that has a big impact particularly over the next few years, because of the number of nodes that are being worked in parallel.

So we think that gets better coming out of this period and we've had a pretty reasonable assumption inside of our gross margin estimates for how much unit costs are going up and then how much of that you can recover and ASP.

So there is no big missing element. I think it's, we expect to, as we've said, we expect to grow in to our investment and we expect the investment in no compression takes less of a toll as we come out of this period.

A - Pat Gelsinger {BIO 1740128 <GO>}

Yeah. And ultimately, we're making those investments in node compression to get more competitive products and more capabilities and as the products get more competitive better pricing, better margins, which enables us to have not only better gross margins, but obviously we will have the flow through benefits into cash flows as we are impacting our CapEx investments.

So all of these things start to generate positively as we get back on top of our competitive position and as we said, we've had an extraordinary quarter since we last met every one of our process nodes that we described. Some said when we described 5 nodes in four years. That has never been done in history and we said that's right and we're going to do it. And as I updated in the formal comments, all of those nodes Intel 7, Intel 4, Intel 3, Intel 20A, Intel 18A on or ahead of schedule, relatively speaking we're closing the gap on the industry probably even more rapidly than I would have expected just a quarter ago and as a result of that these investments will be producing superior products with superior pricing and margins more rapidly than we would have forecast even a quarter ago.

So overall we think all of these things are now starting to play together, obviously we have a couple of years to work through but this is going to be a great outcome. And we think all of our aggressive lean ins right now are going to be handsomely rewarded in the marketplace to our customers and to our shareholders over time.

Q - Timothy Arcuri {BIO 3824613 <GO>}

Thank you, Pat.

Operator

Thank you. Our next question comes from CJ Muse of Evercore ISI. Your line is open.

Q - C.J. Muse

Yes, Good afternoon thanks for taking the question. I guess a question on CapEx. So you've outlined a higher number for calendar 2022. But as I think about and contemplate higher intensity at the bleeding edge node it appear that would really be for Intel only, so should we be thinking about a step up above and beyond that level as you build out capacity for IFS over time. And then second quick question around that, are you making any changes to how you're accounting for depreciation like tile[ph] on equipment or buildings or any anything like that is part of the accounting changes that you've outlined today. Thank you.

A - Pat Gelsinger {BIO 1740128 <GO>}

Yes. So the initial CapEx of use, obviously as you said, building out a shell capacity, building flexibility into it as George indicated and subsequent years, might be going up a bit more, but as we've also said, we do expect to see the opportunity for governments investments to enable us to go bigger and faster on our CapEx investments.

So the numbers that we've given reflect the initial build-out of our foundry business. So we feel comfortable in that. And we've also described our smart capital strategy that gives us more flexibility for what we do internally, what we do on our foundries, the ability to benefit from government investments, rhe flexible build out of shelves, and overall we see these investments allow us to grow right and grow share, right, gain foundry customers where as those get committed, right.

We will build out the specific capacity and then balancing a foundry, which enables us to leverage industry capacity as well as our own and everything we bring internally where we have better margins associated with it. So overall, we think it's a very uniquely powerful resilient and favorable strategy for us to execute over time.

A - George Davis {BIO 3925391 <GO>}

Yes and C.J the accounting changes that we're talking about. Number one are to increase transparency into the business by breaking out the segments, the way Pat has been describing the segments or the markets that we're going to be addressing.

The other changes are really just to align with the industry. So when people look at our non-GAAP numbers, they're going to see the same basis for that as most of our peers and so no accounting changes that we're talking about that relate to how we treat depreciation of assets.

A - Tony Balow {BIO 21936645 <GO>}

Next question.

Operator

Thank you. Our next question comes from Blayne Curtis of Barclays. Please go ahead.

Q - Blayne Curtis {BIO 15302785 <GO>}

Good afternoon. Thanks for your questions. Two on gross margin. One just near term the federal impact in Q4, this reminds if that continues in the first half and then you're starting at 55 when regarding long-term kind of 51 to 53. Do you think it's pretty clear as you ramp more Intel 7 products, the margin has been going down substantially. So I'm just trying to think value, probably don't want to guide next year but trying to figure out within that range. Are you going to be closer to the bottom of it as you ramp more of the client fee across their majority of Q4 and then (inaudible) servers on the way as well. I'm just trying to understand the impact in the near term here on gross margin and then kind of just long-term as well.

It doesn't seem like with your comments, Pat it does require that double-digit top line. So just want to understand, I think a lot of people may -- I think the categories maybe half of that on this call. So just going to trying to understand how flexible, you could be as it relates to the gross margin line with your spending with the smart[ph] capital plan. Thanks.

A - Pat Gelsinger {BIO 1740128 <GO>}

Yeah, look on Q4 gross margin is pretty much the way we thought when we talked about it last quarter when we were guiding for the rest of the year. The Intel federal impact is a one quarter impact and so it does not carry forward we're -- to the extent that you want to think about 22 gross margin, I think again 51 to 53 for the next two to three years and really the biggest hitter is being the impact of higher capital, which you see accelerating in Q4 of this year going into next year and then the effect of the multiple node compression. Those are the key dynamics that we see. So that's all we can guide at this point.

A - George Davis {BIO 3925391 <GO>}

Yeah. And overall, as we've said, we feel confident in these numbers we're giving a lot more transparency. We're taking the opportunity to give you more understanding of our business. We're electing to do that earlier in the process than we might otherwise because we're making these decisions, we are choosing to give you a lot more understanding of the business. We're confident in these growth outlooks as well. These are exciting new market categories right that we are leaning into. They are large market categories and it's not just that they're large categories, right. They reinforce each other, the stronger I am in networking, the stronger I'm in data center, the stronger I'm in client, the stronger I'm in graphics, the stronger I'm in my process technology, the stronger I'm in my foundry business, every one of these is building on each other and creating synergy value.

And overall right as we move to leadership in these areas and we are well on track on doing that we feel quite confident in the growth rate, the margin profiles. It will of course take the opportunity at our Analyst Day to dig into the business areas quite a bit more.

And we're going to help you understand those. We're going to give you segment reporting that helps you see those and be able to get transparency and accountability through it. But overall, we believe we're laying out a pretty exciting path that the management team, Board of Directors, and our customers are really leaning back into us to say, yeah, this is Intel. We are excited for the future. Now is the time.

Q - Blayne Curtis {BIO 15302785 <GO>}

Thanks.

A - Pat Gelsinger {BIO 1740128 <GO>}

Next question.

Operator

Our next question comes from Pierre Ferragu of New Street Research. Please go ahead.

Q - Pierre Ferragu {BIO 15753665 <GO>}

Thanks for taking my question, and George (inaudible) for your next step I wonder what's your life has been to look like not answering every day questions about gross margin and (multiple speakers) and so maybe I'm betting to ask you another question on gross margin, but I won't just to make sure I give you a bit of fresh air. I was actually wondering it's not exactly a question just for you George, this is for Pat having to talk about market shares of those transition (inaudible) so next two, three years (technical difficulty) stepped down you're going to invest a lot.

How do you see your market share evolving and why and then I can't help releasing that to gross margin in your gross margin guide is there an element of taking prices down to protect gross margin during the transition or is that purely driven by investments.

A - Pat Gelsinger {BIO 1740128 <GO>}

Overall, we expect that we'll be in a position to gain market share in our existing markets, as we're making these capital investments. We've been woefully short of capacity for a number of years. This is a great opportunity in the industry and as everybody in every industry anywhere in the world realizes semiconductors are hot we need more of these. So we're building the capacity to satisfy that and the near term capacity is destiny, they are building more capacity and enables us to gain more market share and we think we can do that as our products get stronger with very favorable pricing conditions as well.

And (inaudible) on the client business Alder Lake goes in production, we will be talking more about that next week, a tremendous product that will be a great market share gainer, as well as a pricing leader. Right as well as structured across the segments that allow us to gain share across multiple segments of the client marketplace.

Also I'd point out that these four areas. These four new growth businesses we're very small in those businesses today. These have massive growth potential for us. Large favorable markets that are looking for leadership, logic capabilities that Intel is uniquely positioned to supply into the industry. And overall, clearly the near term as we've laid out with great transparency. Some of the margin impacts in the near term, but these are great investments. Great Investments in large growing favorable markets that very few companies have even the opportunity to participate in and we bring such massive assets to them that we believe that we're going to be well positioned to gain leadership positions across networking, accelerated computing, and graphics in the autonomous vehicle category in the foundry business and you combine that with share gaining positions and client to data center this is a tremendous period of time we're seizing the opportunity (technical difficulty).

Q - Pierre Ferragu {BIO 15753665 <GO>}

Thanks guys.

A - Pat Gelsinger {BIO 1740128 <GO>}

Very good. Last question.

Operator

Thanks. Last question comes from Matt Ramsay of Cowen. Your line is open.

Q - Matt Ramsay {BIO 17978411 <GO>}

Thank you very much guys. Good afternoon. I wanted to ask a couple of questions on the data center business. One on product and one on the results. On the product, I think you guys reiterated that Sapphire would be shipping in Q1 Pat, I wonder if you might give some commentary on when you expect to see some legit volume ramps of Sapphire and has that timing moved.

The second part of the question is on the results, it looks like the cloud segment was down 20% year-over-year off of a plus 15 last year. So I don't know, by my math, where we're down say mid to high singles from Q3 cloud levels two years ago pre COVID and CapEx has been pretty strong since. So you guys called out China, but there are some other things going on with market share, maybe you could address those and talk about how we reverse some of that share loss. Thanks.

A - Pat Gelsinger {BIO 1740128 <GO>}

Yeah on Sapphire Rapids what's exactly what we said back in June of this year that it's going to be in production in Q1, ramp in Q2, so no change in its timing. We're working through the latter stages of the production process with the design getting all of the elements of it worked out as we're ready to begin that volume ramp in Q2 of next year and on track for Q1 launch.

With respect to the Data center cloud business in Q3, and we'll see some of this in Q4 as well. It largely is exactly what we said unique exposure to China where we have uniquely high market share, nothing else significant going on in that business that really is the story. Overall, the server business is constrained by supply, right. And this would be things like Ethernet controllers and power supply devices that are holding us back from achieving and trust me, we would be shipping a lot more units. Right, if we weren't constrained by the supply chain of these other components in the industry, our customers both cloud customers and OEMs, very strong backlogs that they're pressing aggressively to satisfy but really limited by these match sets as we call it in the industry.

So other than those two factors, China and match sets, everything else is going as expected for the data center business. So maybe, then, let me just wrap up our call today by saying I am so proud of the talented committed team here at Intel despite all of the challenges of working through the supply constraints. Our teams, our factories, our product designers, the software developers are performing so well. The execution machine that we have is restoring very rapidly and a deep sense of desire that we can and we will win.

I also want to take the chance to personally thank George for his leadership, all the things that he has done for our company. And just as commitments to seeing through a smooth transition to his successor. We've taken the first steps of our journey and I can't wait to share more of our successes in the future. Thanks for joining us today.

A - Tony Balow {BIO 21936645 <GO>}

All right, Thank you, Pat. Thank you all for joining today. Operator, could you please close the call.

Operator

Yes sir, this concludes today's conference call. Thank you for participating. You may now disconnect.
