



John Pitzer:

I'd like to welcome everyone to day two of the conference, but officially, the first keynote of this year's conference. It's my pleasure this morning to introduce Robert Swan, the CEO of Intel. We're going to have about 40 minutes here to go through a fireside chat. I'm going to quickly read a safe harbor statement on behalf of Intel before I start getting into the questions with Bob. Please bear with me. Today's presentation may contain forward looking statements. All statements made that are not historical facts are subject to a number of risks and uncertainties. And actual results may differ materially. Please refer to Intel's most recent earnings release, form 10Q, and form 10K for more information on the specific risk factors that could cause actual results to differ.

With that, Bob, I'm going to first welcome you to the fireside chat. Thanks for getting up early this morning. Really appreciate the support for the conference as always. I find it best in sort of this fireside chat format to make the first question the very kind of open ended question to help you kind of set your agenda for the conversation. I'd love to kind of get your perspective on where you are taking the company, and what you're really excited about when you look to the future before I get into more detailed questions.

Robert Swan:

Great, John. Well, it's wonderful to be with you. I prefer to be with you in Arizona, but we'll make do as we have for the last several months. Thanks for having me. First, I would just say it's exciting time for the technology industry. It's an exciting time for semi. And it's a very exciting time here at Intel. And I'd say we're in this midst of an acceleration of digital transformation that's been happening over the last several years. We see it accelerating. As we go forward, the essential services and products of what we make are more important than they've ever been. And the demand for our products are greater than it's ever been. So it's an exciting time. And it's really driven by the three things that we've been talking about for the last few years. One is this insatiable appetite for data and the compute and storage and movement of data that's required to make that data more and more relevant. Whether it's for an enterprise or for a consumer.

The second fundamental shift we've been talking about is a world today where everything looks like a computer. We've evolved from a PC era, to a mobile and cloud area, to an era that we call distributed intelligence. In that world, our computers are not just the PC. It's not just the server. But it's the network. It's the car. It's the city. It's the home. It's the factory. It's the hospital. So we see a world where just everything looks like a computer and compute is becoming more and more pervasive in everything that we do.

The third fundamental trend that we've been talking about during this timeframe is the key technology inflections that are enabling both this insatiable appetite for data and everything becoming a computer where we feel like we're pretty well indexed, John. 5G, artificial intelligence and the intelligent edge or the computer that's happening at the edge of these three technology inflections that we've been talking about for the last couple years. What those three fundamental trends in the industry mean for us is in effect, we've dramatically expanded our TAM. As you know, we don't talk about ourselves as a 90% market share player with relatively little room to grow, but a roughly 30% market share player well indexed to the higher growth areas of the industry with real competitive positions and moats that we think will serve us well over time.

But to capitalize on that larger TAM are three fundamental transformations that have been underway for the last couple of years. One, evolving from a CPU centric company to an XP centric company. As we know, more and more architectures are going to be required to meet the evolving workloads of the present and the future going forward. The second fundamental transformation for us is evolving beyond just silicon to provide platforms and services which leverages more the holistic capabilities of the company with software, our 14,000 strong software resources, but also how we engage with the developer community more and more going forward.

And the third fundamental transformation for us is how we evolve this wonderful model we have called the IDM model. And it's how do we leverage our manufacturing scale, but evolve it to engage with the ecosystem in new and different ways? Leverage design disaggregation principles that allow us to mix and match technologies more effectively for our customers going forward, and evolving what the IDM model means for the future that uniquely leverages our capabilities not just in architecture, not just in processing, but in packaging, security, software, interconnect along the way. So it's an exciting time for technology. It's exciting time for semi. It's a very exciting time for Intel. We think despite our 52-year storied history, that our best days are in front of us, John.

John Pitzer:

Well, Bob, maybe building on those comments, I went back in preparation for this fireside, and I kind of looked at your tenure at Intel. And I think that when you came in back in late 2016, I think the biggest concern was that as you pointed out, you were sort of a dominant player in markets that didn't really grow that fast. And quite frankly, if you'd looked at sort of like a four or five year trailing CAGR, you were growing revenue at about 3%. PC centric was still close

to 60% of the business. And to your point, you've spent the last several years transforming the business. You've seen the growth rate accelerate to 6%. More importantly, those data centric businesses have been growing faster than 10% or under now about the company.

That said, when I look at your absolute and relative multiple in the stock market, investors are clearly more concerned today than they were four or five years ago about your ability to grow despite the evidence. And clearly, it's no longer a question about TAM, but your ability to execute especially in the face of what's been some problems with 10 nanometer and problems with seven nanometer. Give investors confidence that you're back on the right track from a cadence and execution and product delivery schedule.

Robert Swan:

Well, look, I think we have the biggest opportunity in the company's history. And therefore, we know that execution has been our number one priority. And in many ways, I think we've made a lot of progress. But at the same time, this will continue to be the number one priority for the company. But John, let's put it into context a little bit in terms of from when I joined. First, we have added \$20 billion in revenue to the size of the company during that timeframe. So the size and the diversity of company is 35% to 40% bigger today than it was in 2015.

Secondly, the earnings of the company are roughly double that timeframe. And third, the added I think concern from investors at that time where we had this fairly large gap between EPS and free cash flow. And we've dramatically closed that gap during that timeframe as well. So in some ways, we're much larger, much bigger company because of that larger TAM and the investments that we've made. Additionally, the portfolio has changed quite a bit, John. We've exited the McAfee business during that timeframe. We exited 5G modem during that timeframe. We've made an announcement that our plans are to exit the NAND business. And during that timeframe, we've redeployed our energies both organically and inquisitively in these higher growth areas that I mentioned: 5G, AI, intelligent edge with the acquisition of Mobileye and more recently Moovit with the acquisition of Habana, to couple it with a Habana acquisition we made a few years ago.

So secondly, we've dramatically repositioned the portfolio so it's larger and higher growth prospects for us going forward. So we feel good about that. But at the same time, we came into 2020 knowing that there's three fundamental areas we needed to continue to improve. One, ensure we have the capacity to meet the growing demands of our customers. Secondly, accelerate the rate of innovation onto our 10 nanometer process technology. And third, continue to strengthen and evolve the IDM model. Those were the three execution priorities, if you will, when we came into the year. When you take the first, last year, we had a 25% capacity in the year. This year, we had another 25% capacity. So we would not be a constraint on our customers' growth. We've added that capacity throughout the course of the year and we feel extremely

good about our ability in a global pandemic to continue to deliver and have the supply for our customers. So relatively good progress on the supply standpoint.

Second, rate of innovation. We launched our second generation CPU product, Tiger Lake, this year. Earlier in the year, we launched the low power Lakefield that leveraged our Foveros packaging technology. We've launched FPGA 5GS/OCS on 10 nanometer. We've launched our first discrete GPU, and we've rolled out our One API platform that leverages the software community more effectively. So on the rate of innovation this year, we've made really good progress. But we still have to deliver the Ice Lake server product. And that's sampling now and we'll ramp production in the middle of the first quarter of '21. So good progress, more to do.

The third area of execution is evolving the IDM model and strengthen it. Engaging with the ecosystem. And if you think about the course of the year, first, we've ramped three, high volume manufacturing fabs for 10 nanometer. Second, we've improved the yields on 10 nanometer every quarter throughout the course of the year either in line with or ahead of the expectations that we set back in the middle of 2019. Third, we've launched the Foveros technology which couples process and packaging technology together. And forth, we introduced one step function improvement in our node performance on 10 nanometer, which was a full node performance within the 10 nanometer node. All those things done during the course of the year. But at the same time, we slipped on seven nanometer.

So if you think about the key execution, we're a larger company. We're more diverse than we've ever been. The opportunity set is big and we've capitalized on it. We've improved supply. We're improving the rate of innovation, but we got to get better on the server product lines. And then third, our process technology, we've made really good progress during the course of the year. But we got to continue to invest and improve our seven nanometer process technology so that predictable cadence of leadership products continues going into '23 and beyond.

John Pitzer:

Well, Bob, maybe staying on the manufacturing side and drilling in a little bit, you've been very clear over the last two quarters that you're keeping your options open and being extremely pragmatic relative to that manufacturing strategy, IDM versus Foveros. You've kind of given investors a timeline of early next year to kind of give us more information. I know you well enough to know that I'm not going to get you to pull forward that timeline to this morning. But I'm kind of curious if you could talk a little bit about the puts and takes that are driving the decision and what's the range of outcomes that we should be thinking about as ambassadors?

Robert Swan:

Yeah. I mean, first, in terms of the priorities for us, first, it's delivering a predictable cadence of leadership products for our customers. Our intentions are we'll play a much larger role in their success. So predictability is extremely important. Second, we have a wonderful business model called the IDM. We're

going to be an IDM. We're going to be an IDM going forward. The nature of that IDM model as I mentioned is going to continue to evolve in terms of how we engage the ecosystem, how we design our products to enable more flexibility and more leveraging our packaging technology. But the IDM is a very special business model. We're going to continue to be an IDM and we're going to evolve how the IDM operates going forward.

And third, we're going to continue to invest in technology development. So we're going to continue to invest in seven. We're going to invest in five. We'll invest in three going forward. So those three things are going to stay the same. In terms of the decision making now, we have a very solid product roadmap on both client and server for 2021 and '22. So we're really isolating into 2023 in light of the fact that seven nanometer slips, how do we think about being absolutely sure that we can deliver a predictable cadence in '23 and '24 of products for our customers? So it boils down to looking at whether if and to what extent we would continue to leverage third party foundries, particularly for a CPU in that timeframe. And the decision making process in some ways is reasonably simple, and in some ways, incredibly complicated. And we're going through it in a very rigorous manner. And I would summarize it as follows. There's three critical things we're looking at.

First, schedule predictability. We got a strong lineup of products, but for 2023, we want to make sure we can deliver for our customers. Second, as we evaluate the progress we make on our process technology and evaluate others progress on their process technology, what is the performance implications for the product that we would launch in that timeframe? And then the third, what are the inherent economics of either doing things ourselves or doing it with somebody else while we preserve the benefits of IDM which is supply assurance for our customers? So those are the three fundamental things and I just go back to predictable cadence of leadership products. We are an IDM and has unique advantages. We're going to continue to be an IDM and will evolve what an IBM stands for in the future. We're going to continue to invest in technology development or TD.

And the priorities around this 2023 roadmap are about predictability. It's about performance of products. And it's about the economics that we can deliver for shareholders as we evaluate these set of options. So you're right. I'm not going to foreshadow anything today, but it's a pretty rigorous process. And the decision making is really a function of we and/or others will have to put capacity in place for '23. And that means that sometime in the first quarter January timeframe, we'll kind of conclude on our decision.

John Pitzer:

Bob, on that front, can you talk a little bit about how your chiplet strategy helps with flexibility around manufacturing? And as we think about the potential to outsource more, should we really be thinking about the non-CPU tiles, the ancillary tiles around the CPU, or is everything on the table?

Robert Swan: Again, our customers care about the product. So they don't care about the chiplets per se. They care about how we pull those chiplets together to deliver a predictable cadence of product performance. So that's what they care about most. And that's therefore what we care about most. That being said, the idea of design disaggregation is really to have more inherent flexibility in the design and more ability to rapidly ramp high volume manufacturing with smaller die sizes. So disaggregated design has more flexibility to mix and match different chiplets into the same package. It also has the ability with smaller die sizes to ramp a fab more effectively and more efficiently. So we embrace on disaggregated design for those fundamental principles, deliver product performance, coupling chiplets together onto one package, and improving the efficiencies of a high volume manufacturing fab to deliver for our customers.

John Pitzer: Well, Bob, just my last question on the manufacturing front before moving on to some of the product cycles. We know how the IDM business model works through the P&L. We also know how outsourcing non-CPU transistors work through the P&L because you're doing a lot of that today. 20 plus percent of your revenue stream today is outsourced. I'm kind of curious, to the extent that this becomes an outsourcing of CPU transistors, how does that work its way through the P&L from a gross margin, net margin, free cash flow perspective? Is it a meaningful change from some of the longer term targets that you've discussed in the past?

Robert Swan: Yeah. First, as you said, we do a reasonable amount of leveraging third party foundries today in the 15% to 20% range. And over time, I expect that with a more disaggregated design for that to increase and give us more flexibility and both how to deliver products, but how to deliver differentiated economics within an IDM model, but a more flexible IDM model. But I think simply put, the more we leverage third party foundry, number one, all else equal, gross margins come down a little bit. Number two, all else equal, the capital that we need to deploy for manufacturing comes down a little bit. And the effectiveness of return on capital, the challenge is making sure return on capital grows, doesn't shrink in the evaluation of the magnitude of if, when, and what we leverage third party foundries.

And that again is part of this evaluation as we think about 2003 is, how do those trade-offs manifest themselves in terms of market share, ASP capture, and the cost of the product that we make or buy relative to the capital that we need to employ? So those are the inherent trade-offs that we try to manage to get to the right answer for 2023/'24 timeframe.

John Pitzer: I want to move along and talk a little bit about some of the product cycles that you discussed in some of your earlier comments. The first, let's start with the client market in Tiger lake. Over the last couple of years, I would argue that the high class problem that you had was actually having enough capacity in place to meet customer demand in the PC market. It sounds like you've done yeoman's work to kind of rectify that issue right in time for this new Tiger Lake product which is your first generation, 10 nanometer client CPU, bunch of SKUs coming

out. You've said in the past that you think the back half of this year would be a share game event for you in the client work. Is that still your stance? And is that really being driven by capacity that you have now available to low end for things like Chromebook or are you seeing market share gains across the stack?

Robert Swan:

First, yeah, our expectation in the second half has been as we ramp up this additional capacity we put in place to recapture some of the share we lost particularly in the supply constrained areas of 2019. So our expectation in the second half is we will, in fact, recapture share. Our expectations, well, it comes from this great Tiger Lake product. We're very excited. I think our customers and our customers' customers are very excited about the Tiger Lake product and what it means. And when we talked in the October call about the demand for our 10 nanometer products, but particularly Tiger Lake is 30% higher this year than we expected coming into the year. And obviously, because we launched it in the summer timeframe, that's predominantly fourth quarter accelerating demand.

So we see this exciting new product, the demand for it being higher. We see the capacity we put in place able to address some of the areas last year and earlier this year that we are constrained on which includes higher growing segment of education and this work from home kind of world. So supply is better. Our products are better. And therefore, our expectation in the second half of the year is our share position will be stronger.

John Pitzer:

That's pretty loaded to ask the question, what have you done for me lately? And now that Tiger Lake is out and ramping, we're all focused on '21. I'm going to ask a couple questions about 2021 from a PC client perspective. One, talking about kind of just your views of the overall market. There's been a lot of concern that the work from home, school from home, online, everything economy that COVID caused this year pulled forward PC demand. And we're going to have to go through a period of digestion next year. Do you believe that or do you think these trends can persist? And secondly, the product ramp next year is going to be Alder Lake which has a new micro architectural core. It's going to have a mix of big and small core. How do we think about the incremental gains on that product versus Tiger Lake?

Robert Swan:

At first, maybe the market overall, I think when we came into this year, you'll remember, John, the expectation was overall PC demand would be roughly flat or plus or minus 1%. And here we are near the end of the year with demand in the high single digits. And who knows how the quarter will play out? But much stronger, I think, than any of us expected. I think our learning through this process and particularly in a work from home, study from home environment is the essential nature of the PC. It is just more important today and we expect that to be more important going forward. And therefore, as we close out '20 and go into '21, we're looking at a PC TAM, we expect to be pretty healthy during the course of the year. We'll obviously know more when we get to the holiday season, but our expectations, our PC TAM relatively speaking will be pretty healthy through the course of 2001.

And therefore, it comes down to the product lineup as you said. And Tiger Lake now will... We're going to launch a Rocket Lake desktop product in early in 2021. We'll launch a Tiger Lake-H product for the mobile and gaming enthusiasts in the first half of the year. So very good product refresh, if you will, in the second half. And then to your point, Alder Lake, very exciting product that we expect to launch for desktop and mobile in the second half of the year. Leveraging our SuperFin process technology, to your point, new micro architectures for large and small significant gen on gen performance versus Tiger lake. So we're looking at the Alder Lake product in the second half of the year being a real exciting product that will help with our industry partners continue to capture on the essential nature of the PC as we go throughout 2021. So we're excited about Tiger Lake. We're excited about Rocket Lake and Tiger Lake-H. And we're excited about Alder Lake as we go into the second half of the year.

John Pitzer:

Well, Bob, turning attention to what I think is kind of the key investor focus, which is the server roadmap and timeline. You mentioned earlier in some comments that Ice Lake which was supposed to qualify late Q4 of this year has been pushed a little bit into next year. I apologize for the near term nature of this question, but I get asked this often. You tend to have the patience when you guide to be conservative and give yourself a cushion. I'm just kind of curious, did you understand back in October when you got in December quarter that Ice Lake qualifications were going to be pushed a little bit? And you mentioned kind of a ramp in mid Q1. Can you talk about kind of the volume and the trajectory of that ramp as we go route '21?

Robert Swan:

Yeah. First, Ice Lake product, we feel good about the product. It's gen on gen performance versus Cascade Lake which is the primary product that we're delivering now. So we've said it'll sample during the course of the fourth quarter. We're going to ramp it as quickly as we possibly can. So we take everything into account that we know when we give an outlook and obviously our expectations always meet or exceed our outlook. So the timing of the ramp shifting a few weeks here or a month there is not that big a deal in terms of performance on our... It's a big deal in terms of delivering on our promises, but in terms of our guide, not a significant needle mover.

So we're sampling now. Our expectations are production, as I mentioned, will ramp in the middle of the first quarter. And the samples are pretty intense as we speak and the progress we're making is really good. And the product itself, again, significant gen on gen performance, PCIe Gen4, Intel Optane Persistent Memory as a part of the package. And then enhancing security features as well. So it's an exciting product we're ramping during the course of Q1. And in parallel with that, we've got a wonderful exciting Sapphire Rapids product that we're sampling now with our customers as they work their systems and we hope to get into production at the end of '21.

John Pitzer:

Well, Bob, that's a good segue because one of the questions I get asked is whether or not the timing of Sapphire Rapids is at all dependent upon the timing of the ramp of Ice Lake. And I think one of the things that investors are

trying to get a handle around is if Sapphire Rapid comes in rapid succession, no pun intended, on Ice Lake, is Ice Lake going to be the product cycle our customers kind of viewing adopting Ice Lake with Sapphire Rapids being a quick follow up?

Robert Swan: Well, I think there's pretty strong pent up demand for Ice Lake now. And yeah, its feature, its functionality, its gen on gen performance, and the nature of the sampling that's going on now is it's going to be a very well adopted product. And different customers will, as always, adopt faster or slower based on their particular needs. So that won't really change. At the same time, Sapphire Rapids is the significant improvement in gen and gen. And we expect both a very robust ramp of Ice Lake and a really broad based adoption of Sapphire Rapids at the end of the year. So it's one in terms of planning. We've been working with the customer in the industry base for a while now, and Ice Lake, it's a little later than what we expected, but not dramatically. And again, yeah, we hope to ramp production the fourth quarter next year for Sapphire.

John Pitzer: That's helpful. And then, Bob, maybe stepping a little bit away from the bottoms up product drivers for you, and a little bit more talking about top down market dynamics. Clearly, the server market, both cloud and enterprise, was very strong in the first half of calendar year '20. The enterprise, especially, as they prepared for getting all their employees to work from home, as you turn the corner into the second half, enterprise was exceptionally weak in your calendar, third quarter. I think was down about 40% year over year. And you've talked about cloud going through a period of digestion. Help us understand how we should be thinking about overall demand for servers over the next several quarters. And does the server market become a "vaccine play?" I mean, we all hope we get a vaccine sooner and broadly disseminated. As that happens and you start to see people get back into the workplace, is that the catalyst we should be thinking about for the enterprise market?

Robert Swan: Yeah. I mean, first, I think to kind of put 2020 in perspective from an enterprise standpoint. Yeah. The first half enterprise was up 34%, 35% range. So very strong demand. For us, comps were not that challenging, frankly, in the first half. So we had strong demand on relatively weaker comps. So when you look at the second half, two dynamics. Second half of '20, two dynamics going on. One, for us, the comp's got much tougher for enterprise and government because 2019 was a very strong year. And there was obviously inventory in the system just because of that strong demand in the first half. So I think when you look at through year to date through nine months, it was more like flat enterprise and government segment in a very tumultuous first nine months of the year. So a little bit of context for how this year has played out.

Secondly, I think, server more broadly or cloud in particular, the growth, it's just been stronger this year. Our overall outlook for the year is almost \$2 billion higher in revenue than we started the year across the portfolio, PC stronger. Cloud has been stronger than we indicated at the first half of the year that we thought they'd continue to ingest through the first half and digest in the second

half. And I think what we've seen is given the needs to be always connected, always on, work from home, engage like this, the demands for cloud services have been stronger than we had expected. And we expect that to continue through the holiday season.

And ultimately, there'll be a digestion phase, but I would say it appears the needs to be connected are going to accelerate this digital transformation that I talked about before. And therefore, the demand for compute, whether it's on prem, whether it's in the cloud, or whether it's the networking edge, I think it's going to continue to be relatively strong throughout '21. And we'll obviously learn more about that as we get to January. But the trends on demand for compute we think are only going to get stronger over time, not weaker.

John Pitzer:

Bob, you talked about kind of your three top priorities: execution, growth, and capital deployment. I want to hear a little bit on the capital deployment side. And I want to be clear. I think some of the actions you've done like selling the modem business, selling the NAND business, the ASRs have been extremely well received by your shareholder base. But there is a competing school of thought out there that Intel's always led with their R&D and capex muscle, and especially during a period of time where you are having some execution issues. Why not get more aggressive on the R&D spend, on the capex spend, and try to spend your way through some of these issues to get to the other side in a more accelerated fashion? And by the way, all that M&A on that front as well. I mean, you haven't been shy using M&A. But I'm curious, are we in a new era of M&A for you where you're going to look to buy companies that might have IP blocks that are already taped out at the founders?

Robert Swan:

Yeah, it's a great question, John. First, if you think about over the last several years or maybe since '15, our spending as a percentage of revenue has come down quite a bit. 36 down to roughly trending towards 26. So 10 points of improvement. But underneath the covers during that timeframe, we've increased R&D. Our R&D during that timeframe is up almost 1.5 billion despite the fact that fairly R&D intensive 5G modem is no longer part of our spending base. This year will be our fifth record year of performance on revenue and earnings. But it will also be three years in a row of record level of investment. Record level of investment on capex. So we have the capacity to meet the growing needs of our customer base. Record investment on our R&D. Because the nature of the market that we see is broader, it's bigger, the capabilities that we have, we think, are the best in the industry. So we are going to continue to invest organically both capital and R&D as we have in last few years. We're not going to be shy about the level of investment given the magnitude of the opportunity that we see organically.

And at the same time, inquisitively, we feel great about the acquisitions that we've made. We've used our balance sheet for Mobileye. We've extended its capabilities with Moovit. We made this acquisition with Habana that I referenced earlier because the role of AI becomes more and more prevalent and we want to have it built into every product we build and add AI chips separately.

So we're going to continue to make acquisitions that are in line with strategically what it is we're trying to accomplish. And we won't be shy about that either. We have a wonderful balance sheet. We've generated significant amounts of free cash flow despite record level of investments, and we'll use that cash and our balance sheet to continue to make the investments that will extend our reach. And to the extent that with our financial flexibility, to the extent that it's not captured in the value of the firm, we'll opportunistically take an advantage of that by eliminating some of our outstanding share count, not at the expense of investment. But because we're confident about the record investments we're making and what it means for the future growth and strength of the company.

So we got a great balance sheet. We'll continue to invest because as I said, the opportunity for our company in our industry we think is as big as it's ever been.

John Pitzer: Bob, I could take another hour and a half and not exhaust all the questions that I could ask. But we are coming up to our time limit in this session. But I wanted to give you a few minutes at the end to maybe give some concluding remarks and really hit upon what you think is the key value proposition of Intel right here right now to the investment community.

Robert Swan: Yeah. Maybe John, maybe close a little bit how I started. We see an industry where there's an insatiable appetite for data. And that data and making that data relevant means more and more compute. We live in a world where everything looks like a computer. So for us, that's a wonderful opportunity to expand the role that we play. And third, we've invested in these key technologies that we thought a few years ago would be real fundamental drivers in the overall growth so that we can position ourselves not just in the PC, not just in the server, but to expand the role we play in transforming the network to transform the role we play in the intelligent compute at the edge so that the role we play in a growing industry becomes larger and larger.

And that means we're going to fundamentally transform from a CPU company to CPU to XPU. It means that we're going to fundamentally evolve this wonderful business model we have called an IDM that allows us to co-optimize design and manufacturing to deliver for our customers. And we're going to continue to invest in these technology inflections that will drive the growth for the company going forward. So a wonderful storied history, brilliant engineers who are going to create world changing technologies that enrich the lives of every person on earth. So we feel great about where we are. We know we got a lot to do and execution is the key number one priority for me and the team. John, thanks a lot for letting me on today.

John Pitzer: Well, I appreciate your time, Bob, and we'll send along our sincerest hope that you, your immediate family, and the extended Intel family stay safe and healthy in what's been a very trying 2020.

Robert Swan: Thank you very much, John. Same to you and your family.

John Pitzer:

Thank you.