Tore Svanberg: Good morning everyone and thank you for participating in these Stifel Edge Processing Series call today entitled ADII Uncovered: Embedding Real Time Intelligence in the Physical World.

My name is Tore Svanberg and I'm a senior semiconductor analyst at Stifel covering analog connectivity and processor semiconductors at the companies. I'm honored to have Dan Leibholz, Chief Technology Officer of Analog Devices on the call today who will educate us on this new and exciting trend for semiconductors and specifically elaborate on how ADII participates in edge processing which we believe will likely be one of the most important trends in semiconductors for the next decade.

The format of this call is a virtual Fireside Chat with the ability for participants to cast questions at the end. To ask questions simply cast it at the bottom of your screen. And you can do that at any time during the session. If you are on audio only please send me an email with your questions to tsvanberg@stifel.com. I expect this call to last approximately 45 minutes and then we'll share with us a few slides that I will put up here in a minute.

Before I get started, I want to re-emphasize what I've said in other calls in this series. The concept that edge processing means different things to different people or companies, depending on what part of the electronics food chain, we are discussing. The more I continue to dig into the world of batch processing, the more I realized the complexity of the sector and the differentiated approaches that each company is taking. It kind of reminds me of the IoT trend 10 years ago, which actually remains exceptionally fragmented today. And that is precisely the message I would like to convey to today's investors that are on the call. There is not simply one route for investors in edge processing. There are many considerations but given at a strong historical position in single conditioning. Especially in a high reliability industrial setting the company is very well positioned to capitalize on this exciting trend over the next several years.

So, with that, let's get started. And Mike, you don't need an introduction, as everyone knows you as head of IR at ADI but I am going to turn it over to you to go over the disclosures.

Mike Lucarelli: Thanks, so much Tore. Can you start sharing the presentation, Tore, so you can see the disclosures?

Tore Svanberg: Yes, I will do that.

Mike Lucarelli: Good morning, everyone. Thanks for joining us. This is the fourth of our series called the ADII Uncovered Series where, as well working from home, you decide to do something a little different and give you a deeper look into different businesses we have. Today's exciting, It's a little different. It's not a business. It's more technology focused and I'm excited to have Dan, who's our CTO here today to talk to you about crossing the edge and also at ADII and how we think about our R&D today and in the future.

With that first is the forward-looking statements. I won't read them all. We all know what they are. You can read it yourself. This presentation we will post it to our Investor Relations website page under the Advanced section after the call, as well as the transcript so with that I will pass it to Dan and thank you for hosting

Tore Svanberg: Thank you. And thank you, Dan.

Dan Leibholz: Great, thanks for the invitation today, Tore, and it's a pleasure to be meeting with all of you. If you could advance to the first content slide. I wanted to give a quick introduction to Analog Devices. We are a $6 billion semiconductor company with a large and diverse portfolio of technologies. We're positioned really uniquely with 90% exposure to highly profitable long life B2B markets such as industrial, communications, automotive, and healthcare.

Our technology really sits in a sweet spot that bridges the physical world to the digital world and ADI technology senses a physical world signal, such as radio waves, light, sound, motion, or electricity. And then our chips extract information from those signals and translates it into usable digital form through signal processing. And some of our chips actually work in the reverse direction, taking information from the cyber world and converting it back into the physical world for applications such as audio, data communications, or industrial control.

Over time, we've been migrating the processing of those signals closer to the edge and creating more insights from the data before passing it to a compute cluster or the cloud. The benefits of moving the processing closer to the edge is that it dramatically reduces latency, which is the delay from the signal to the insight or action based on the data. It also makes more efficient use of bandwidth which is a precious commodity and reduces power.

You'll see a stat at the bottom of the slide from Gartner, which highlights the overall edge processing trend as we put more intelligent sensors in the field in factories, in cars, or even in our homes. There are so many more touch points on the edge. So, it follows that dramatically more processing will be done at the edge outside of the data center. And we have numerous examples that illustrate how ADI is helping to drive this trend that I'll take you through shortly on. Next slide, Tore.

ADI is a company that really prides itself on continuous innovation. To support this, we spend about 20% of revenue on research and development. We've often spoken about our strategy to move up the value stack from component technologies to more complete subsystems and full solutions that integrate software and service. And R&D is aligned with that strategy.

Taking Horizon One: Extend & Defend about 75% of our R&D is invested in growing our core franchises of analog and mixed signal semiconductors. A key example here is our data converters we invest heavily here to sustain our leadership position as these products are the foundation of our ability to move up the stack.

Horizon One also includes progressing the roadmaps of products with embedded intelligence, such as our software defined transceivers which have really become a pillar of our 5G strategy. So, we'll take about 25% of the R&D and invested in future technologies and architectures. These technologies are further out in time taking three or more years to market. And they often embody more complete subsystems and solutions that include algorithms that create more insights from the underlying signals.

To illustrate this R&D allocation model and action, our transceivers were originally in Horizon Two, but now, as an established product franchise and a significant part of our 5G business, they're Horizon One.

There are some very new and exciting future technologies on the transceiver horizon, such as embedded machine learning that we're developing as part of Horizon Two. So, we continue to focus on the most attractive markets and opportunities across our business, particularly in B2B and then we're always balancing the product and technology development to get long term growth. And as we've added more signal processing and intelligence into our solutions. We've diversified our engineering talent base as well.

While maybe a decade ago hardware design constituted 90% of our core engineering team, today, about a third of our designers are software and system engineers. And as we look to the future, the Maxim combination will grow our overall engineering team core field in factory to more than 10,000 engineers with one and a half billion dollars of annual R&D investment. And that positions us to win as we continue to build on that base that we have of the world's best analog and design talent.

We've also made some sizable acquisitions over the years to strengthen that R&D capability. With Hittite and Linear we've added microwave and power. And we're really excited about Maxim which strengthens our leadership across many end markets. The transition increases our scale broadening our power management technology, as well as scope, adding complimentary technologies in nearly all of our end markets.

At the same time, we've completed a number of tuck-in acquisitions in areas critical to our edge processing strategy including security, factory automation, and networking.

Tore, if you could move to the next slide please.

I wanted to give some examples where ADI’s edge processing strategy is in action. In electric vehicles, a key challenge is measuring and monitoring the charge in modular battery packs. Our technology provides wireless connectivity, sensing and processing inside the battery packs to allow it to be monitored over its entire lifetime, both in and out of the vehicle. You may have seen our recent announcement with GM, which is incorporating this technology in their new EV platform.

In mobile communications our software defined transceivers are a key enabler of 5G and by embedding critical signal processing functions within the device we’re able to greatly reduce the complexity and power of the overall system and simplify the architecture.

In energy distribution. Our customers use our technology to measure and process information from across the electric grid, all the way down to the meter. This allows operators to monitor their energy distribution in real time which enhances safety and reduces sources of loss.

In industrial automation, our condition based monitoring technology spans from the sensor connected to the plant equipment, all the way into the cloud, enabling us to train for and monitor machine abnormalities in real-time and this is accelerating our customers path to industry 4.0.

So, in each of our end markets, the technology that our customers are asking for is really evolving rapidly. From core signal processing and analog drawing on our 55 years of sensing and measuring expertise to the insights and analytics around what the data is telling them.

Over my time at ADI, I've seen firsthand how our customer engagements are starting earlier and

becoming deeper as they ask us to solve their most complex problems. As CTO during this major technology transition, where the world is becoming defined by more ubiquitous sensing and connectivity, it's a really exciting time. We're making significant investments in algorithms and embedded processing at the edge and building a pipeline from data itself to information that's used by our end customers. I am proud of how our team is rising to this challenge and delivering for our customers. I'll turn it back to you Tore, for Q&A.

Tore Svanberg: Great, thank you so much for going through that then so yeah let's get started with the fireside chat. There continues to be, I think, two prevailing definitions of edge processing. One is this sort of distributed server architecture, and the other one which is, you kind of just explained, perhaps how ADI views it, which is more of the processing at the IoT node itself. And you talked about obviously ADI is a strong data converter business in your slides there, but I also know you have very strong IP in RF and optical technologies, especially with the acquisition of Hittite. So does ADI even participate in the other way investors define edge processing as kind of more distributed server architecture.

Dan Leibholz: Yeah, so you're correct. Our focus in relation to edge processing is on processing at the sensor node, given our position at the physical edge. And from an architectural perspective edge processing includes that entire pipeline from the sensor node and IoT processing through servers deployed near the sensors in the field or the factory. So, our technology really acts the bridge that connects the physical and cyber world and our main role in Edge processing is implementing that optimal mix of analog and digital at the sensor node.

So on the server side, it is true, we provide a lot of the connectivity, such as optical control and power to a data center and in servers network equipment and carrier networks. And that is a great business for us and as you know communications is roughly 20% of our overall business, but I don't consider that directly as part of our edge processing strategy, but really part of our communications and data center strategy. But you're absolutely correct as the market grows for servers and edge processing clusters and cloud compute we will benefit from that as well.

Tore Svanberg: Right, thank you. Moving on to the scalability of edge processing. What are the current bottlenecks in edge processing today and how will these evolve over time? I think from where we investors sit, we believe that the bottlenecks are a function of the of the type of data, which is obviously then tied to connectivity, so that the speed of the data and then the latency, right, which is the distance.

And I'm sure there's a lot of other key considerations like privacy and security, are these easy to solve? And if so, how is ADI helping solve these bottlenecks and promoting the adoption of the edge processing market?

Dan Leibholz: There are definitely a lot of bottlenecks to consider both in the edge nodes themselves as well as in the network that connects them. In the edge nodes themselves, a couple of the real important considerations around how do you build them is the size, weight, and power, and the form factor and how much processing, you can do at the edge. And an important factor there is how efficient you can make the processing. And by integrating the processing in directly with the sensor we're able to drive a level efficiency out of that.

Now, on top of that, there are other problems and challenges in edge processing. At the sensor node,

including security and software managing software and implementing over the air updates and really managing the software as an ensemble of technologies at all these edge nodes. So, there's a lot of things that we're doing to allow for much more efficient management and security at the edge node.

Then as you get into the network, connectivity is itself a problem. And through our 5G strategy we're taking a long-term approach to helping build a global network with a level of reliability and latency that will really address some of those scalability and latency challenges with wireless. So, I think there's two approaches to solve two different sets of problems that network and scaling, as well as the form factor and the performance of the edge nodes themselves.

Tore Svanberg: Very good. And moving on to the topic of type of data. So, we kind of think of data collection as sort of the modern mining industry, where you're looking for that gold nugget. So, what type of data will remain in more of a cloud setting versus at the edge? It seems that analog or real-world data is more important to be processed at the nodes, because that's obviously physically where they're located. But where's the line drawn today, and how will that line evolve over time? Is a distributed architecture, the way to go and, if so, what determines when that is needed?

Dan Leibholz: Yeah, that's a great question. I think that, at some level, anything that can be processed at the edge will be, but there are these bottlenecks that make a lot of processing at the edge not practical. And so, for example, applications that need to mine data across a number of sensors, both on the premises and elsewhere, applications that have to integrate with other sources of data or other applications and connect globally, these will probably stay in the cloud and in the in the data center, provided that they can tolerate latency.

As I mentioned before, latency is that time from when, in this context, from when you sennse a signal to when you make some decision based on it. So if you're tolerant to that latency and you have a need to connect your data to other data sources and integrate that will probably stay in the cloud. Somewhere in the middle is where much of this will edge out and that's where this concept of the edge cloud comes into play.

That's a combination of distributed server architectures, plus the connectivity and the software and coherence infrastructure that allow edge nodes to think that they're in the cloud from a networking perspective and a connectivity perspective. But they're physically close to the edge for latency management.

A good example of this is what's happening and 5G where the evolution of the architecture is where you have a radio unit, which has very localized processing. Think of that as our sensor processing. And that radio unit would be connected to a digital or control unit that's in this edge cloud. And that's sitting in a cell tower or a local office. So, it's out in the field somewhere. And then there would be specialized high speed interfaces to connect that data unit and control unit to the radio units or to the periphery, or the sensors. But then also in the other direction very high speed and highly, highly elaborate connectivity back into cloud data centers to for service delivery and higher-level applications.

Tore Svanberg: And then the other question on the type of data. Of course, it goes back to what I said about gold. Right, so I'm sure there's some data that's more valuable than others. What does that exactly mean especially for the bulk of your customers, which are industrial customers? And what becomes more important? Eventually, is it the algorithms and the AI derived from that data collection

or is it more, the discrete data that is perhaps a bit more proprietary?

Dan Leibholz: Yeah, I mean, industrial customers have a very strong proprietary interest in the data, whether it's to be used for quality control, factory efficiency, and I'm talking about data that's generated inside the factory, with another example would be to tighten up the interaction of design and manufacturing. So that data is really proprietary and very important to them.

What they want to do with that data is build algorithms and create insights on top of it. And that's what really gives them the competitive edge. So, while the discrete proprietary data collection is important. You know, in my view, it's somewhat useless without the intelligence that's built on top of it. So, I believe that algorithms and AI derived from the data will ultimately be more important, but it'll sit on top of this proprietary data that they're collecting that's at the root of it.

Tore Svanberg: Right, and then moving on to connectivity, which is obviously a huge topic when it comes to edge processing. What connectivity technologies are most common today and how will those evolve? I mean, obviously, we understand the role of 5G, but is that enough for edge processing to scale? It appears that the industrial market would benefit greatly from edge processing and 5G and I guess is the evolution of both kind of related?

Dan Leibholz: Yeah, there's a great diversity of connectivity solutions today, particularly in manufacturing and industrial settings. So most industrial connectivity is wired and that's really because of the premium that's placed on reliability and wired is fabulous. And it's really the backbone and the mainstay.

But there's also disadvantages to wired you know there's a limitation on how well and how quickly you can reconfigure a factory, and flexibility. And then inside of a factory, there are certain assets such as raw materials that may be moving around or partially finished goods, or autonomous mobile robots that you really can't physically wire up to.

On the other hand, wireless is relatively limited today, but I think there's a greater role for it, particularly as you want to add more instrumentation into a factory or you want to control and measure and monitor equipment that's moving inside the factories, such as autonomous mobile robots or reconfigure factory setups.

So, with all that, the question is how do we scale wireless in a factory, but given that there are so many standards and there are a lot of challenges around reliability and around interoperability with the multiple competing standards. So, I do think that 5G can really change the game here.

You know some of the factors that 5G brings into play our level of reliability and latency that can be guaranteed. Some spectrum that can be carved off and reserved either by actual megahertz that are allocated or through something called network slicing where a piece of spectrum can be virtually allocated to use within a factory. And so these kinds of technologies sort of give a foundation for more coherent and consistent use of 5G or use of wireless which can, in turn, accelerate some of those new use cases such as AMR mobile robots or asset tracking or increasing the amount of reconfigure-ability to factory.

I should add that in the times that we're in today, a lot of our customers are really thinking, how do

they make their factories more configurable and flexible so they can deal with supply chain issues and moving the production of certain products around the globe to respond to problems in the supply chain or with respect to outages in their factory to people not being able to come in.

Tore Svanberg: That's fascinating especially what you said about splitting the frequencies. So, ADI participates in both 5G and optical networks, but the company has been less involved in traditional IoT connectivity technologies. Will the company have to change that with the evolution of batch processing? And do you believe it will be critical for summit that the company to own both the collection of the data, which obviously you guys do with your data competitors, but will it also be equally important to kind of on the transport of the data? If so, why or why not?

Dan Leibholz: Yeah, so I don't believe it's critical for ADI to own both in all cases. A lot of the data transport or connectivity is standardized, so the need to own the transport in the sense of developing the core technology behind those standards ourselves is not as great. There are other sources for that type of technology.

In those cases where it's standardized, we'll probably license the technology or partner. But in the end, we need to provide a solution to our customers, but it might be based on partnered or licensed technology.

There are a lot of cases where the connectivity itself is a problem and it's very challenging. And in those we see a really strong opportunity to address with our technology. To give you a couple of examples, I mentioned wireless battery management. That's a really critical challenge of how do you build a robust mesh network in the bowels of a car that can withstand the harsh electrical environment, as you know, you've got motors, you've got batteries themselves that give off EMI. With all those challenges. How do you build a robust network? And so that's a challenge where designing the radio for that end node is extremely valuable and a critical part of the solution. So, we do that ourselves.

Another example is wireless monitoring in healthcare where there might be a critical requirement to guarantee the connectivity between a patient's wearable device and the monitoring station in the hospital. Again, those requirements turn into very, very complex technical challenges where we can bring our technology there.

Finally, we have radio technology for first responders and soldiers and so those edge individuals. There's a very high degree of requirements around security and robustness. And so, we would be in the node devices of the radios for first responders or soldiers. And so those are examples where our communication strategy is not just around the infrastructure and the towers or in the ceiling but are connected to the devices where there's a really critical need for to solve a connectivity problem.

Tore Svanberg: Yeah, but I think we investors tend to kind of latch on to certain buzzwords or certain trends, so we get excited about 5G, we get excited about WiFi six and things like that. But it's pretty obvious that connectivity has a lot of different flavors including, I'm sure a lot of proprietary ones that you guys work with your industrial customers on.

So let me let me move on to the edge processing landscape from a semiconductor perspective and for us, this is a fascinating topic because digital companies are kind of the kings of processing, but they don't have robust know how in RF or mixed signal design for optimized connectivity technologies.

Maybe something like a Qualcomm would be exception here, but obviously they're confined to handsets right. But, but do you think that edge processing is going to cause the whole landscape to change? And we have seen significant M&A activity in the connectivity sector the last few years, so should we assume that ADI will play an equal role in analog connectivity and processing over time.

Dan Leibholz: Yeah, I think it is changing and you are seeing digital companies trying to extend into analog and vice versa. For ADI, transceivers is a great example where we started with what we call a pass through transceiver with which just had the analog stack in either direction. But we've evolved and moved more into the digital, which really solves a bunch of problems around performance and around power consumption and it also candidly increases our SAM. So over time, I'm not sure that for ADI that the processing and the digital and connectivity would play an equal role. We're certainly scaling up our activity there and scaling up what we do with our products. But it will be a very important part of what we do, but I think that we'll remain overweight to analog in the long term.

But I did mention earlier that as we think about the technologies that we incorporate our products that technology we'll either do ourselves if it's core to the performance of the product or we'll license in the technology where it's necessary and it needs to be in the product, but it's not necessarily product defining in terms of the performance that it contributes. So that's how I think about it, while more and more of our products will have embedded processors, an embedded connectivity; It'll be a mix of technology that we license in and use or technology that we develop ourselves and I think in the long term we'll remain overweight to analog, as I mentioned.

Tore Svanberg: Right, and as processing is moving to the edge, it is moving closer to analog anyway right so…

Dan Leibholz: Sure.

Tore Svanberg: Maintaining your leadership there I think will be crucial going forward.

Let me ask a question that investors love which is the competitive landscape. Who do you really view as your main competitors and, I do recognize that, depending on the end market and the application, there's different players here but, talk a little bit about few of the competitors that you have and why is ADI so differentiated visa v these players.

Dan Leibholz: Yeah. Certainly, our traditional competitors that many of you know very well, as well as some digital competitors, but it is a broader swath over time. And what I think about is where we have leadership and how we leverage that leadership to retain our edge and certainly our converter portfolio leadership and our longevity that's given us a lot of tacit knowledge and domain expertise, are competitive advantages. So, I think from a standpoint of: How do you evolve, as you may know, my background is digital and I'm working at an analog company. In some senses, it's a lot easier for an analog company that has that domain knowledge of the signals and that's the fundamentals of from the point of view of what our customers are trying to sense and measure and control, to then bring in more digital capability and extend their SAM that way, then a digital platform company that has, obviously, tons of expertise around software platforms around how do you implement and scale, but to but to bring that back all the way into the physical domain, I think that they often find that quite challenging. And then from our perspective, we're sort of starting with the raw data and then growing from there, rather than trying to acquire the 55 years of insight into that analog world.

Tore Svanberg: And you've been trained well, Dan. I realize you don't get to mention the names of competitors to give them free marketing…

Dan Leibholz: I'll give Mike the nod for that.

Tore Svanberg: Well done.

So before we open it up for questions from the audience. I wanted to touch on the last topic which is vertical integration. Given the various bottlenecks some large tech companies, especially like Apple, for instance, they'll have developed their own connectivity technologies to solve issues that perhaps the IEEE based standards or mobile based standards have difficulties with. Is that part of a new trend or more of a one off? And how do you think this is going to play out for edged processing.

Dan Leibholz: Yeah, relative to edge processing it feels to me a bit more of a one off. Not every company has the resources that Apple has to vertically integrate and they're generally solving a problem that's critical for their products, then I'll say, relative to all of edge processing in a fairly narrow domain. And so in the industrial markets, the diversity of customers the diversity of systems and suppliers, make it really difficult to invent and push your own standard.

And so I think that it's really important, standards are really important for edge processing and IoT to emerge, and the reason is that there are all of these functions that are critical that sit on top of connectivity that are very important for scaling, whether it's provisioning, end to end security, over the air updates, automated testing and validation, analytics frameworks, integration, etc. So all of these functions are built on top of this foundation of connectivity and if you sort of step back and think, well, why has the internet been so incredibly successful, there's this baseline standard that we can all implement to and all these functions are built on top of that.

So, I think standards play a really important role and I'm a bit skeptical of companies that try to develop their own standard and push that across. They end up in a cull de sac, more often than not.

Tore Svanberg: Very good. Thank you for that Dan. So, with that, I'm going to start asking some questions from the audience. Thank you for either submitting or casting those.

So, the first question is: In BMS there is a clear leader in the EV space that seems leaps and bounds ahead of BMS/thermal management. Do you see an arms race developing as other EV OEMs try to match that performance and are there ASP tailwinds?

Dan Leibholz: I'm not sure I followed the question exactly, is clear leader in terms of the end OEM like the car manufacturer, I'll assume it's around Tesla the car manufacturer.

Certainly, I acknowledge that they have a huge lead in this space. But what you're seeing is just massive R&D all over the world to try to catch up and to try to build platforms, whether it's, I mentioned GM, every company has a huge effort and some of some of the auto manufacturers we talked to; There's just very few people to talk to on the internal combustion side. It's all about the EV platform and all about how are they going to innovate and build a high mileage, highly reliable platform. So, in terms of the technology, there are going to be evolutions of this battery management technology. I think we're sort of past the first generation where getting reliable charging discharging

information, building this first set of packs; I think our teams have done a really good job, we've got a very strong position there. But we're moving to the next level where we're applying much more sophisticated algorithms, we're looking at how do you solve these connectivity problems both when the battery is assembled and shipped, when it's in the vehicle, and then what do you do with the battery after you take it out of the vehicle and how do you build a secondary market for these batteries. So, we're really thinking about all the physical connectivity, reliability and full lifecycle issues. So, I think we've got quite a ways to go in terms of the technology roadmap for battery management.

Mike Lucarelli: And I'll add from the market perspective, EVs have just started. I think they're 2%, maybe 2% of sales today, but every OEM is lined up to launch EVs and that's a great proposition for ADI, because we are the market leader in EVs, we have the highest performance BMS solution like Dan outlined and we're innovating on top of that solution. So, the more EVs that deploy or are bought the better it is for automotive business.

Tore Svanberg: Thank you both for that.

The next question is not necessarily tied directly to edge processing, but from a CTO perspective what does buying Maxim do for ADI? Do you feel that there are product gaps post maxim, and do you need more digital and similar capabilities?

Dan Leibholz: I've had the pleasure to meet a number of the folks from Maxim over the years, it's a fabulous company, fabulous engineering team. They bring a lot of scope and scale to the power management, I think it's practically double our power management scale, but also the capabilities. They've got a really good technology around data center power which is a hugely growing area, they got technologies in automotive, a lot of applications, specific technologies in automotive and in consumer around power. And then outside of power, some really great franchises. Their GMSL franchise in automotive is really second to none and healthcare; They've done some really innovative things. So with that, there's a range of skill sets in the company, whether it's the entire stack in power management, from semiconductors through applications, and then connectivity stack from solving core problems in automotive all the way up through video distribution, so that has legs in a lot of other areas. And healthcare, we're really just getting started with our digital health care strategy and there's a ton that we can do. So I view it as that company is very complimentary in terms of the skill sets that they bring, but then as we think about moving the whole company up into more assistance and solutions, we're going to continue to grow that ratio that I mentioned of what is about 30/70 software, hardware. I think that that ratio will continue to expand as we push into more complete solutions.

So, it's a combination. It adds scale and capability across the board, but then gives us a platform to continue to grow in the areas that we need more skills.

Tore Svanberg: Okay, thank you. Next question.

In industrial do you use your own factory automation technology in your own fabs and how much more efficient have they been able to improve their efficiency?

Dan Leibholz: We absolutely do, we're believers, and so we instrument our factories and try to get telemetry off them and we use that to the track equipment, to measure and predict the

performance, and predict when there might be downtime needed, so it's absolutely part of what we do.

But I think to be to clarify: Our factory scenario is semiconductor manufacturing and test. And that's just one slice of overall factory automation. And so where it's applicable and where it adds value in our factories, we absolutely use it and then we use that as part of our feedback path to learn what's relevant and how do we solve these problems and how do we integrate into our systems.

Tore Svanberg: Very good, Next question.

ADI appears to be pursuing a vertical solutions based analog strategy i.e. developing products where more customization, fewer markets, fewer larger customers and the acquisition of Maxim is consistent with that approach. On the flip side, TI appears to be pursuing more of a catalog analog strategy, i.e. developing products that can be sold into many customers and markets. Which strategy is better and why or can you pursue both?

Dan Leibholz: Yeah, I think it's that last piece, the pursuing both. We've got an incredibly broad customer set and broad and diverse applications. And I think we've got, you know, well over 100,000 customers, 45,000 unique product SKUs, and that breadth really does a couple things for us.

First of all, we're exposed to lots and lots of applications which gives us diversity, which gives us a lot of financial stability, but it also gives us insight into what's emerging and what are the emerging problems that need to be solved and it gives us our antenna into the marketplace. And then we find those areas where there's a need to, where we see growth and where there's a need to double down in terms of the solution, and then we invest R&D into those spaces. So it's really a combination and even when you look at some of our very vertical plays where you'll often see is, we'll sell an anchor product or a flagship product, but then with our catalog and with our diverse offerings we'll sell the whole kit and that gives us more entry points into those customers to go and find more opportunities.

So that strategy of horizontal building out, not only just building out the catalog, but making our products easier to use, making them more accessible to the digital natives at our customers. That's a core part of our strategy and then building the more vertical solutions where we find those opportunities for growth.

Mike Lucarelli: You look at our portfolio, we're more catalog than we are ASSP. We have about 60% of our businesses is catalog, half our sales in industrial, the bulk of industrial, is catalog. And like Dan said, we love all of our children, they both serve great purposes. And the more diversity you can have in business the better shock absorber it is in bad times. I think we've seen a lot of that in the near term here with COVID. We had a portion of our business where the application specific side did better than the horizontal or catalog businesses and vice versa and other times the horizontal business is doing better. So, we like that diversity. It gives us upside and also cushions the downside.

Tore Svanberg: That's a point. Next question.

5G wireless infrastructure. Can you compare contrast your latest transceiver technology, including software defined radios versus Xilinx RFSOC?

Dan Leibholz: Sure. So, you may know I ran our 5G business for the five years, up until last year and really proud of the work that our teams that developed there.

As a standard came into and really evolved in the early days where we had this thing called 4.5G and early 5G, the technologies that were highly flexible, such as FPGA technology, were really quite useful. But what we've seen over time is that what our customers really need for large scale deployment is a combination of performance and form factor and that size, weight, and power is really critical dimension to what they do. And so what we've done in our technology is found what we call the sweet spot of digital capabilities that get integrated in with the transceiver and that interface provides the most efficient interface to ASICs, and what we've seen from our customers perspective is that that seems to be the partition that they prefer. They want to roll in ASIC that gets them the cost and the scaling that they need for massive deployments in areas with cost pressure, price pressure and then couple that to transceivers that are highly flexible that can adapt to the different frequency standards and the different standards of noise environments all around the world. And that seems to be the preferred partitioning and I think that you've seen that acknowledgement by Xilinx in terms of how they talk about customers that have moved to ASICs, if you will. I think that's a paraphrase. So, I think you see that our customers are preferring as an ASICs solution around the digital and then a transceiver with the right amount of embedded hardware to reduce the overall power and footprint.

Tore Svanberg: So, with that question, one of your partners in the space is actually about to start their analysts day so I'm sure the investors are going to be getting on that zoom pretty soon.

So, with that, it's 46 minutes into the call, I want to thank Dan and Mike for doing this.

I want to emphasize again that edge processing, it's still very, very early days. There's several different ways of investing in this exciting trend. I personally believe ADI is one of the better ones again given the company's heritage in data converters, but more importantly, the company's very, very high exposure to industrial customers, which obviously benefit from very high reliability data converters and edge processing.

So, Dan and Mike, I don't know if you have any last things you want to share with us before we close it up.

Dan Leibholz: No, thanks Tore I appreciate the opportunity. And yeah, as I mentioned, the space of edge processing, we sort of think of it as that whole problem from what are you trying to measure, what problem are you trying to solve, to how do you ultimately do the computes. And so that, from our perspective, it's that whole pipeline. And yes, we are weighted towards the sensor node, but it's part of that whole equation of this industrial 4.0 and IoT strategy.

Tore Svanberg: Excellent. Mike, any last words for you.

Mike Lucarelli: Enjoy the Marvel analyst day and always remember that they're are great partner of ours, so whenever they get a win there's other guys who don't get a win.

Tore Svanberg: All right, well, Dan, Mike, thank you so much again really appreciate you doing this and for the participants, there will be a recording of this. We have also sent out, or will be able to share, the presentation with you. I believe, Mike, you're going to have it on your website as well.

So, thank you again and have a very good day everyone. Thank you. Cheers.

[End]