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PRESENTATION

Operator

Good afternoon, and welcome to Diodes Inc. Fourth Quarter and Full Year 2019 Financial Results Conference Call. (Operator Instructions) As a reminder, this conference call is being recorded today, Tuesday, February 11, 2020,

I would now like to turn the call over to Leanne Sievers of Shelton Group Investor Relations. Leanne, please go ahead.

Leanne K. Sievers - Shelton Group - President

Good afternoon, and welcome to Diodes Fourth Quarter and 2019 Financial Results Conference Call. I'm Leanne Sievers, President of Shelton Group, Diodes' Investor Relations firm. Joining us today are Diodes' President and CEO, Dr. Keh-Shew Lu; Chief Financial Officer, Brett Whitmire; Vice President of Worldwide Sales and Marketing, Emily Yang; and Director of Investor Relations, Laura Mehrl.

Before I turn the call over to Dr. Lu, I'd like to remind our listeners that the results announced today are preliminary as they are subject to the company finalizing its closing procedures and customary quarterly review by the company's independent registered public accounting firm.

As such, these results are unaudited and subject to revision until the company files its Form 10-K for its fiscal year 2019. In addition, management's prepared remarks contain forward-looking statements which are subject to risks and uncertainties, and management may make additional forward-looking statements in response to your questions. Therefore, the company claims the protection of the safe harbor for forward-looking statements that is contained in the Private Securities Litigation Reform Act of 1995. Actual results may differ from those discussed today, and therefore, we refer you to a more detailed discussion of the risks and uncertainties in the company's filings with the Securities and Exchange Commission, including Form 10-K and 10-Q. In addition, any projections as to this company's future performance represent management's estimates as of today, February 11, 2020. Diodes assumes no obligation to update these projections in the future as market conditions may or may not change, except to the extent required by applicable law.

Additionally, the company's press release and management statements during this conference call will include discussions of certain measures and financial information in GAAP and non-GAAP terms. Included in the company's press release are definitions and reconciliations of GAAP to non-GAAP items, which provide additional details. Also throughout the company's press release and management statements during this conference call, we refer to net income attributable to common stockholders as GAAP net income. For those of you unable to listen to the entire call at this time, a recording will be available via webcast for 90 days in the Investor Relations section of Diodes' website at www.diodes.com.

And now I'll turn the call over to Diodes' President and CEO, Dr. Keh-Shew Lu. Dr. Lu, please go ahead.



Keh-Shew Lu - Diodes Incorporated - CEO, President & Director

Thank you, Leanne. Welcome, everyone, and thank you for joining us today. 2019 was another record year for Diodes across all financial metrics, generating solid revenue growth as well as increasing profitability and cash flow. Additionally, our record performance in automotive and industrial markets combined with record sales from our Pericom IC products continue to be key contributors to our growth and margin expansion. As a result of our strong cash flow generation, we have also been able to strengthen our balance sheet and significantly reduce long-term debt to below \$100 million.

Our full year revenue growth of 2.9% once again outperformed our served market, which was down 6.6% in 2019. This consistently above-market performance is the direct result of our targeted sales strategy to serve as a total solution provider, leveraging our expanded product portfolio and broadened customer relationships. Our approach has also resulted in increased market share and content gains across key end equipment, while also addressing new application areas.

Looking forward to the coming year. We expect to maintain our strong performance and continued achievement of [record] (corrected by company after the call) results. As we take further steps toward our long-term finance goals of 40% gross margin and 20% operating margin. With automotive and industrial markets approaching to our target of 40% of total revenue, we are well positioned to further drive growth and the margin expansion.

Our focus remains on increasing content across the growing end markets of automotive, industrial, high-end servers and storage, 5G as well as IOT.

Before I turn the call over to Brett, I would like to take a moment to comment about the coronavirus outbreak in China. First and foremost, our top priority is our people, and Diodes is taking proactive measures to protect the safety, health and well-being of our global associates as well as their families and the communities. Brett will discuss this further as part of the first quarter 2020 outlook.

Additionally, I would like to provide a brief update on our proposed acquisition of Lite-On Semiconductor. As we announced in January, Lite-On Semiconductor approved a resolution in which they sold more than half of their holdings of On-Bright Electronics or 16.5% of outstanding to Orthosie, an entity in which On-Bright will become a wholly-owned subsidiary. This stock [transaction] (corrected by company after the call) was completed on January 14 at NTD 221 per share. Upon approval and the completion of the merger between On-Bright and Orthosie, Lite-On Semiconductor's remaining 14.69% of On-Bright shares will be exchanged for NTD 230 per share on the record day of the merger. As we stated in our announcement, these actions were taken in order to help facilitate the review by the relevant Chinese authorities. We remain confident our acquisition of Lite-On Semiconductor will close as planned once the final regulatory approvals have been secured, which we anticipate will be in the second half of this year.

With that, let me now turn the call over to Brett to discuss our fourth quarter and full year financial results, and our first quarter 2020 guidance in more detail.

Brett R. Whitmire - Diodes Incorporated - CFO

Thanks, Dr. Lu, and good afternoon, everyone. As part of my financial review today, I will focus my comments on the sequential change for each of the line items and would refer you to our press release for a more detailed review of our results as well as the year-over-year and full year comparisons. Revenue for the fourth quarter of 2019 was \$301.2 million as compared to \$323.7 million in the third quarter of 2019. For the full year 2019, revenue was a record \$1.25 billion, an increase of 2.9% from \$1.21 billion in 2018 and well over the growth of our served markets.

Gross profit for the fourth quarter was \$109.4 million or 36.3% of revenue compared to the third quarter 2019 of \$122 million or 37.7% of revenue. For the full year, gross profit increased 7% to \$465.8 million or 37.3% of revenue as compared to \$435.3 million or 35.9% of revenue in the prior year. Both gross profit and gross margin were records.



GAAP operating expenses for the fourth quarter of 2019 were \$48.1 million or 16% of revenue, and on a non-GAAP basis were \$65.2 million or 22% of revenue, which excluded a \$24.4 million pretax gain on the sale of land, \$4.5 million of amortization of acquisition-related intangible asset expenses, \$1.6 million loss on asset impairment and a \$1.2 million acquisition-related costs. GAAP operating expenses in the prior quarter were \$73.3 million or 22.7% of revenue. Total other expense amounted to approximately \$1.7 million for the quarter, including \$2.4 million of foreign currency losses, \$1.7 million of interest expense, partially offset by \$2 million of other income and \$409,000 of interest income. Income before taxes and noncontrolling interest in the fourth quarter 2019 was \$59.6 million compared to \$48.7 million in the previous quarter.

Turning to income taxes. Our effective income tax rate for the fourth quarter was approximately 20.2%. GAAP net income for the fourth quarter 2019 was \$47.2 million or \$0.90 per diluted share compared to GAAP net income of \$38.1 million or \$0.73 per diluted share in the third quarter 2019. The share count used to compute GAAP diluted EPS for the fourth quarter 2019 was 52.1 million shares. GAAP net income for the full year 2019 was a record \$153.3 million or \$2.96 per diluted share compared to \$104 million or \$2.04 per diluted share in 2018. Non-GAAP adjusted net income in the fourth quarter was \$33.8 million or \$0.65 per diluted share, which excluded net of tax, \$19.2 million gain on land sales, \$3.7 million on noncash acquisition-related intangible asset amortization costs and \$1.3 million of asset impairment charges. This compares to non-GAAP adjusted net income of \$41.9 million or \$0.81 per diluted share in third quarter 2019. Non-GAAP adjusted net income for the full year 2019 increased 24.6% to a record of \$151.1 million or \$2.91 per diluted share compared to \$121.3 million or \$2.38 per diluted share in 2018.

EBITDA for the fourth quarter was \$88.3 million or 29.3% of revenue compared to \$78.3 million or 24.2% of revenue in the prior quarter. EBITDA for the full year improved over 20% to a record \$313.6 million or 25.1% of revenue compared to \$261.1 million or 21.5% of revenue last year. We have included in our earnings release a reconciliation of GAAP net income to non-GAAP adjusted net income and GAAP net income to EBITDA, which provides additional details. Cash flow generated from operations was \$52.1 million for the fourth quarter 2019 and \$229.8 million for the full year. Free cash flow was \$29.7 million for the fourth quarter, which included \$22.4 million for capital expenditures and \$131.3 million for the full year, which included \$98.5 million of capital expenditures or 7.9% of revenue. Net cash flow in the fourth quarter was a positive \$39.8 million, which includes the paydown of \$22.6 million of long-term debt in the fourth quarter and a positive \$17.7 million for the full year, including pay down of approximately \$117.3 million of long-term debt during the full year 2019.

Turning to the balance sheet. At the end of fourth quarter, cash and cash equivalents plus short-term investments totaled approximately \$263 million. Working capital was \$524.5 million and long-term debt, including the current portion, was \$98 million. In terms of inventory, at the end of the fourth quarter, total inventory days increased to 112 in the quarter compared to 104 last quarter as we prepared for the Chinese New Year. Total inventory dollars amounted to approximately \$236.5 million, which reflects a \$3.2 million increase in finished goods and a \$2.4 million increase across raw materials and work in process. Finished goods inventory days was 29 in the quarter compared to 27 in the third quarter of 2019. Capital expenditures on a cash basis for the fourth quarter 2019 were \$22.4 million or 7.4% of revenue and \$98.5 million or 7.9% of revenue for the full year. We expect CapEx for the full year 2020 to remain within our target model of 5% to 9% of revenue.

Now turning to our outlook. For the first quarter of 2020, we expect revenue to be approximately \$290 million, plus or minus 3%. At the midpoint, this represents a reduction of approximately 3.7% sequentially, which is better than the typical seasonality. We expect GAAP gross margin to be 35.0%, plus or minus 1%. These guidance ranges reflect the delayed start to manufacturing production following the extended Chinese New Year holiday, due to the coronavirus outbreak in China. All production, including wafer fabs and assembly test facilities in China resumed on February 10. But we anticipate it to take longer to return to full production. At this time, it is difficult for us to fully determine the potential impact to the supply chain or the customer demand disruption resulting from the prevailing crisis.

As a reminder, Diodes does not have a manufacturing facility in the affected areas of Wuhan and Hubei province as our primary facilities are located in Shanghai and Chengdu. Similar to many other companies, we will continue to closely monitor the situation.

Continuing with our first quarter guidance, non-GAAP operating expenses, which are GAAP operating expenses adjusted for amortization of acquisition-related intangible assets are expected to be approximately 22.5% of revenue, plus or minus 1%. We expect net interest expense to be approximately \$2 million. Our income tax rate is expected to be 20%, plus or minus 3%, and shares used to calculate diluted EPS for the first quarter are anticipated to be approximately \$52.9 million. Please note that purchasing accounting adjustments of \$3.7 million, after-tax, for Pericom and previous acquisitions are not included in these non-GAAP estimates.



With that said, I now turn the call over to Emily Yang.

Emily Yang - Diodes Incorporated - VP of Worldwide Sales & Marketing

Thank you, Brett, and good afternoon. As Dr. Lu and Brett mentioned, we had a record year in 2019, with revenue growth once again outperforming our served markets. Looking more closely at the fourth quarter, revenue reflecting the seasonal softness and inventory adjustments that are typical of our industry at the end of the year. POS was down slightly, mainly driven by the slowdown during Christmas holiday in North America and Europe. Distributor inventory in terms of weeks was flat in the fourth quarter, which is within our normal range of 11 to 14 weeks. We expect distributor inventories to remain within our normal range of 11 to 14 weeks in the near term.

Looking at the global sales for 2019, Asia represented 75% of revenue, Europe 15% and North America 10%. In terms of our end market distribution for the whole year, the industrial market represented 28% of total revenue; consumer, 23%; communication, 23%; computing, 16%; and automotive, 10% of revenue. Now let me review the end markets in greater detail.

For the automotive market, we continue to see significant growth in this market as we capture both increasing market share and content gains despite the overall challenges with a decreased unit output of autos during the year. Revenue in this end market grew more than 14% in 2019 to 10% of the total revenue, representing a 29.4% CAGR since 2013.

Our ability to secure an increasing number of design wins has been a key factor to our success, in particular, for application in Connected Driving, including ADAS, Telematics and Infotainment as a result of the record increase of electronics in today's highly connected cars. In addition, robust ESD protection is becoming increasingly more important and our Production Products offer high reliability and high-performance solutions in ESD protection, that covers the entire spectrum for Connected Driving applications.

We are also seeing continued success with our proprietary SBR technology. These products are optimized for high surge capability to ensure greater protection against negative spikes and inductive load surges, thereby yielding increasing ruggedness and reliability in often noisy automotive applications. This product series is suitable for a wide range of applications in Connected Driving, Powertrain, Battery Management, Lighting, Body Control and Central Information Display. Additionally, we continue to expand our content in Comfort, Safety and Lighting area. Our new Zener diode product family is gaining momentum in automotive lighting applications, and we also have strong momentum for Bipolar transistors in lighting, LiDAR, Radar and Wireless charging.

Also in the automotive space, Diodes' leading PCI Express Gen 2 Packet Switch solutions were broadly adopted in the next-generation telematics designs and will start to ramp this year.

During the quarter, we also continued to expand our leadership position by releasing additional Pericom products, including a PCI Express Gen 2 packet switch family. That meets the AEC-Q100 Grade 2 for higher temperature requirements and low standby power consumption to satisfy the "always on" requirement.

In the industrial end market, revenue grew 14.7% for the full year over 2018, representing a 6-year CAGR of 14.6%. Brushless DC motor and LED lightings are key industrial applications for Diodes MOSFET products. We have addressed these applications using our SGT MOSFET technology for low power loss, as well as normal density Trench MOS technology for better safe operating areas. We are also addressing e-meter applications with our SASP and wide Vin LDOs. With the rapid adoption of high-speed interfaces across multiple end applications in the IoT industry, ESD protection is increasingly more important for these data links. Diodes' data line platform features ultralow capacitance with industry leading surge handling and ESD protection characteristics.

For the Industrial DC fans and Lighting markets, our SBR and Schottky products offer cost performance in a high-temperature operating environment that is ideal for these applications. Schottky diodes offer low and stable leakage under the high thermal stress, while our rectifiers package in the ultra-thin CSP package are growing in popularity for the space saving in DC Fan applications. We're also seeing our Latch and Omnipolar Hall Sensors gaining momentum in security cameras, fans, E-bikes and power tool applications.



Turning to consumer space, quick charges and direct charges have gained momentum in the response to the market need to reduce the charging time of batteries. The ultimate solution of USB-Power Delivery is to propel the output power to a higher level. With Diodes' advanced, SGT technology, 40-100V MOSFETs offer synchronized rectification and secondary synchronous rectification to support a wide voltage range of adapted topologies. Additionally, wireless power charging is also gaining momentum because of the convenience of use. To increase the wireless transmitter power, 20- to 30-volt MOSFETs in smaller packages are required, which Diodes offers. Also in the consumer market, Diodes protection products, including TVS, DC-DC, LDO, SBR and Schottky families are gaining traction in panels.

In the communication market, mobile communications have profoundly changed people's life with a 5G emerging as a key solution to meet the significant speed upgrade and large bandwidth requirements. Diodes seeing increasing demand in this area for our products that help improve 5G amplifier performance, boost power in the base stations, and also save on power consumption.

Diodes PCI Express Gen 2 packet switch family are designed into 5G mobile routers and 5G CPE home routers. Diodes also released our next-generation MIPI 2:1 switch for cell phone applications. With higher resolution capability and superior performance under cross-talk further delivers the highest system performance for camera picture quality supporting 5G phones, which are expected to hit the mainstream market in 2020.

Lastly, in the computing market, our SASP products saw a resurgence of revenue growth in notebook PC applications in GPP rectifiers and bridge rectifiers, as well as TVS products. As notebook and PC markets continue to adopt USB Type-C, this application is emerging as the next big growth engine for Power Protection. We have current solutions to protect all pins on Type C connectors and are also developing custom solutions for customer-specific usage on Type C applications.

Additionally, Diodes comprehensive product portfolio for docking stations continues to provide customers solutions for interface and switching needs. Our newly released PCI Express Gen4 crossbar switches offer the best performance with high bandwidth and low signal loss, while also being designed-in for connecting the notebook to dock port at major OEMs.

In summary, our achievement of record annual results and growth that exceeds our served markets is further testament to the success of our total solution sales approach that has resulted in market share gains and content expansion at key customers.

We are well positioned to continue driving further growth and margin expansion in the coming year and looking forward to reporting our ongoing success and milestone achievements towards our long-term financial goals.

With that, we have now open the floor to questions. Operator?

QUESTIONS AND ANSWERS

Operator

(Operator Instructions) And our first question comes from the line of Gary Mobley from Wells Fargo Securities.

Gary Wade Mobley - Wells Fargo Securities, LLC, Research Division - Senior Analyst

I want to start off by asking about your Q1 guide. It sounds as if your inventory -- your own inventory days were sufficiently high enough heading into the -- as you started the first quarter. And so therefore, I'm assuming that the fewer workdays among your employee base is not really having too much of an impact on your sales outlook for the first quarter, but really more so on the gross margin side. And correct me if I'm wrong there. But my question is, can we see some reversal of this impact in the second quarter, as presumably your manufacturing utilization rates could be higher in the second quarter, and thus, some fairly sharp improvement in the overall gross margin?



Keh-Shew Lu - Diodes Incorporated - CEO, President & Director

Okay, Gary. Let me answer those questions. First, you are 100% correct. In the end of -- in the fourth quarter last year, because we know we're going to have a Chinese New Year slowdown as usual, so we built up additional finished goods inventory to prepare for Chinese New Year. And then -- due to -- unfortunately, due to the coronavirus, our factory in Chinese -- in China actually slowed down the opening for more than we expected. Okay? And we plan -- we don't -- typical -- we only plan 3 to 1-week shutdown and this time, we actually get over 2 weeks of the Chinese New Year shutdown. So it's fortunate we have finished goods buildup. And therefore, if you look at our guidance of \$290 million it already reflects the manufacturing slowdown and the inventory flush and all those reflect this \$290 million.

The reason we put up a wider range of the revenue changing from typically plus/minus 2% to plus/minus 3%. It was due to -- we really still cannot feel out or we still don't know the supply chain of our building material, most of them coming from outside of China, but some of the supply chain material is coming locally and that we don't know probably happen. Okay. Even we have some inventory, but we still cannot feel out what will be the whole picture. And most uncertainty is our customer, because our customer gets the same reaction or the same restriction such that they cannot open until February 10. And some of the factories and some of our customers, even extend that shutdown. And if you have a factory in Wuhan, that's still not going to be happen. And so from all these ones, we opened up our range for the revenue.

Then you're talking about gross margin. The gross margin because of the extended shutdown, and therefore we guide for 35%. And but since -from that point of view, we're thinking we already know or at least we can feel up how many people return and what kind of run rate going up from week-to-week, how many people will return to work from week-to-week. Therefore, we guide -- that's usual, plus/minus 1%. And so basically, this is the reason we give that kind of guidance, we already -- we already can anticipate the revenue and the wafer fab and the assembly function. And I think in my speech, we already tell you, we do not have our factory in Wuhan or Hubei province. And most key manufacturing factory is in Shanghai, including wafer fab and assembly, and in Chengdu those are the key manufacturing areas. And virtually our wafer fab is not that much off-- is supplied by China, but it's not -- we still have a lot of wafer support from like OFAB in Oldham. We have foundry from Japan, Dongbu and Taiwan NextChip and MegaChips in Korea. Okay. And then Vanguard and NextChip in Taiwan and even Finteks in Japan. So we have a lot of -- we're full of supply. So our SFAB is a very small portion of our wafer fab support. And it is more concentrated in China. Okay. And so -- but from the guidance point of view, we are still better than seasonality, even if we are down 3.7%, still better than seasonality and is already put into consideration of the factory slowdown. The only thing we don't know will be supply chain and customer requirements.

Now you are talking about -- yes. And then you -- after the second quarter, if the demand starts getting strong, it is really the demand. We should have enough capacity and we already know by end of 1Q, our workers should be already back to normal.

See today, our CAT today is already -- manpower is already up to 85%. Now SAT in Shanghai, yes, it's only 45%, but they already have a control to know who will be back, who cannot be back, who will be -- need to be quarantined at home.

So we contact with all our employees to understand where they are and how -- when can they go back to work. So we believe by end of this month, February, we should be up to 60%, 70%. Then by end of March, we should be up to 90%. So I think you are right. In the second quarter, we should be fully up to running the manufacturing. Then the only question would be, if our customer is fully back or not. So that is the one we don't know.

Gary Wade Mobley - Wells Fargo Securities, LLC, Research Division - Senior Analyst

Okay. Brett, a couple of quick questions for you. I noticed your first quarter non-GAAP OpEx guidance is flat sequentially. And correct me if I'm wrong, but don't you normally see some sort of a merit increase in the second fiscal quarter? And could you sort of quantify what that may be? And as well, what your full year 2020 OpEx growth may look like if there's any growth at all?

Keh-Shew Lu - Diodes Incorporated - CEO, President & Director

Well, actually, let me answer that, Brett. Okay. We have 2 -- we have 2 different time periods for the compensation increase. In the January, then is China making function and officer compensation increase, then in July first will be the compensation increase for the rest of the people. Okay. So the impact for the gross margin actually in the 1Q, you can see some, but is not a major significant GP burden. The GP burden most is because of



the extended Chinese New Year slowdown and especially this year, that's more than usual slowdown. Okay. And that is what holds our GP and another real cause of the GP is the revenue because the revenue down, then your GP will be down because of building rate in our factory, typically will be slowed down, so utilization will not be full. Okay?

Gary Wade Mobley - Wells Fargo Securities, LLC, Research Division - Senior Analyst

Okay. What about tax rate for the year? You're going to just stay around this 20% mark that you're starting the year with?

Brett R. Whitmire - Diodes Incorporated - CFO

Yes, I think 20% is a good assumption.

Operator

Our next question comes from the line of Shawn Harrison from Longbow Research.

Shawn Matthew Harrison - Longbow Research LLC - Senior Research Analyst

Is my math right that the extra week of shutdown is maybe costing you within the guidance, \$2.5 million or \$3 million of cost. Is that the right way to think about it on a dollar basis that, that type of drag wouldn't repeat itself into the June quarter?

Keh-Shew Lu - Diodes Incorporated - CEO, President & Director

I really don't know on that. Because it depends on the mix, if from a revenue point of view, it depends on the mix. And we do have the inventory we can ship it out. Okay? So I don't have that number tied to the dollar. Okay, and I do -- I remember that number, we try to ship it out from the -- our warehouse, we call SDC in Shanghai, Shanghai distribution center, which is our warehouse. Currently, we plan to ship out that inventory, 900 million units. But I don't know what would be the ASP and what would be the GP increase due to that. But I know the number, but I do not get into how much dollar will be.

Shawn Matthew Harrison - Longbow Research LLC - Senior Research Analyst

Okay. You're not seeing anything abnormal in the pricing environment right now Dr. Lu. It's pretty benign still.

Keh-Shew Lu - Diodes Incorporated - CEO, President & Director

I actually do not want to drop the price. Because if the demand is the issue, not for us, supply. We ...

Emily Yang - Diodes Incorporated - VP of Worldwide Sales & Marketing

Let me answer the question. We haven't really seen anything abnormal price pressure or price change going through this time period at this moment. Yes, we did have 1.5% to 2% price reduction buffered into our business model...

Keh-Shew Lu - Diodes Incorporated - CEO, President & Director

Our business model typically is once quarterly ASP dropped 1.5% to 2%. We still see in that kind of model, but we don't see unusual price pressures.



Shawn Matthew Harrison - Longbow Research LLC - Senior Research Analyst

Okay. And then one final question. Let's exclude maybe the virus unknown for a second, but you grew a fantastic double digits in the industrial and auto business last year. Do you think you have the product wins or share gains or whatever that would allow those businesses to see that type of robust growth again in 2020?

Keh-Shew Lu - Diodes Incorporated - CEO, President & Director

Okay. My answer is definitely yes. Because we were down, the whole industry will be down anyway. If the demand really slowed down, not because it's due to some key components or some labor -- the factory -- our customer cannot get enough labor for building the units or due to the key components cannot supply. The whole industry should be down anyway. So we are in the good position because of our product portfolio and because of our solution sales. And all this one, I just don't think our growth will be changed. So we will continue gaining the market share. I don't see a reason why not.

Emily Yang - Diodes Incorporated - VP of Worldwide Sales & Marketing

Yes. So we have a really good pipeline right now. Really, the result for all this commitment and the demand creation from the past. So we're pretty confident that we'll continue to grow in the automotive area, especially it sounds like for example, the next-generation telematics adopted by Pericom side of our product. So we're really confident that the momentum will continue.

Operator

(Operator Instructions) And our next question comes from the line of Tianyan Goellner from Sidoti.

Tianyan Goellner - Sidoti & Company, LLC - Analyst

So I just wanted to get some sense about the revenue in 2020. So -- because usually the revenue kind of in the first half and the second half are pretty evenly split. So for this year, probably we'll see some second half loaded. Is that correct?

Keh-Shew Lu - Diodes Incorporated - CEO, President & Director

Well, for sure, this year will be because 1Q going to be so much trouble or uncertainty due to the coronavirus. And I believe it will slow down the impact in second quarter, but I still don't have any information that they're going to be completely recovered by end of second quarter. I don't know, that will be the case or not. But if that happens then third quarter and fourth quarter will start to be booming. So I definitely think first half will be below than the second half of 2020.

Tianyan Goellner - Sidoti & Company, LLC - Analyst

Okay. That's very helpful. Next one, maybe some color on the end markets, for example, communications and consumable computing. So in 2020, I know industrial and automotive will be still strong. But -- so when we're looking into 2020, how should we think about those 3 remaining end markets?



Emily Yang - Diodes Incorporated - VP of Worldwide Sales & Marketing

Right. So let me address this. This is Emily. I think for communications, I did mention a little bit about 5G performance is actually going to be, especially on the mobile side going to start ramping, and we believe that will definitely boost up some of the areas. In this area, on top of that, there's also routers and switch related to the 5G. So we think this is going to be a bright spot for us. For the computing as well, right, if you really think about, we talk about the data rate, we talk about the speed. So we believe the computing, especially high-end server and router and storage will continue to drive some of the upside momentum and the opportunity for us, right.

I think the consumer side, the IoTs even related to 5G that's actually going to drive some of the new demand in this area. So we're pretty confident we'll continue to focus on the areas we've been talking about, right? 5G is within communication, high-end server storage within the computing area and IoT on the consumer side on top of the industrial automotive that we show significant performance in both of those areas already. So that's been -- we'll continue to focus and that's not going to change in 2020.

Tianyan Goellner - Sidoti & Company, LLC - Analyst

Okay. But in 2019, I think all those 3 end markets were down like single digits, they were low single digit. Should we expect the trend would be very similar in 2020?

Emily Yang - Diodes Incorporated - VP of Worldwide Sales & Marketing

When you say single digit, you mean the growth in single digit?

Tianyan Goellner - Sidoti & Company, LLC - Analyst

Yes, correct. Yes, correct.

Emily Yang - Diodes Incorporated - VP of Worldwide Sales & Marketing

Right. But if you can see the overall market in Brett's comments, the overall market with our participant area, 6.6% drop. So even with the single-digit growth from Diodes, that still outperforms compared to all our other peers in the industry.

Keh-Shew Lu - Diodes Incorporated - CEO, President & Director

Well, if you look at minus 6.6% plus 2.9%, then actually, it's almost 10%.

Emily Yang - Diodes Incorporated - VP of Worldwide Sales & Marketing

Right, right. And then also like some example, in the computing area, we're all aware of the Intel chipset shortage and stuff like that. We believe in 2020, the situation will improve based on Intel's announcement. So that is the other area that is also driven by the market and also driven by the other vendors grabbing the market as well.

Tianyan Goellner - Sidoti & Company, LLC - Analyst

Okay, that's very good. So my last question, if I may, would be for Brett, on the CapEx. You just mentioned that in the prepared remarks, that 5% to 9% of revenue would be the good assumption. So I'm wondering, considering in the third quarter and in the fourth quarter, that capital intensity was at like 7.9%. Should we assume at the higher end of 5% to 9% or just the midpoint?



Keh-Shew Lu - Diodes Incorporated - CEO, President & Director

Well, let me answer this. Because I will not allow, okay, the CapEx above our model. Because our model is 5% to 9%, so I would not allow it. But only 1 case if we alter the space in Chengdu, then we build at Chengdu another big building, another facility and the equipment and all. So when we -- out of the capacity of space for Chengdu, we do need to build the buildings. Then that will boost up our CapEx a little bit more. But fortunately, they are not depreciated in 5 years. They are depreciated in 15 -- it's 15 years. So it's not a big depreciation. Okay. So we will still try to keep it -- we will still keep it at 5% to 9% model.

Operator

Thank you. At this time, I'm showing no further questions. I would like to turn the call back over to Dr. Lu for closing remarks.

Keh-Shew Lu - Diodes Incorporated - CEO, President & Director

Okay. Thank you for your participation on today's call. Operator, you may now disconnect.

Operator

Ladies and gentlemen, this concludes today's conference call. Thank you for participating. You may now disconnect.

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