

# **Research Solutions, Inc. OTCPK:RSSS**

## **FQ3 2019 Earnings Call Transcripts**

**Wednesday, May 15, 2019 9:00 PM GMT**  
S&P Global Market Intelligence Estimates\*\*

\*\*Estimates Data not available.

# Table of Contents

Call Participants	.....	3
Presentation	.....	4
Question and Answer	.....	7

# Call Participants

## EXECUTIVES

**Alan Louis Urban**

*CFO & Secretary*

**Peter Victor Derycz**

*Founder, CEO, President & Director*

## ANALYSTS

**Greg Silvershein**

**Scott A. Billeadeau**

*Walrus Partners, LLC*

## ATTENDEES

**Unknown Attendee**

# Presentation

## Operator

Good afternoon, everyone, and thank you for participating in today's conference call to discuss Research Solutions' financial and operating results for its fiscal 2019 third quarter ended March 31, 2019.

Earlier today, the company issued a press release discussing these results, and a copy of the release is available for viewing and can be downloaded from the Investor Relations section of the company's website.

Joining us today are Research Solutions' President and CEO, Peter Derycz; and the company's CFO, Alan Urban. Following their remarks, we will open the call for your questions.

Then before we conclude today's call, I will provide the necessary cautions regarding any forward-looking statements made by management. I will also provide information regarding the company's use of non-GAAP financial information.

Finally, I would like to remind everyone that this call will be recorded and made available for replay via a link in the Investors Section of the company's website.

I'll now turn the call over to Peter Derycz, Research Solutions' President and CEO.

## **Peter Victor Derycz**

*Founder, CEO, President & Director*

Thank you, operator, and good afternoon, everyone. I'll open the call with several comments about our third quarter, then pass the call to Alan to speak about our results in greater detail. I will then return to speak about some of our exciting initiatives and our outlook for the remainder of fiscal 2019.

The third quarter marked continued progress in our SaaS-based Platform business with strong revenue growth and additional margin expansion. Driving these results was continued Platform up-sells, which confirms that our current users are finding value in the offering and are seeking greater access to its functionality. Behind these up-sell transactions is our Customer Happiness group, which provides both customer support and advanced account management. This team has done an excellent job helping our customers take the best advantage of what our Platform has to offer.

We also completed 2 major internal initiatives during the quarter that we believe will support new Platform deployments. First, we completed the migration of our Platform from internal servers and are now entirely cloud-based, which provides near unlimited scalability. We also completed the build-out of our sales team along with implementing more targeted marketing strategies to better articulate the value proposition of the Platform to potential new users.

In addition, we made incremental upgrades to the Platform, including enhancements to the Reference Manager gadget and launching marketing campaigns to promote its unique value and functionality. Although the Reference Manager gadget has been live on the Platform for several months, in conjunction with our new marketing strategy we wanted to provide a formal introduction to this core gadget and give a thorough explanation of its specific use cases.

We anticipate continuing to more broadly introduce several other Platform functions and tools through specific press campaigns and follow-on marketing opportunities, despite possibly having already mentioned them to our investors in prior calls.

I will have more to say about these operational highlights and others as well as expand upon other initiatives and our go-forward strategy after Alan walks us through our quarterly financial results in detail. Alan?

## **Alan Louis Urban**

*CFO & Secretary*

Copyright © 2019 S&P Global Market Intelligence, a division of S&P Global Inc. All Rights reserved.

[spglobal.com/marketintelligence](http://spglobal.com/marketintelligence)

Thank you, Peter, and good afternoon, everyone. Jumping right into our fiscal third quarter results. Our Platform subscription revenue increased 53% to \$749,000 in Q3, which was driven by up-selling existing Platform customers and a 35% year-over-year increase in total Platform deployments from 208 to 281. This translates into 14 net incremental deployments in Q3, up 5% from Q2. The quarter ended with \$3 million in annual recurring revenue, up 11% sequentially and 51% year-over-year.

Please see today's press release for how we define and use annual recurring revenue and other non-GAAP terms. Our transaction revenue was \$6.6 million compared to \$6.8 million in the same year ago quarter. The decrease was due to our transaction count declining from 220,000 to 212,000. As we mentioned last quarter, we are seeing a general trend of decreasing transactions from our larger customers. However, this has been partially offset by transactions from new customers, including new Platform customers and increasing transactions from our smaller corporate and academic customers. Despite this, we still experienced 2% growth in total customer count to 1,078, with a number of corporate customers down slightly to 835 and academic customers up 15% to 243. Together, these businesses delivered consolidated revenue of \$7.4 million versus \$7.3 million in the same year ago quarter.

Moving on to gross margin. Our Platform business saw gross margin increase by 310 basis points to 82% compared to the same year ago quarter. The increase was driven by continued proportional decreases in third-party data costs. Our target gross margin in the Platform segment remains in the high 70% to low 80% range.

Gross margin in our Transactions business was up 100 basis points to 23.6%, primarily as a result of proportionally lower personnel cost, increased automation and improved processes. As a result, consolidated gross margin increased 320 basis points to 29.5% compared to the same year ago quarter.

Our total operating expenses were \$2.4 million compared to \$2.2 million in the same year ago quarter. The increase was primarily due to increased technology and product development spend in our Platforms business.

Net loss from continuing operations totaled \$151,000 or \$0.00 per share compared to a net loss of \$265,000 or negative \$0.01 per share in the year ago quarter. Adjusted EBITDA totaled negative \$30,000 compared to negative \$133,000 in the same year ago quarter.

Moving on to the balance sheet. Cash and cash equivalents at March 31, 2019, were \$5.3 million versus \$4.9 million at June 30, 2018. There were no outstanding borrowings under our revolving line of credit, and our balance sheet continues to remain clean with cash and receivables comprising nearly all of our assets and accounts payable, accrued expenses and deferred revenue representing nearly all of our liabilities.

This completes our financial summary. I'll now turn the call back to Peter. Peter?

**Peter Victor Derycz**

*Founder, CEO, President & Director*

Thanks, Alan. I'd like to spend more time highlighting our Platform business and the progress we have made with various initiatives along with those planned in the coming months. As mentioned earlier, we are very focused on ramping up new user sign-ups, particularly through our self-registration option. During the quarter, we were successful in this mission, doubling the sign-ups on to our pre-platform offering at about 100 per month in February to about 200 per month in March. Note, these pre-platform trial customers are not considered in our customer count, but they do represent a pool of very high quality leads that are prime for conversions.

To drive these free subscription sign-ups, we used marketing tools like SEO and digital marketing, including videos on our content as well as microsites, blogs, case studies and white papers. Through this process, we are able to collect a lot of useful data. In fact, as we look deeper into the data, we realized a lot of these new sign-ups were employed by research organizations or academic institutions that would benefit greatly from upgrading to our enterprise Platform.

As a result, we are significantly ramping up the marketing campaigns across various channels, including digital and social media that proved to be successful in the initial launch. This will provide us with even more user data to analyze along with a larger number of potential leads for revenue-generating programs, particularly for our enterprise offering. Our goal in this ramp-up phase is to add a run rate of approximately 1,000 new sign-ups per month to our pre-platform. As part of our accelerated marketing initiative, we will also continue to enhance and optimize our SEO strategy, which has proven to be quite successful as website traffic was up almost 100% for the quarter compared to a year ago. While accelerating the number of users interested in our product is obviously a focus, we have also implemented a plan to increase their conversion.

To do so, as I mentioned earlier, we completed the build out of our sales team and we'll begin to implement more sophisticated sales and marketing techniques, including multiple touch points from sales reps, social media posts, chat box on the website to provide user support and suggestions, call center functionality, tailored product messaging when users first log-in as well as post-session retargeting. We also now have sales reps in each of our key target markets as well as full reengagement with our key selling partners in additional markets that might not have a sales presence. We believe we have laid the solid foundation and implemented the necessary processes with our sales and marketing team to not only ramp up the user growth, but ensure users are upgraded to help them fully capture all the benefits of our enterprise Platform.

In addition to bolstering our sales and marketing teams to attract new users, we also continue to make incremental upgrades to ensure we always have the most up-to-date and innovative research tools for our current customers and potential new users. In fact, one of our most important gadgets, Reference Manager, had multiple upgrades during the quarter. Providing a steady stream of improvement to this gadget is a core focus of our gadget factory. We also launched a Reference Manager microsite to better explain the various applications for this gadget and how to properly utilize its full functionality.

Subsequent to the quarter, we introduced our release notes support page, which is now live. This will allow anyone who is interested, including customers, employees, prospects and investors the ability to track all new gadget releases, enhancements and bug fixes from a simple web page that one can subscribe to. We believe this will be a valuable resource for everyone as we begin to introduce new gadgets and improvements and show the progress our Platform is making on a frequent basis.

Last week, we also launched a new and improved look and feel for the Platform. The new interface provides more intuitive and user-friendly layout that will make the overall user experience even more efficient when searching and sorting through large amounts of research. Maintaining a fresh and state-of-the-art user interface remains one of our most important areas of focus. A successful growth of our Platform business hinges upon having an exceptional user experience to easily access our powerful capabilities.

In summary, as we look forward to the remainder of the year, we will be very focused on not only introducing more users to the Platform but converting those users to our premium subscription plans through targeted marketing campaigns. We also remain committed to providing innovative enhancements to our gadgets as well as the entire Platform. We believe we have the necessary people and infrastructure in place to further accelerate Platform growth and deliver an invaluable and powerful research tool for the many thousands of R&D organizations worldwide.

With that, I'd now like to turn the call back over to the operator for Q&A. Operator?

# Question and Answer

## Operator

[Operator Instructions] Our first question comes from Greg Silvershein with Grand Equity Corp.

## Greg Silvershein

Congratulations on a great quarter. I'm curious -- I have a few questions. The first is, how large is the sales team that's working on the Platform business? And of those how many have been added in the last 12 months?

## Peter Victor Derycz

*Founder, CEO, President & Director*

Yes. Hello, this is Peter. Our sales team currently counts 7 members, primarily divided between Europe and The United States. In addition to that, there are a couple of sort of key value-added resellers, 1 in Japan in particular that's been very active. They have been -- I think as of February, we sort of constituted the full team and outreach to the reseller network, but I would call -- I would consider this basically complete as of February.

## Greg Silvershein

Okay. And I'm trying to determine how many tools or gadgets are being added on a regular basis to the Platform, but I haven't seen many additions?

## Peter Victor Derycz

*Founder, CEO, President & Director*

Yes. There's over 100 gadgets now on the Platform. We are doing a combination of new gadgets, fixes and enhancements. What we did and we realized that a lot of investors and employees and customers were interested in following what's coming out is new or improved. And so we just recently launched in addition to our resources page the ability to track that. You will see us working on, what we call, bigger gadgets, things like Reference Manager, a little bit more complex. So you may see a bit of a reduction in new gadgets, but a constant stream of enhancements to existing gadgets, interconnecting existing gadgets and then again some big new gadgets as well as some, what we call, medium and small gadgets. So I think the best way to keep track of that is to follow it on the -- on that part of our resources page.

## Greg Silvershein

Okay. And my last question is, at the rate of current business, specifically I guess the increases that you're experiencing in the Platform business, when do you expect to hit profitability?

## Peter Victor Derycz

*Founder, CEO, President & Director*

We're pretty close in terms of our cash flow perspective at this point. I wouldn't say that that's our primary objective right now. We're pretty much cash flow breakeven. At this point, we have some noncash expenditures in terms of stock compensation and things like that, that affect our bottom line. But in terms of cash, we're pretty much cash flow neutral at this point. As we add more Platform business, the company does become more profitable. The gross margin on our product mix is improving as those revenues are growing. So I think we're on the verge, but we also, at this point, really trying to be opportunistic in figuring out how we can increase the Platform business. So we're not going to go crazy and spend all kinds of money, let's say, on sales and marketing. You don't have to see a whole bunch of crazy new expenditures. We do talk about us increasing our marketing spend a bit to capture new users. That is part of our marketing spend. That pertains to campaigns. So we will be doing more campaigns that will cost more money, but I don't think you're going to see anything unusual or really wild in terms of expenditures on that front.

**Operator**

[Operator Instructions] Our next question comes from Scott Billeadeau with Walrus Partners.

**Scott A. Billeadeau**

*Walrus Partners, LLC*

Maybe as you're certainly having success growing Platform business as that expands, can you talk about how that influences the transaction business ultimately because my understanding is you -- is that they get on the Platform, they do transactions through the Platform? Or will there be a certain all you can eat for a certain amount? Maybe if you could refresh my memory on that, that would be great.

**Peter Victor Derycz**

*Founder, CEO, President & Director*

Yes. No problem. Scott, this is -- yes, I think the all-you-can-eat aspect is not a component of what we do. So when you're buying transactions you're buying transactions and when you're paying for the Platform you're paying for the Platform. In that regard it's much like Amazon Prime. You may be a Prime member, it doesn't mean you're not going to buy anything. So from that bench point, there is no all-you-can-eat type of capability in terms of transactions on the Platform business.

We do talk about how some of larger transaction customers have been cutting their transaction spend as these large pharma R&D operations are sort of outsourcing to smaller- and medium-sized organizations. So our strategy on the Platform and the transactions really is to go and capture small- and medium-size research organizations, biotech companies and other R&D organizations that are emerging and that are supporting the larger organizations. And so we know that every time we add a Platform customer, they do buy transactions and that has been backfilling some of the decline, let's say, in the large pharma business in terms of transactions. So our strategy really there is just, hey, look at a lot more Platform customers and let's keep selling them transactions as well.

**Scott A. Billeadeau**

*Walrus Partners, LLC*

Great. And then, I think you mentioned you got, I think, the 281 current platform deployments. And do you consider a Platform deployment and that's a whole organization or could there be multiple deployments in an organization? Just trying to kind of get a feel for just the idea that you have total active customers of 1,000, you got Platform of 281, does that mean you're 1/4 -- almost 1/4 of the way there to basically convert active customers to Platform? Give me a little sense there, that would be great.

**Peter Victor Derycz**

*Founder, CEO, President & Director*

Yes. Remember, these are active, yes, but I think, the Platform paying customers do comprise about 1/4 of our total, what we call, customer count. Like when we count a customer, we're really talking about an R&D-based organization. There is the possibility that we could sell multiple Platforms to one organization. For example, if you have a medium or larger organization that has different operations in different regions, geographic regions or different departments, they just have different needs. In theory, one company could be the buyer of one or more platform. But at this point and at this stage of our development, we don't see too much of that right now. So it's really one customer, it's one organization.

**Scott A. Billeadeau**

*Walrus Partners, LLC*

Great. And the idea -- right now the idea is to get the platform, create value out of the platform, certainly drive transactions through the platform and ultimately be able to -- I mean, it has upgrades, provide value that you can extract probably over time with whether price increases or whatever on the Platform, but the idea now is more of a landgrab, let's get in, get the platform, find out all the problems we need to solve for them, implement it into the Platform and then you kind of got them to a certain extent. Is that the strategy at this point in time?

**Peter Victor Derycz**

*Founder, CEO, President & Director*

Yes. We know that once a customer is using our Platform, they like it. We have negative churn. Customers typically like it and stay on it once they're onboarded and trained. So our key challenge now is, hey, let's go get more customers onboarded and trained up, so that our entire customer base will grow. We're going to -- we do that partly through sales, partly through marketing as well as keeping our customers happy and getting them using more of the Platform. And aside from that, the product itself under our current initiatives is improving or constantly developing new improvements, new gadgets and new capabilities to the Platform. So the product itself is not stopping, it's becoming more valuable and more useful. So ultimately, we think that all of those elements are going to come together and help us be successful and help us deliver solutions that make sense to customers.

**Scott A. Billeadeau**

*Walrus Partners, LLC*

Okay. Great. And just last question, I think you mentioned the 7 sales guys kind of finishing that off, so to speak, in February. And then what they can feed? Do you have the implementation capabilities to handle what those 7 can bring to you? Or are you kind of leveraging some VAR partners for implementations as well? And I assume you to get better at these over time, so the 281st one was a much more efficient than the first 5. So I assume you're getting better at those as well.

**Peter Victor Derycz**

*Founder, CEO, President & Director*

Yes. No doubt about that. We have a lot more automation and a lot more -- just a much better system. So I think the bottleneck for us is not implementation at all. So I think we're pretty well equipped there with the infrastructure we have. So that's not going to be a bottleneck. I think the big thing for us really at this point in time is we have -- if you want to use a soccer metaphor, we have sales reps that are great scorers if you can get the ball to them, and we had a lot of balls at the beginning of the field in terms of getting new users and you have people responding to our marketing campaigns. So our big focus now is really getting the midfield right, so that we can get the balls from the back of the soccer field through the midfield up to our sales reps and go forward. So that's really the focus right now. We think the product is good. We think the pricing is good. It's just really a matter of figuring out the final details and what's going to make successful with nurturing, the leads we're finding to paying customers.

**Scott A. Billeadeau**

*Walrus Partners, LLC*

Great. And sorry just one more before I hop off. Is there still a really -- not running really into anyone else yet. Are you or are there other guys approaching it the same way so to a certain extent it's still kind of moving out of the evangelizing say as to, hey, we really have something that solid and foundational here you can build on?

**Peter Victor Derycz**

*Founder, CEO, President & Director*

Yes. I wouldn't say we're going up against one specific solution out there. I think if you look at what deals or things like that, we're really seeing a lot of people doing things on their own through their own processes, procedures, staff and so on. There are a few competitors out there that we do compete with historically, but I think when you really look at this product overall, it's really just making organization more efficient. And that means we're competing against process, procedures. We may run into obstacles like hey, we've been doing all this stuff and how's coming up with an additional X number of dollars to buy your Platform, just won't fit in our budget this year and things like that. But I think as we get more experience in doing with these types of situations, we can figure out budget and pricing and packaging and so on. I think -- so I think it's really just highlighting the value of our Platform, creating more content about our Platform, letting people know how it works and so on. So we're making serious investments now and just more information about our product basically and more content.

**Operator**

Our next question is from [ George Mulas, ] a private investor.

**Unknown Attendee**

Peter, you talked about some of the new users who self-registered onto the Platform, the free app of the Platform. And I think you mentioned 100 in February, 200 in March. Can you tell us a little bit about that? Are you happy with these numbers? And is there any sort of lesson that you've learned so far? Or is it just too early to see how they're using the Platform and what is the potential for conversion to the premium product?

**Peter Victor Derycz**

*Founder, CEO, President & Director*

Yes. In a way, it's a little early. What we really wanted to do in the first few months of having self-registration up and running was to figure out, hey, how can we -- what should we not be spending money on in terms of marketing and where can we focus more resources on. So it's really more of a testing of the tracking systems and -- as well as what kind of campaigns into the marketing work and what kinds don't. We've learned a lot in the last few months. And so I would say the early experimentation phase was really, hey, let's get 100 self-registrants onto the Platform every month, see how that's going, check the data, check systems, check the marketing messaging and campaign and then accept. On the call, we recently doubled that volume and now we're looking to quintuple that as we go into June. And then based on that, I think we'll have enough users to really start making determinations as to what can be learned from real data -- real quantities of data. So it's a bit early, but we know that we can -- the good thing is we know we can ramp up self-registered users and we know we can find other contacts that are good profile fits for us in terms being customers.

**Unknown Attendee**

Okay. And then you're tracking -- I'm sure you're tracking how they you're using the Platform? Is that kind of what you expected? Are they using at a fair amount? Are they sort of just trying it? I'm asking these questions, I imagine it's too early to come up with any conclusion, but I just can't help myself.

**Peter Victor Derycz**

*Founder, CEO, President & Director*

Yes, no. Yes, it's definitely early, but we do have these tracking mechanisms in place. We do have reporting. We are looking at the data. There's some people that are active and a lot that aren't. And I think it's -- what we're going to now is okay, well, let's analyze who these people are, the people that did take the time to sign up for free, are those good types of profiles for us. And many times they sign up with a generic e-mail, like a Gmail address or things like that. So even if they're professionals, they're looking at us with their personal, let's say, e-mail account. But when we do the research and really look at who are these people, we're finding that there are a lot of qualified candidates in there. And so that's the good thing is that they're taking the time to register for free. They're probably interested in what we do or have something that are involved in an area of professional activities that's related to what we do. So we're feeling good about that and that's why we're going to ramp it up now to -- from 100 to 200, now closer to 1,000.

**Operator**

Our next question is from Greg Silvershein with Grand Equity Corp.

**Greg Silvershein**

I've asked earlier questions, but I have another couple. It seems like that Platform is primarily pharma-driven and I'm wondering if there are plans to expand into other R&D businesses outside of pharma and how you might accomplish that?

**Peter Victor Derycz**

*Founder, CEO, President & Director*

Yes. I'd say that historically -- we're pretty in a way agnostic. If you're in the sciences, if you're R&D on science-based organization, you're potential customer of ours and we have tools that can help you. I'd like to highlight the fact that our first Platform paying customer was an aerospace company and not a pharma company. So we do have customers in all segments, but I would say that if you look at how the customers we've obtained so far in our history, a good 70% to 80% of them are in the life sciences or life sciences related and that could be directly involved in R&D. It could be regulatory. It could be intellectual property surrounding the life sciences. So you're right to point out that we look life science heavy. And as we develop more capabilities and listen to customers, it's very likely that customers will be requesting more and more life science tools. But having said that, there are a lot of tools in there. Our Reference Manager gadget is really agnostic in terms of industry. Our table of content, our learning capabilities go across all scientific subject areas. And so -- yes, I would say, we're -- R&D is our general expertise, but the types of customers that seem to be benefiting most do have -- do look like they're life sciences related.

**Greg Silvershein**

Got it. And then I'm also, I guess, confused by the prepaid royalties item on the balance sheet, if you could just speak to that, that would be great.

**Peter Victor Derycz**

*Founder, CEO, President & Director*

Yes. I'll pass it on to Alan.

**Alan Louis Urban**

*CFO & Secretary*

Yes. So typically, we pay our royalties to publishers in arrears. However, there is one publisher and that's a rather large publisher that we do prepay our royalty. We have a certain agreement that calls for the prepaying of royalty. And depending on if we prepay before quarter end or after quarter end, that prepaid royalty amount might change and that's exactly what happened this quarter. And if that number changes, it's going to affect the cash flow a bit obviously, but that's nothing out of the ordinary. I think if you go back for a few quarters or even a few years and look at that number, you'll see sometimes it's a little low, sometimes it's a little high, but always looks approximately around the same number.

**Operator**

At this time, this concludes our question-and-answer session.

Before we conclude today's call, I would like to provide Research Solutions' safe harbor statements that include important cautions regarding forward-looking statements made during today's call as well as statements regarding the company's use of non-GAAP financial information.

Statements made by management during today's call contain forward-looking statements that include information relating to future events and the future financial and operating performance. Examples of such forward-looking statements in this presentation include, but are not limited to, statements regarding the expected continued improvement and market acceptance of the company's products and services and the expected continued growth in Transaction and Platform deployments and revenue, that the company will be successful in executing its sales and marketing strategy, that the company will maintain and continue to develop its proprietary software and the company faces few barriers in terms of achieving greater global expansion and revenue growth. Such forward-looking statements should not be interpreted as guarantee of future performance or results and will not necessarily be accurate indications of the times at or by which the performance or those results will be achieved.

The forward-looking statements were based on information available at this time. They are made, and our management's good faith belief, as at that time with respect to future events and are subject to risks and uncertainties that could cause actual performance or results to differ materially from those expressed and/or suggested by the forward-looking statements.

Important factors that could cause differences include, but are not limited to, changes in economic conditions, general competitive factors, acceptance of company's products in the market, the company's success in obtaining new customers and new Platform deployments, the company's success in technology and product development, the company's ability to execute its business model and strategy plans and all the risks and related information described from time to time in the company's filings with the SEC, that is the Securities and Exchange Commission, including the financial statements and related information contained in the company's annual report on Form 10-K and interim quarterly report on Form 10-Q.

The company undertakes no obligation to publicly update or revise any forward-looking statements whether because of new information, future events or otherwise. The company also assumes no obligation to update the cautionary information provided in the presentation.

Today's presentation also included financial measures defined as non-GAAP financial measures by the SEC. The presentation of this financial information is not intended to be considered in isolation or as substitute for the financial information prepared or presented in accordance with the generally accepted accounting principles accepted in the U.S., otherwise referred to as GAAP. Please refer to more detailed discussion about the company's use of non-GAAP measures and their reconciliation to the nearest GAAP measures in today's earnings press release.

Finally, I would like to remind everyone that the recording of today's call will be available for replay after 8:00 p.m. Eastern today and through May 29, 2019. Please refer to today's press release for dial-in instructions. Thank you for joining us for the presentation. You may now disconnect.

Copyright © 2019 by S&P Global Market Intelligence, a division of S&P Global Inc. All rights reserved.

These materials have been prepared solely for information purposes based upon information generally available to the public and from sources believed to be reliable. No content (including index data, ratings, credit-related analyses and data, research, model, software or other application or output therefrom) or any part thereof (Content) may be modified, reverse engineered, reproduced or distributed in any form by any means, or stored in a database or retrieval system, without the prior written permission of S&P Global Market Intelligence or its affiliates (collectively, S&P Global). The Content shall not be used for any unlawful or unauthorized purposes. S&P Global and any third-party providers, (collectively S&P Global Parties) do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Global Parties are not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the Content. THE CONTENT IS PROVIDED ON "AS IS" BASIS. S&P GLOBAL PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Global Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs or losses caused by negligence) in connection with any use of the Content even if advised of the possibility of such damages. S&P Global Market Intelligence's opinions, quotes and credit-related and other analyses are statements of opinion as of the date they are expressed and not statements of fact or recommendations to purchase, hold, or sell any securities or to make any investment decisions, and do not address the suitability of any security. S&P Global Market Intelligence may provide index data. Direct investment in an index is not possible. Exposure to an asset class represented by an index is available through investable instruments based on that index. S&P Global Market Intelligence assumes no obligation to update the Content following publication in any form or format. The Content should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. S&P Global Market Intelligence does not act as a fiduciary or an investment advisor except where registered as such. S&P Global keeps certain activities of its divisions separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain divisions of S&P Global may have information that is not available to other S&P Global divisions. S&P Global has established policies and procedures to maintain the confidentiality of certain nonpublic information received in connection with each analytical process.

S&P Global may receive compensation for its ratings and certain analyses, normally from issuers or underwriters of securities or from obligors. S&P Global reserves the right to disseminate its opinions and analyses. S&P Global's public ratings and analyses are made available on its Web sites, [www.standardandpoors.com](http://www.standardandpoors.com) (free of charge), and [www.ratingsdirect.com](http://www.ratingsdirect.com) and [www.globalcreditportal.com](http://www.globalcreditportal.com) (subscription), and may be distributed through other means, including via S&P Global publications and third-party redistributors. Additional information about our ratings fees is available at [www.standardandpoors.com/usratingsfees](http://www.standardandpoors.com/usratingsfees).

© 2019 S&P Global Market Intelligence.