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KMG - Q3 2018 KMG Chemicals Inc Earnings Call

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CORPORATE PARTICIPANTS

Christopher T. Fraser KMG Chemicals, Inc. - CEO & President

Eric Glover KMG Chemicals, Inc. - IR Manager

Marvin Green KMG Chemicals, Inc. - Interim CFO & Director of Corporate Development

CONFERENCE CALL PARTICIPANTS

Connor James Cloetingh KeyBanc Capital Markets Inc., Research Division - Associate

Dylan Scott Carter Campbell Goldman Sachs Group Inc., Research Division - Research Analyst

Michael Joseph Harrison Seaport Global Securities LLC, Research Division - MD & Senior Chemicals Analyst

Rosemarie Jeanne Pitras-Morbelli G. Research, LLC - Research Analyst

PRESENTATION

Operator

Good day, ladies and gentlemen, and welcome to the Third Quarter 2018 KMG Chemicals Earning Conference Call. (Operator Instructions) As a reminder, this conference may be recorded. I would now like to introduce your host for today's conference, Eric Glover, Investor Relations Manager. Sir, you may begin.

Eric Glover - KMG Chemicals, Inc. - IR Manager

Good afternoon, and welcome to the KMG Third Quarter Fiscal 2018 Financial Results Conference Call. I'm joined today by: Chris Fraser, our Chairman and CEO; and Monte Green, our interim CFO and Director of Corporate Development. In a moment, we'll hear comments from them followed by Q&A.

During today's call we will discuss financial measures not calculated according to Generally Accepted Accounting Principles. Please refer to today's earnings release available on our website for the reasons we are presenting non-GAAP financial information and for the appropriate tables that reconcile these measures to our GAAP results.

Before we begin, I'd like to remind everyone that the information on this conference call includes certain forward-looking statements that are based upon assumptions that in the future may prove not to have been accurate and are subject to significant risks and uncertainties, including statements regarding the future performance of the company.

I'll now turn the call over to Chris.

Christopher T. Fraser - KMG Chemicals, Inc. - CEO & President

Thank you, Eric. Good afternoon, and thank you, everyone, for joining us today. Our Q3 earnings release was issued today after market close, and our 10-Q will be filed this evening. After my remarks, Monte will review the financials, and then we'll take your questions.

KMG generated outstanding results in our third quarter, achieving quarterly records in sales, adjusted EBITDA, adjusted earnings per share and operating cash flow. This performance is a testament to the dedication of our global team, our continuous drive to achieve operational excellence and the fundamental strengths of our diverse and market-leading businesses.



Supported by our strong financial performance and cash flow, we've continued to strengthen our balance sheet, reducing debt by \$14 million in the third quarter and, cumulatively, by \$210 million through the first 9 months of fiscal 2018, which includes approximately \$176 million in proceeds from our follow-on offering last October.

With a significant reduction in our leverage and the successful repricing of our term loan in December, we've lowered quarterly interest expense by nearly 50% since the start of our fiscal 2018 year.

Third quarter sales grew 45% from the prior year and 4% sequentially to a record \$118.6 million, aided by product line growth and positive momentum in each of our businesses. Third quarter adjusted EPS of \$1.10 per share also was a record and marked our 15th consecutive quarter of double-digit year-over-year growth in adjusted earnings per share.

Our 2 reporting segments, electronic chemicals and performance materials, each generated strong year-over-year growth in sales and adjusted EBITDA, leading to record consolidated adjusted EBITDA of \$31.5 million that marked our 17th consecutive quarter of double-digit year-over-year growth in adjusted EBITDA.

Looking at our performance materials segment in detail, third quarter sales more than tripled from the same period last year to a record \$44 million, driven by the contribution from Flowchem as well as product volume growth in both industrial lubricants and wood treating chemicals. On a sequential basis, performance materials segment sales growth accelerated in the third quarter, climbing 10% versus 8% sequential growth in our second quarter. This increased sales momentum helped drive an 18% improvement in performance materials segment adjusted EBITDA, which increased to \$20.2 million.

Third quarter sales and EBITDA growth in our performance materials segment reflected a significant contribution from Flowchem, a leading global provider of drag reducing agents for optimizing pipeline throughput that KMG acquired last June. Flowchem's technology addresses one of the most urgent challenges in the pipeline sector today: the growing need to optimize pipeline throughput quickly and cost effectively, particularly in the capacity constrained regions.

This challenge is most visible today in the Permian basin and West Texas, where oil production has risen substantially over the past several years. For pipeline operators, increased utilization of drag reducing agents offers a compelling solution to help ease pipeline capacity bottlenecks. And Flowchem has responded to the needs of our customers by increasing production to meet this high level of demand.

Additionally, Flowchem experienced solid growth and adoption of DRAs in international markets. Pipeline operators overseas face similar challenges as those here in North America and benefit from the many advantages of DRAs, including throughput optimization, lower operating pressure and reduced pumping costs. With this proven technology, expansive global distribution capabilities and a track record of success and innovation, Flowchem remains strongly positioned to benefit from the long-term growth opportunity in global DRA market.

In our wood treating chemicals business, which is an important contributor to our performance materials segment results, third quarter product volume grew at a better-than-expected normal rate than the prior year period, aided by the replacement of storm-damaged utility poles and an uptick in pole replacements. Although higher costs for certain raw materials limited some of the benefit from the growth in product volume, our wood treating chemicals business generated solid cash flow.

Also within the performance materials segment, our industrial lubricants business grew strongly in the third quarter fueled by positive market dynamics in the energy sector. Amid a backdrop of higher oil prices and rising energy production, especially in North America, we have experienced substantially stronger demand for our industrial lubricants, sealants and pipeline maintenance services.

In addition to these favorable market dynamics, our industrial lubricants business is gaining traction from our strategic position as the solution provider supplying a range of products, services, education and training to pipeline operators. Our global customers are finding value in this model as our expanded product breadth and service offerings provide a wider range of solutions to better maximize the efficiency and enhance the safety of their vital infrastructure assets.



Turning to our electronic chemicals segment. Third quarter sales grew to a record \$74.7 million, up 1% sequentially and an increase of 10% from the same quarter last year. Product volume grew in all geographic regions supported by continued healthy global production of semiconductors to meet growing demand in various end markets, including data center and cloud computing, Internet of Things, automotive and artificial intelligence.

Our electronic chemicals business continued to experience strong demand for our higher-purity products, which include custom formulations with purity levels measured in the parts per trillion. As semiconductor transmission line widths continue to diminish and device architectures become more advanced, enabling semiconductors to achieve higher performance, lower power consumption and increased functionality, purity requirements for wet process chemicals used in the semiconductor manufacturing process continue to trend ever higher.

To meet our customers' increasingly strict requirements around purity and quality, including for semiconductors that will be introduced years from now, we're expanding and strengthening our capabilities today through strategic investments in our supply chain and our facilities around the world. KMG remains intently focused on supplying our customers with the quality, purity and volume of process chemicals they need to meet the market's growing demand for semiconductors today and in the future.

Electronic chemicals segment Q3 adjusted EBITDA grew nearly 20% year-over-year, benefiting from increased product volume, a favorable product mix and operational efficiencies. On a sequential basis, segment adjusted EBITDA and margin declined from record levels in our second quarter due to a less favorable product mix and higher freight costs.

Specifically in North America, we continue to experience higher logistics costs due to the continuing shortage of drivers. In response to the impact of higher logistics costs, we've implemented a straight surcharge applicable to certain electronic chemicals product shipments in North America.

As we've noted in the past, electronic chemicals segment margins will vary from quarter-to-quarter based on product and geographic mix as well as other factors. We remain focused on driving incremental margin improvements over time through our continuous improvement process, which identifies and implements the efficiency enhancements throughout our supply chain and global manufacturing operations.

Now turning to our 2018 fiscal outlook. Typically, KMG provides financial guidance twice per year: first, when we report our fiscal year-end results in October and, subsequently, in March when we are midway through our fiscal year. Based on our strong financial performance through the first 9 months of our fiscal year and expectations for year-over-year growth in our fourth quarter in both our electronic chemicals and performance materials segment, we're today taking the opportunity to raise our 2000 (sic) [2018] financial guidance just 3 months after we previously did so.

We now forecast fiscal 2018 sales of \$455 million to \$465 million, an increase from our prior guidance of \$445 million to \$455 million with higher anticipated sales growth rates in both our electronic chemicals and performance materials segments. We also increased our fiscal 2018 consolidated adjusted EBITDA forecast to \$118 million to \$120 million, up from our recent guidance of \$114 million to \$118 million.

Our revised adjusted EBITDA forecast includes anticipated stock-based compensation expense of approximately \$8 million, unchanged from our prior guidance, as well as the estimated impact from higher raw material costs in our wood treating chemicals business. This forecast also factors in a projected increase in corporate expenses in our fourth quarter for professional services as we close out our fiscal year.

In summary, this is an outstanding quarter for KMG, and I am pleased with our continued progress. Over the past several years, we have built truly global capabilities and geographic reach among 3 fundamentally strong and diverse business platforms. Each of our businesses today is performing well.

Supporting today's increase to our financial guidance for fiscal 2018, KMG's growth and financial performance reflect the dedication of our global team, and I thank them for their continued commitment to excellence in everything we do.

I'll now turn the call over to Monte.



Marvin Green - KMG Chemicals, Inc. - Interim CFO & Director of Corporate Development

Thank you, Chris, and good afternoon, everyone. In my remarks, I will reference adjusted or non-GAAP numbers as we believe non-GAAP information can provide useful insight into the underlying operating performance of our business. The non-GAAP numbers I reference are reconciled in the corresponding GAAP numbers in today's earnings release.

As shown in today's earnings release and in our previous earnings releases from fiscal year 2018, we have specified amortization of intangibles as a separate line item in our operating expenses due to the significant amount of amortization expense related to the intangible assets we now incur largely due to the acquisition of Flowchem. Going forward, we intend to continue to exclude the portion of amortization expense directly attributable to Flowchem and related tax effects from our calculation of adjusted net income and adjusted earnings per share.

Our strong financial performance in the third quarter as compared to the prior year was driven by: one, a significant contribution from Flowchem; two, product volume growth across all geographic regions and a more favorable product mix in our electronic chemicals segment; three, product volume growth in both -- in our -- both our industrial lubricants and wood treating chemicals businesses; and four, enhanced operating leverage and improved operational efficiencies through our global operations.

On an adjusted basis, third quarter diluted earnings per share were a record \$1.10 compared to \$0.53 in the same period last year. Third quarter consolidated adjusted EBITDA margins were 26.5%, representing an all-time high for KMG compared to 17.1% in the third quarter of last year.

Electronic chemicals segment adjusted EBITDA margins grew to 18.4%, an increase of 154 basis points from Q3 2017. The increase was due to increased product volume, a more favorable product mix and operational efficiencies. On a sequential basis, electronic chemicals segment adjusted EBITDA margins declined from 20.3% in the second quarter of fiscal 2018. As Chris noted, the sequential decrease in margin reflected the impact of a less favorable product mix and higher freight costs.

Performance materials segment adjusted EBITDA margins increased to a record 46% in the quarter from 35.7% in the same quarter last year. The substantial increase is attributable to the contribution from Flowchem as well as product volume growth in both our industrial lubricants and wood treating chemicals businesses, partially offset by higher raw material costs in our wood treating chemicals business.

Third quarter operating cash flow grew to \$21.5 million, an increase of \$13.6 million from the prior period and was up 5.8% -- \$5.8 million or 37% on a sequential basis from Q2 2018. Third quarter 2018 operating cash flow benefited from higher earnings in our electronic chemicals and performance materials segments and the contribution from Flowchem.

In the third quarter, the improvement in operating cash flow is partially offset by an increase in working capital of \$5.8 million, which was driven in part by inventory replenishment in our electronic chemicals segment to support our customers' expanded growth and an increase in accounts receivable related to higher international sales at Flowchem.

During the third quarter, we used cash generated from operations to reduce our debt by \$14 million. Over the past 3 quarters, we have reduced debt by \$210 million, which includes approximately \$176 million in proceeds from our equity offering in October plus \$34 million in cash generated from operations.

As of April 30, 2018, long-term debt as indicated on the balance sheet, was \$324 million, down from \$337 million at the end of our second quarter and \$526 million at the end of our fiscal year 2017. Net debt, which we calculate as net long-term debt minus cash and cash equivalents, was \$301.7 million as of April 30, 2018. Using the midpoint of our updated fiscal 2018 guidance, our current net debt-to-EBITDA leverage ratio is now approximately 2.5x.

As of April 30, 2018, the interest rate in our long-term debt was equal to LIBOR plus 2.75%, reflecting the benefit of the 125 basis point reduction in spread we achieved in December from the repricing of our credit facilities. Due to the reduction in our leverage and the repricing of our term loan, third quarter interest expense was lower by \$933,000 compared to the second quarter of fiscal 2018. Included in our reported third quarter interest expense of \$4.2 million was a \$296,000 noncash charge for the amortization of debt discounts and financing costs.



Capital expenditures were \$6.5 million in the third quarter and \$15.5 million for the fiscal year-to-date, which included investments in technology, supply chain and the expansion of our manufacturing facility in Singapore. We now anticipate total CapEx of approximately \$25 million in fiscal 2018, down from our prior estimate of \$29 million. The \$4 million reduction in our CapEx forecast for fiscal 2018 reflects the anticipated timing of planned capital project spending, which we now estimate will occur in our fiscal 2019 year.

Turning to our income statement. Third quarter gross profit margin improved 273 basis points year-over-year to 42.6% due to improved margins in our performance materials segment, product volume growth and manufacturing efficiencies. Distribution expense decreased by \$387,000 from last year's third quarter as a result of the capitalization of certain costs into inventory of \$2.7 million. The decrease was partially offset by increased freight costs due to higher volume and less favorable freight market conditions.

SG&A expense increased by \$600,000 compared to the last year's third quarter due to increased stock-based compensation expense. We anticipate stock-based compensation expense will be approximately \$8 million in fiscal 2018, unchanged from our prior estimate due to our continued strong financial performance and higher stock price.

Depreciation and amortization expense in the third quarter was \$7.7 million, which included \$3.9 million in amortization of intangible assets compared to \$3.8 million of depreciation and amortization expense in the same period last year. D&A increased in Q3 2018, largely due to the acquisition of Flowchem. We anticipate total depreciation and amortization expense for the fiscal 2018 year will be approximately \$30 million. Of this amount, we estimate amortization of intangible assets will be approximately \$15 million.

Overall, third quarter GAAP earnings per share was \$0.98. GAAP EPS included 2 notable nonoperating items: a \$277,000 noncash charge related to the early payment of our debt; and a fair value gain of \$1.4 million on our interest rate swap, which is marked to market each quarter for financial reporting purposes.

In the third quarter, we reported an effective tax rate of 24.4%. For the fourth quarter of fiscal 2018, we project a similar effective tax rate as compared to the third quarter of 2018. Operator, let's now open the call for questions.

QUESTIONS AND ANSWERS

Operator

(Operator Instructions) Our first question comes from Mike Harrison with Seaport Global Securities.

Michael Joseph Harrison - Seaport Global Securities LLC, Research Division - MD & Senior Chemicals Analyst

Was hoping that maybe you could help us get to some of the underlying growth rates that you're seeing in the businesses within performance materials. You've got penta, you've got the valve lubricants business and you've got Flowchem. Can you help us disaggregate kind of what the organic growth rates of each of those businesses look like in the third quarter?

Christopher T. Fraser - KMG Chemicals, Inc. - CEO & President

Sure. I'll give you a little color. We're trying not to get too granular on each one of those business segments, but I'll give you some perspective. So as you know, Mike, when we acquired Flowchem, we had assumed kind of a base growth of 5% a year with an upside of around 9%. And what we're experiencing right now on an annualized basis is a growth rate, because of some of the things that I talked about, the takeaway constraints in the Permian as well as some of the other international market growth, we're seeing growth on the DRA business that is surpassing the high end of our range. And so we experienced growth sequentially, and this is typically — we're entering into a slower period of time typically. But we didn't see that, we actually saw sequential growth. And then year-over-year, we saw growth that was higher than the high end of that range. And in our guidance that we gave now for the rest of the year, we're expecting to continue to see the growth in the DRA exceeding the high end of that — of



the range. On the industrial lubricants side, we got again good fundamentals, good secular trends in that business, both from increased oilfield activity, overall oil production as well as maintenance being spent on the existing pipelines and new pipelines being put in place that require both our services as well as our lubricants and sealants. So we saw a very good growth both sequentially and year-over-year in that business. And I don't want to get too specific, but let's say it was in the double digits growth rate. And then on the wood treating side, this is a strong time of the year for that business. So we did see sequential growth. But in addition, we saw year-over-year growth primarily because of the storm damage as well as we've seen an uptick in replacement pole programs. Whether or not that's going to continue or not will remain to be seen. That's a business we had expected to grow 1% to 2% per year, but we've seen growth year-over-year now that is exceeding that, which speaks to this higher pole replacement programs that we're seeing people put in place as well as the impact from the storm. So again, all 3 businesses experienced growth higher than they've typically seen because of the fundamentals and the way we positioned ourselves to serve our customers in those segments.

Michael Joseph Harrison - Seaport Global Securities LLC, Research Division - MD & Senior Chemicals Analyst

All right. Was wondering if you could give a little more detail on the Permian opportunity for the DRA business. Our sense is that the vast majority of pipeline operators there that can use DRAs are already using them or are very deep in the process of exploring using them. So should we think of the growth that you're seeing there as coming from existing customers using more DRAs to get additional incremental flow from some of those existing pipelines that don't use DRAs and there's still an opportunity there? Or is this really going to be coming from new pipelines going forward?

Christopher T. Fraser - KMG Chemicals, Inc. - CEO & President

Yes, so it's really happening in 3 areas, Mike. So some of the new pipelines that had spec-ed in DRAs, if you will, had expected, when they were designing the pipeline, to use DRAs or are coming online with the use of DRAs, so we're seeing an uptick there. In addition, existing pipelines are, let's just call it, maximizing the use of their DRA to get the full benefit of the DRA in the pipeline because of the constraints they're facing. So they're pushing the concentration of DRAs in the pipeline to try and get the most maximum benefit they can. In addition, there are some lines that maybe were lines that typically didn't use DRAs for whatever reason are now looking at -- use DRAs. So we're seeing increased adoption. We're seeing existing pipelines increase their consumption as well as new pipelines being constructed using DRA. So it's a broad-based increase in demand that we're seeing in that area. So again, we like the fundamentals of that, we like the fundamentals of that continuing. And as people inject more DRAs, they see the benefit of it. And the use of DRAs, we expect that to continue going forward.

Michael Joseph Harrison - Seaport Global Securities LLC, Research Division - MD & Senior Chemicals Analyst

All right. And then on the electronic chemicals side, can -- I know you mentioned the mix impact as well as the increased freight and logistics costs as impacting the margin on a sequential basis. But can you maybe just give a little bit of additional color on what exactly you saw sequentially in terms of the mix that was a negative and maybe how we should think about the margin progression as we look at Q4?

Christopher T. Fraser - KMG Chemicals, Inc. - CEO & President

Yes. So I would point out that mix was better year-over-year. So Q3 versus Q3, we had an improvement of mix, which benefited our margin. Our margin was higher in Q3 of '18 versus what it was in Q3 of '17. We had a phenomenal quarter in Q2. If you remember, the margin was exceptional, far exceeded Q1. And at that time, we commented on the fact that we had sales of higher-priced products or a higher mix impact, which really drove the margin at an exceptional level. So what we saw in Q3 was a more typical quarter from a margin standpoint and a relative mix standpoint, not at the level that it was in Q2. So better year-over-year margin, better mix year-over-yea. But on a sequential basis, it came back to a more typical or expected margin. In addition, the freight situation in North America specifically, as a lot of companies are facing it, the shortage of drivers and shortage of truck drivers, is driving the increased costs and availability of preferred carriers. So we're seeing that. We experienced that some in Q2, but we experienced it significantly in Q3 which had an impact, affecting our margins. And as I said, what we're doing now is we're putting in a freight surcharge to offset that going forward. So as I think about margins going forward, I would expect our margins to improve slightly from where they were in Q3 as we put this freight surcharge in place, overcoming some of those freight costs that we see. But we don't expect the freight costs to decrease at any time, and we'll continue to monitor that and adjust our pricing accordingly. But from a product mix standpoint, I think Q3



was pretty indicative of what we'll see going forward. So when I factor all of those things together, I believe that as we finish out our fiscal year, you should expect a slightly higher margin in Q4 than we saw in Q3, which will finish the year out at an increased margin 2018 fiscal versus 2017.

Operator

And our next question comes from Robert Koort with Goldman Sachs.

Dylan Scott Carter Campbell - Goldman Sachs Group Inc., Research Division - Research Analyst

This is Dylan Campbell on for Bob. With the recent announcement from a potential competitor about their interest in entering the DRA market, can you discuss some of the key barriers of entry for DRAs, whether it be legal or technological barriers?

Christopher T. Fraser - KMG Chemicals, Inc. - CEO & President

Sure. So I don't spend -- I don't comment directly on competitors. We'll let them do and speak to what they are doing as they enter in the various markets. But let me just say, I mean I think it speaks to the fundamental benefits of our DRA and the market and the solutions we're providing to our customers, and we'll continue to focus on our customers and provide them with real benefits and real solutions and as we utilize our global network. But having said that, the DRA market has been around for a number of years. There are multiple suppliers in it. It is -- there are lots of barriers, everything from technology, production reliability as well as production output. All of those take many years to build and establish. I mean, it's really important as a solution provider that you're reliable, not only from a supply chain and logistics standpoint but also from a quality and consistency standpoint. So that's what we hang our hat on. Flowchem invested many, many years to get to where they are today, with the reputation and quality of the product and service we provide our customers. And we're proud of our reputation, our brand and what we've done to establish that. And there's a lot of time invested in that. And I would just speak to -- customers look to a supplier to provide them a reliable quality product. And that's what we do, and we'll continue to do that. And others, as they face that, those hurdles, and the ability to meet those challenges will be up to them in how they position themselves in the marketplace.

Dylan Scott Carter Campbell - Goldman Sachs Group Inc., Research Division - Research Analyst

Got it. And with the EBITDA guidance and the implied EBITDA guidance, it seems like you're essentially guiding towards flat to down EBITDA in the fourth quarter relative to the third quarter. I think the answer to the last question kind of emphasized, at least for electronic chemicals, you're seeing a margin uplift. Is there anything we should be aware of that could weigh on EBITDA earnings on a sequential basis?

Christopher T. Fraser - KMG Chemicals, Inc. - CEO & President

Yes, so we won't provide the guidance. Again, we typically don't provide this guidance here in the middle of the -- at the end of our third quarter. But we wanted to give some perspective in recognition of the performance we've had through the first 3 quarters, and so we felt it was important to give some, a perspective on how we see the remainder of the year. So if you look at our electronic chemicals business, our first quarter, we had 10% revenue growth; second quarter was 6%; third quarter was 10%. And as we look at our Q3 and we think about the market and where it is today, so we're looking at about an 8% growth in Q4. We continue to think we'll see good growth at the level that I talked about on the performance materials side, which gets us to a pretty much equivalent EBITDA in Q4. We do expect to face some higher costs relative to corporate expense. As Monte talked about, we expect to see higher SOX and professional services costs as we close our year-end out. We'll also be seeing probably some increased accruals relative to bonuses as we finish out a very strong year. So that's kind of how it all balances out to give you the range of what we've provided here at year-end. So now again, we had a good third quarter. Third quarter was actually higher than we had expected. And we had some good, strong sales in all of our businesses, and we expect Q4 to follow on with that for a good solid year for us. And specifically, I talked about each one of the businesses and how we see each one of them growing.



Operator

(Operator Instructions) Our next question comes from Rosemarie Morbelli with Gabelli & Company.

Rosemarie Jeanne Pitras-Morbelli - G. Research, LLC - Research Analyst

Chris, you've mentioned that Q4 was above your expectations. Can you give us a better feel for which areas were actually so much higher than you anticipated?

Christopher T. Fraser - KMG Chemicals, Inc. - CEO & President

Yes, so Q3 was above our expectation. When we originally -- as we're finishing out Q2, we talked about Q3 being on par with Q2. What we saw was the electronic chemicals segment was stronger. We were anticipating sales growth of 7%, 8%. We experienced 10%. And there's really good volume across all regions, Europe, Asia as well as North America. Even in the headwinds of higher transportation costs, as I stated, revenue was solid, but EBITDA outperformed what we were expecting in Q3. And then in addition, the DRA business, as I talked about, there's the strength of what's going on in the Permian as well as some international shipments that we're able to make in Q3 benefited us. And so when you factor all those together as well as the overall secular underpinnings and strength of each of our businesses, all added up to a quarter slightly better than we had expected. And so as we go into Q4, as I talked about, I think as we have guided now, Q4 should be on par with Q3 with the potential to go slightly higher.

Rosemarie Jeanne Pitras-Morbelli - G. Research, LLC - Research Analyst

And when we talk -- when you talk about DRAs being much stronger including international, how do you split that particular business between domestic and international operations?

Christopher T. Fraser - KMG Chemicals, Inc. - CEO & President

Yes, so the split is more heavily weighted to North America, so that's obviously Canada and the U.S. When we say North America, we exclude Mexico. We assume Mexico from an international standpoint. So the business is about a 60/40 split with the international -- I mean, with the domestic side growing a little bit faster than international right now because of some of the production output increases we're seeing in the U.S., in particular.

Rosemarie Jeanne Pitras-Morbelli - G. Research, LLC - Research Analyst

And just following up on the international side, considering all of the noise about tariffs, can you give us a feel as to what you think the impact could be on the DRAs and especially also on penta since it is coming from Mexico?

Christopher T. Fraser - KMG Chemicals, Inc. - CEO & President

Yes. So all of the DRA producers are in the United States, so all of us will face a similar tariff if, in fact, there was one put in place on DRAs, but we don't think there will be. So we're very comfortable with our position and our ability to market and ship DRAs around the world to various markets. DRA has such benefits that it is key to many of the global oil producers and their ability to move product around their countries as well as to the export market. So we don't think tariffs will have any impact on DRAs. From a wood treating standpoint, yes, we do produce penta in Mexico. We don't expect that there'll be any tariff impact on shipments of penta into the U.S. and Canada. Again, we're the only producer of penta. And so to the extent there were tariffs, unfortunately, we'd have to pass those on to our customers. But again, we don't think there will be -- there's any possibility of a tariff being imposed on penta into the U.S. or Canada.



Rosemarie Jeanne Pitras-Morbelli - G. Research, LLC - Research Analyst

Okay. And just finishing on the DRAs. How much of an improvement in the flow does it give? What is the percentage improvement if you take a pipeline with no DRAs and then you add it?

Christopher T. Fraser - KMG Chemicals, Inc. - CEO & President

Yes. So it really depends on the oil that you're injecting it in and the pipeline, so there's varying degrees of impact. But just from a high-level standpoint, you could expect a 30% to 35% or higher impact in flow by injecting DRA versus not injecting it.

Rosemarie Jeanne Pitras-Morbelli - G. Research, LLC - Research Analyst

Okay. So that is substantial. And on the EC side, can you bring us up to date on Nagase and where do you see additional operational improvement efficiencies, because you have been working on those for quite a while?

Christopher T. Fraser - KMG Chemicals, Inc. - CEO & President

Yes, so it's a never-ending pursuit we have around efficiencies. And I think, as you've seen, our margins over the number of years have increased substantially in that business. And most of that has been driven through operational efficiencies globally, whether it was the consolidation of the North American operations or it was the realignment of production and consolidation in Europe. So we've gotten the majority of those benefits. But having said that, there's still plenty of opportunity for us to continue to drive efficiencies. As we push volume through facilities, obviously, you get some efficiency improvements, but we're constantly looking for areas. It's part of our continuous improvement culture and constantly searching for those opportunities. In addition, with the investment we're making in Singapore, we should expect a margin improvement, an efficiency improvement in our Asian operations as we finish out on that investment. The investment in Singapore, we expect to conclude here at the end of calendar 2018. And we'll go through qualifications and start to see the impact of that in second half of our fiscal '19 and beginning of fiscal '20. So again, that's all in the eyes of trying to drive for operational efficiencies. And as I've said, it's something we're — we're never ending in our pursuit of operational efficiencies and optimization of what we do.

Operator

Our next question comes from Mike Sison with KeyBanc Capital Markets.

Connor James Cloetingh - KeyBanc Capital Markets Inc., Research Division - Associate

This is Connor Cloetingh on for Mike. So I just want to start -- so I just want to ask another question on DRAs here. So it seems like there's been a lot of growth out of the Permian. So do you see more opportunity for growth there? And is there a point when DRAs, when a pipeline operator injects them, that there's diminishing returns to a certain point? And how does that quite work?

Christopher T. Fraser - KMG Chemicals, Inc. - CEO & President

Yes, so we do think there's continuing opportunities in the Permian. As more output and more production occurs in the Permian, as in other regions, they'll continue to see benefits, an enhanced flow and operating pressure reduction and electricity consumption decreases by the use of DRA. So we continue to see and think it will continue to go forward. As far as other regions, we expect the same thing to continue. So if you think of DRAs from a production standpoint, as long as oil demand continues to grow and there are production around the world, whether it's in the Permian in the U.S. or in other places around the world, there'll be continued benefits that are derived from the use of DRAs. Whether it's reducing operating pressure on an aging pipeline or it's increasing flow on a constrained pipeline, there will be continued opportunities for DRA consumption. The



market for DRA is fully not saturated. We continue to see enhanced penetration in various regions and various pipelines. So we don't see that demand leveling or declining. We continue to see it grow, and various regions will grow faster than others.

Connor James Cloetingh - KeyBanc Capital Markets Inc., Research Division - Associate

Okay. And then just I was wondering, is there a point where there's diminishing returns on injecting a certain amount of DRAs into a pipeline? Or how does kind of the chemistry behind that work?

Christopher T. Fraser - KMG Chemicals, Inc. - CEO & President

Yes, so you get immediate benefit from injecting DRA in a pipeline. And the slope of the curve is pretty steep with the initial injection on the benefits and the drag reduction, and then it does level off at a point in time. So there is a maximum amount, so to speak, of a DRA that you will put into a pipeline. And you'll get the maximum benefit from that certain injection amount. So yes, there is, I won't say, diminishing return, but it will just max out the benefit of the benefit of DRA in a pipeline at a certain concentration.

Connor James Cloetingh - KeyBanc Capital Markets Inc., Research Division - Associate

Okay, great. That makes sense. And then on the electronic chemicals side, pretty solid growth in the quarter and this year so far. So how are you looking at the semi cycle and specifically in logic over the next 1 to 2 years? Do you still think you'll be able to see this level of growth? Or how are you looking at that?

Christopher T. Fraser - KMG Chemicals, Inc. - CEO & President

Yes, so we measure ourselves around the volume of silicon that's used in production of semiconductors. So we look at MSI or million square inch of silicon. And if you look at the first quarter, calendar quarter, of this year, there was about 8% volume increase on MSI. So that's a good indicator for us as we measure ourselves, and we expect to outperform that as we position ourselves around the globe. The projections are MSI to grow, let's just say, approximately 5% in calendar 2018 over 2017. And so far, if you look at our last 2 quarters, that fell in calendar '18. We had a 6% growth quarter year-over-year, then we had a 10%, so -- and I talked about our Q4 growing more like 7% or 8%. So as we think about that projection of 5%, I expect us -- expect to exceed that. So as you go into 2019, the projections are for that to grow around the 3% to 3.5% calendar year 2019 over 2018. And then that's a good number to use as you think about on a going forward 4 or 5 years. Now the semiconductor industry cycle really speaks to, in many ways, the revenue of semiconductors, which obviously has a price of semiconductors. But if you look at the unit growth in semiconductors, you see on the past 10 years, the unit growth has been close to 9% CAGR, which is a fundamental driver going forward. Again, it's -- we are not driven by the price of semiconductors, we're driven by the volume. So between unit growth, the amount of processing steps which increases the demand for high-purity chemicals, all that leads to us outperforming the MSI growth projection. So I don't think it's fair to say that we would expect a 9%, 10% growth per year going forward. But a good number of 3%, 4%, 5% growth per year is something that is fair to expect. But I think if you step back and think about the proliferation of semiconductors across the globe right now and in many applications, whether it's in cloud computing or it's in the wearables or it's autonomous vehicles or Internet of Things, there are so many new applications for semiconductors today that it is making the demand so much more stable than it was in the past and so many more different drivers that are driving the demand and growth that we expect to continue. And then if you step back and think about the big data implications, the amount of data that's being generated and the amount of memory that's going to be required for all that data but more so, directly for us, is the amount of logic to process all the data, the projections are pretty strong and fundamental for the foreseeable future around semiconductors in this, and thus the demand for our products, to service that industry. So we feel very good about the secular industry growth and the expectations of that going forward. And we're not concerned about an industry downturn or cycle in the coming years because of some of the fundamentals I just spoke about.

Operator

And we do have a follow-up question from Mike Harrison with Seaport Global Securities.



Michael Joseph Harrison - Seaport Global Securities LLC, Research Division - MD & Senior Chemicals Analyst

Just a couple more on the DRA business. Was wondering if you can comment on what you're seeing in terms of the international growth outlook and then also your infrastructure to serve that growth. Do you have production facilities overseas? Are you contemplating adding them? Can you maybe just talk about your capability to serve some of these potentially higher-volume customers if you win a big contract?

Christopher T. Fraser - KMG Chemicals, Inc. - CEO & President

Yes. So Mike, good questions. So all of our production is in Waller, Texas, and we foresee that continuing, and we'll make whatever necessary adjustments in our production in Waller to meet the demand going forward. We feel very confident in our capabilities to build out the supply chain to meet the demands in the international market. We have warehouses. We have distributors in place that allow us to ship product to warehouses and to have our distributors and our supply chain folks deliver the DRA to the various pipelines and inject it properly. So we feel confident about the supply chain we have. But as the market trend continues and grows into either new markets or expansion into existing markets, we'll then make the investments we need to, to expand that supply chain capability. But no, we don't foresee any production outside of our existing facilities, not only from a quality and reliability standpoint, it's critical to maintain that. So we feel it's important for us to maintain the facility we have in Waller and expand it as necessary.

Michael Joseph Harrison - Seaport Global Securities LLC, Research Division - MD & Senior Chemicals Analyst

All right. And as I think about expansions at that facility, can you give us a rough order of magnitude of how much additional capacity cost in terms of CapEx? How quickly could you add it? And should we be concerned at all about constraints around the raw material that's used in DRA production?

Christopher T. Fraser - KMG Chemicals, Inc. - CEO & President

Yes. So one of the benefits of this industry is having good relationships with your customers and a good understanding about what their future needs are going to be and having good connectivity with them to understand what those are, not just near-term but midterm and long-term, whether either they add pipelines or they increase their injection rates. So having that knowledge gives us a good window into where the market demands are going to be and what expansions we need to put in place to stay up with the rising demand. So we think we've got a good window, and we'll add capacity in increments that are appropriate and necessary. I'd rather not get into the capital estimates of what those are. But what I would say is there are increments in capacity. If you think about the DRA production, it's not just one unit, it is multiple steps. And each step is sized a little bit differently, so we would make incremental capacity on one part of it, for example, which then would give us freedom from a bottleneck we might have; and in another, we might debottleneck another part of our production later on. And so it's not just one swath of capital, it will be incremental capital over time as we expand that, as well as expanding and making investment in the supply chain. So as far as raw material goes, yes, raw material is critical, obviously, to the production of DRA and the quality of that raw material and having the continuity of supply. We feel good about the relationship we have with our suppliers and their commitment to us to maintain good continuity of supply. We're in constant communication with them as well as we think about the future needs, and we're not concerned about any restraints that might appear to be. We feel confident they will have ample supply to meet our growing expectations in the growing market.

Michael Joseph Harrison - Seaport Global Securities LLC, Research Division - MD & Senior Chemicals Analyst

All right. And last one for me is on the penta business. You mentioned some raw material headwinds there, which is no surprise to any of us. But just thinking about the margin progression and your ability to pass through that raw material headwind. Should we kind of expect that to be a headwind to margin again in the fourth quarter? Or have you seen some stabilization and maybe enable you to catch up on pricing?



Christopher T. Fraser - KMG Chemicals, Inc. - CEO & President

Yes, thanks, Mike. The -- so you're right. So in penta, we have seen some rising raw material costs and would expect those to continue into the fourth quarter. We -- at the right time, if necessary, we will put a price increase into the marketplace as we see raw material costs going up appropriately so. And so we don't anticipate an immediate price increase, but we are watching it to see if there is continued headwinds and making the appropriate moves that we need to make in the marketplace. As we look year-over-year, our raw material costs have gone up, and they have continued to rise as we go through the year. So obviously, we're watching that closely, and we'll make the appropriate moves in the marketplace as necessary.

Operator

This concludes today's Q&A session. I would now like to turn the call back over to Chris Fraser for closing remarks.

Christopher T. Fraser - KMG Chemicals, Inc. - CEO & President

Yes, thank you. We appreciate your participation today and your interest in KMG. We look forward to speaking with you on our fourth quarter conference call in October. Thank you.

Operator

Ladies and gentlemen, thank you for participating in today's conference. This does conclude the program. You may all disconnect. Everyone, have a great day.

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