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ROG - Q1 2018 Rogers Corp Earnings Call

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PRESENTATION

Operator

Good afternoon. My name is Mike, and I will be your conference operator today. At this time, I would like to welcome everyone to the 2018 first quarter conference call. (Operator Instructions)

I will now turn the call over to Jack Monti, Director of Investor Relations. You may begin your conference.

Jack Monti - *Rogers Corporation - Director of IR*

Thank you, Mike, and thanks so much everyone for joining Rogers' First Quarter 2018 Earnings Call. To follow along with the slide presentation, please see the Investors section of our website.

Turning to Slide 2. We have a disclosure on forward-looking statements. During the call, we will be making certain forward-looking statements subject to a number of risks and uncertainties, which may cause actual results to differ materially versus today's outlook. In addition, some of the financial metrics discussed will be on a non-GAAP basis, which management believes better reflects the underlying core operating performance of the business.

Turning to Slide 3. It's my pleasure to introduce Roger's management team. Bruce Hoechner, President and CEO, is joined by Janice Stipp, SVP and CFO; and Bob Daigle, SVP and CTO. I will now turn it over to Bruce.

Bruce D. Hoechner - *Rogers Corporation - President, CEO & Director*

Thanks, Jack. Good afternoon, everyone, and thank you for joining us on today's call.

Please turn to Slide 4. Rogers' Q1 2018 net sales of $215 million were relatively flat for the quarter, in line with our previously announced guidance. Strong revenue growth and applications for EV/HEV and Advanced Driver Assistance Systems was offset by weaker demand for wireless infrastructure applications. Although we achieved our adjusted EPS guidance, we were disappointed in our margin performance due to operational issues that I will explain in more detail in a moment. Q1 gross margin was 35.7%, a decline of 373 basis points from Q1 2017. Adjusted EPS was $1.48, down 12% from Q1 2017.

At this point, I think it would be helpful to provide some context on where we are on our strategic road map and our outlook as we move forward. Looking at the top line, we have significant growth opportunities in our existing markets, particularly in advanced mobility and advanced connectivity, where the global outlook is strongly positive. We have seen substantial growth in advanced mobility, while more recently, advanced connectivity demand has slowed somewhat due to a lull in the market as it transitions to 5G in the coming year. As I'll discuss later, we'll see 5G as a much -- we see 5G as a much larger opportunity than past generations of wireless telecom technologies due to the complexity of these advanced systems and the greater material content they require.

With respect to margin performance, there are 2 key contributors to our recent results. One is the temporary shift in corporate margin mix due to higher revenue from the EPS business, where margins are improving but are currently lower than our corporate targets, in combination with revenue headwinds in our higher-margin ACS business as the 5G transition approaches. Second are the discrete operational issues that have been or are being addressed. As a result, our Q2 guidance reflects sequential margin improvement quarter-over-quarter as we continue on our path to our financial objectives of 40% gross margin and 20% operating margin reflected in our vision 2020 targets.

Let me now turn back to the Q1 performance specifically. As I mentioned, margins were negatively impacted during the quarter by operational performance issues primarily associated with growth opportunities in the ACS business unit due to 3 key areas: first, capacity optimization efforts in support of customer multisite product qualifications in preparation for the projected surge in 5G demand; second, yield and productivity issues associated with new product introductions; and third, unplanned downtime and yield impact associated with discrete equipment issues. We are taking decisive action to resolve these issues. The lower yields associated with new product introductions as well as the specific equipment issues that led to downtime were substantially addressed in Q1. We expect the majority of the multisite product qualification work to be completed by the end of the third quarter. And in addition, the pricing programs we discussed last quarter continue to be implemented and are expected to offset raw material price increases as we progress through the year.

Please turn to Slide 5. Despite our near-term challenges, which have been or are being addressed, the company has a strong organization in place and is strategically well positioned to deliver our 2020 financial objectives. We remain focused on the 4 pillars of our proven growth strategy: market-driven, innovation leadership, synergistic M&A, and operational excellence.

Regarding operational excellence, I would like to highlight the 2 plant consolidations that are now underway. These actions will result in operational efficiency and improved margins as we leverage our existing infrastructure and manufacturing footprint. First, we are on track to complete our previously announced Belgium campus consolidation in Q3 of this year. In addition, we have announced plans to consolidate the plant operations in Santa Fe Springs, California, formerly Diversified Silicone Products, into our existing facilities in Illinois and Delaware. We expect this project to take approximately 9 months with an anticipated completion of Q1 2019. The team has a plan in place to ensure we maintain our focus on meeting customer expectations and delivering quality products during and after the transition.

Turning to Slide 6. Our 2 growth drivers, advanced mobility and advanced connectivity, represent more than 50% of our revenues. This is where we are investing to support today's applications and to secure design wins in tomorrow's emerging opportunities. We are seeing particular strength in the ADAS market. Industry data suggests that there is a substantial reduction in accidents with Level 2 sensor systems, which offer automation of 2 or more control functions. These are features such as forward collision warning, automatic emergency braking and lane change assistance such as blind spot detection. As we look ahead, we see coming -- the coming evolution to Level 3 autonomy, where the number of sensors per vehicle increases to enable conditionally automated driving. While the reality of truly autonomous driving vehicles may be further in the future, additional market penetration and the higher number of sensors required for greater degree of autonomy provides significant ongoing growth opportunities for Rogers.

In relation to advanced connectivity, we expect to see softness in demand for wireless infrastructure applications in the near term as the market transitions to 5G. As the 5G technology evolves, Rogers is seeing substantial design-ins and pilot installations around the world. We have significantly greater material content in these highly sophisticated systems. So we are actively expanding capacity to support upcoming market demand.

Please turn to Slide 7. In Q1 2018, ACS achieved net sales of $74 million, a 7% decrease from Q1 2017. When adjusted primarily for foreign exchange, ACS revenue decreased 9% versus Q1 2017. During the quarter, ACS saw a growth in high-frequency circuit materials for ADAS, which was offset by lower demand for 4G LTE wireless infrastructure applications as well as a slower-than-expected roll-out of NB IoT in China. Two of China's leading providers remain committed to completing their announced 2018 NB IoT build-outs, and we expect to see this activity pick up in the second half of the year. Looking ahead, most experts are projecting that 5G deployments will accelerate in the first half of 2019, with a diverse portfolio of solutions that offer support for very high frequencies and solve thermal issues. ACS is well positioned to capitalize on this evolution to more complex systems.

As we discussed earlier, we are addressing the operational challenges we experienced in the first quarter in ACS. With respect to the multisite qualifications, we have several large customers who have only qualified products at one site. This has created significant inefficiencies and bottlenecks in our ACS operation. We expect to complete multisite qualifications by the end of Q3. Margins for the first quarter were impacted by incremental costs associated with these activities, and we've included some of these impacts in our Q2 guidance.

Margins were also impacted by yield and productivity issues associated with new product introductions due to limited capacity available on equipment best suited for manufacturing these products. The capacity being made available by the multisite qualifications I mentioned earlier will allow us to produce these products on equipment that will deliver higher yields and productivity. We expect to be producing these products on the appropriate equipment by the end of Q2.

With regard to equipment issues, we consciously deferred maintenance on 2 specific pieces of equipment due to extremely high demand during 2017. As a result, during the quarter, we experienced lengthy downtime and yield impact. We resolved these equipment issues in Q1.

Please turn to Slide 8. In Q1, EMS delivered net sales of $78 million, a 2% increase over Q1 2017. When adjusted primarily for foreign exchange, EMS revenue was essentially flat versus Q1 2017. Higher demand for applications in portable electronics and EV/HEV was offset by lower demands in mass transit and clean room automation applications for OLED display manufacturing. We saw a broad strength across many applications within the general industrial segment despite headwinds in OLED-related applications as a result of the widely reported slower sales of newly introduced OLED display smartphones.

We are pleased with the traction EMS is gaining in a number of next-generation materials. These include battery pressure pads that enable cooling of EV/HEV batteries as well as unique ceiling solutions that protect the batteries from water, dust and other extreme environmental conditions. We expect demand in this market to continue as more EV and HEV models are introduced.

Turning to Slide 9. In Q1, PES achieved net sales of $58 million, an increase of 35%. When adjusted for foreign exchange and accounting methodology changes, PES revenue increased 13% over Q1 2017. This growth was primarily due to broad-based market demand, including applications for advanced mobility and renewable energy. Rogers is benefiting from the substantial growth in solar demand in China. Our high-performance ceramic substrates provide interconnections and cool components within IGBT modules in solar applications. We also continue to see tremendous opportunity in applications for advanced mobility, such as hybrid and all-electric vehicle power modules as well as vehicle electrification. This is another example of where our ceramic substrates provide industry-leading performance to improve electric vehicle range and reliability. As these markets expand, the technology requirements become more challenging, and the PES portfolio solutions is uniquely positioned to address this complexity.

Please turn to Slide 10. Looking at the macroeconomic environment, we are very encouraged by the positive growth forecast in many of our key markets. Based on recent reports, business confidence is gaining and global GDP is strong. We continue to analyze the potential effects of recently announced tariffs, and we will remain vigilant and agile in our response to any changes.

Before I turn it over to Janice, I want to take a moment to wish her well following her announcement to retire from Rogers effective May 16. Janice is an experienced and capable CFO and has been a valuable member of our executive team. I appreciate the numerous contributions she has made since joining us in 2015, most specifically helping to drive the company's growth strategy while at the same time building a new finance team at the relocated company headquarters here in Chandler, Arizona. Please join me in wishing Janice the best in her future endeavors.

I will now turn the call over to Janice, who will report on our Q1 results in greater detail as well as additional financial highlights. Janice?

Janice E. Stipp - *Rogers Corporation - Senior VP of Finance, CFO, & Treasurer*

Thank you, Bruce, and good afternoon, everyone.

Turning to Slide 12. I'll review our first quarter results in more detail followed by the second quarter guidance. Q1 2018 revenue, as previously noted, was $214.6 million, increasing $10.8 million versus the first quarter of 2017 primarily due to favorable FX and the adoption of the revenue recognition guidance. Q1 2018 revenue was slightly above the midpoint of our guidance range. Adjusted operating margin was 15.4%, which decreased from 22% in Q1 2017. Q1 2018 adjusted operating income of $33 million decreased $11.8 million versus $44.8 million last year. The decline in adjusted operating margin and adjusted operating income is primarily the result of revenue mix, operating challenges, higher sales and marketing, and R&D expense associated with future growth initiatives. Net income of $26.1 million from the first quarter of 2018 was down $0.9 million versus the prior year or 110 basis points as percent of revenue. First quarter 2018 adjusted earnings per share of $1.48 decreased $0.20 versus Q1 2017 and was above the high end of our guidance range of $1.45 primarily due to favorable effective tax rate.

Please turn to Slide 13 for a review of our quarterly revenues. Our revenue was up 5.3% on a year-over-year basis. First quarter exchange rates favorably impact revenues by 4.6%, or $9.4 million, primarily due to depreciation of the euro, renminbi and Korean won. Revenue recognition methodology adoption favorably impacted revenues by $3.9 million or 1.9% versus the first quarter of 2017. Q1 2018 volume was down 1.2% versus Q1 2017. Rogers was favorably impacted by growth from the ADAS and EV/HEV markets. However, this growth was not able to offset the volume declines due to lower demand in 4G LTE wireless as we transition to 5G.

Looking at Slide 14. Our Q1 2018 adjusted operating income was $33 million versus $44.8 million in Q1 2017. Q1 2018 adjusted operating margin of 15.4% decreased versus 22% in Q1 2017. The operating income deterioration was unfavorable performance of $7.9 million primarily due to commodity cost increases and new product introduction inefficiencies, process issues, such as higher scrap, unplanned downtime and yield impacts associated with discrete equipment and multisite product qualification. Increase in both SG&A and R&D of $6.3 million was to support future growth initiative. Volume and other increased operating income by $2.4 million, with favorable impact primarily from FX of $2.5 million and the adoption of revenue recognition guidance of $1.3 million, partially offset by lower volume mix of $1.4 million.

Turning to Slide 15. We reported EPS of $1.48 in the first quarter of 2018, which was down versus last year's $1.68. As the slide depicts, the 20% decrease was primarily due to $0.29 of unfavorable performance and commodity costs, $0.18 higher SG&A and $0.04 higher R&D, and $0.04 unfavorable miscellaneous income expense mainly due to derivative contract. These were partially offset by favorable items totaling $0.35 due to $0.26 improvement primarily associated with the lower effective tax rate of 15.4% due to 1040A royalty releases, U.S. tax reform, R&D tax credit, transfer pricing adjustments and stock compensation tax benefit. In addition, $0.09 of volume and other was largely due to favorable effects of $0.09, $0.05 for the adoption of the revenue recognition guidance, partially offset by $0.05 of volume and mix.

If you turn to Slide 16, you will see our Q1 2018 segment results. On the left side of the chart is the segment revenue for our strategic business unit. Adjusted for FX and revenue recognition methodology changes, ACS revenue decreased 8.8% in Q1 2018, EMS decreased 1.1% and PES increased 12.8%, respectively. More specifically, in Q1 2018, our ACS segment revenue decreased mainly as a result of lower demand in high-frequency circuit material for wireless 4G LTE, portable electronic and satellite TV application, partially offset by increased demand for ADAS. The EMS segment revenue decreased 1.1% due to lower volume. EMS sales increased for portable electronics, general industrial and EV/HEV. This was more than offset by lower mass transit and clean room automation application for OLED display manufacturing. Finally, our PES segment was the fastest growing segment with organic growth of 12.8%. The growth is associated with EV/HEV, renewable energy, higher demand in variable frequency motor drive, and laser diode coolers.

Looking at the right side of the slide, you'll see our segment adjusted operating income. First, ACS adjusted operating income was $9.6 million, down $10.6 million from Q1 2017. This was primarily due to unfavorable impact of volume and mix, higher commodity cost, yield and productivity issues associated with new product introduction, capacity optimization to support multisite product qualification, unplanned downtime and yield impact associated with discrete equipment issues, and continued strategic investment in sales, marketing and R&D. Next, EMS adjusted operating income was $13.8 million, down $3.3 million from Q1 2017. The decrease was largely due to unfavorable price and mix, higher commodity cost, and lower throughput resulting in under-absorption of fixed costs. Lastly, PES adjusted operating income was $7.7 million, up $2.1 million from Q1 2017. This increase is mainly the result of favorable volume and mix and benefit from the adoption of revenue recognition guidance, partially offsetting these favorable items or unfavorable performance due to the new product introduction and start-up issues, higher commodity cost, and strategic investment in sales and marketing.

Turning to Slide 17. You will see we ended the first quarter with a cash position of $173 million, adjusted EBITDA of $40.6 million or 18.9% in the quarter excluding the adoption of revenue recognition guidance of $0.9 million. During the quarter, we had a use of working capital of $30.1 million adjusted for revenue recognition methodology. This decrease was primarily due to $17 million of cash paid for incentive compensation, an inventory increase of $9 million, an increase in accounts receivable of $8 million, partially offset by accounts payable and other accrued of $4 million. Capital spending in the first quarter of 2018 was $9.1 million or 4.3% of revenue. Cash taxes paid in Q1 2018 of $5.6 million was approximately $0.8 million higher than Q1 2017 although the effective rate was lower at 15.4% versus 32.3% last year due to the FIN 48 releases for royalties, the U.S. tax reform, R&D tax credit, transfer pricing adjustment and share-based compensation. The effective tax rate adjusted for one-timers was approximately 28%.

Taking a look at our Q2 2018 guidance on Slide 18. Revenues are estimated to be in the range of $210 million to $220 million, with earnings in the range of $1.10 to $1.25 per diluted share. On an adjusted basis, we guide earnings in the range of $1.25 to $1.40 per diluted share. At the midpoint, our Q2 2018 revenue guidance represents a year-over-year revenue increase of $40 million or 6.8% compared to Q2 2017. This revenue guidance includes anticipated favorable currency fluctuations of 2.7% or $5.4 million. Guidance for earnings per share has a midpoint of $1.17 per diluted share, which reflects an increase of $0.04 per diluted share compared to earnings per share in Q2 2017 of $1.13. On an adjusted EPS basis, guidance has a midpoint of $1.34 per diluted share, $0.01 higher than adjusted earnings per share of $1.33 in Q2 2017. This year-over-year increase is primarily due to higher volumes in pricing program, partially offset by the impact of the ZTE government sanction, portfolio shift, and higher commodity prices. Guidance for capital expenditures for the year is in the range of $50 million to $60 million. The effective tax rate for the full year is guided at 24% to 26% and for Q2 is guided to 28%.

I will now turn the call back over to Bruce.

Bruce D. Hoechner - *Rogers Corporation - President, CEO & Director*

Thanks, Janice. This concludes our prepared remarks. We'll now open the line for Q&A.

QUESTIONS AND ANSWERS

Operator

(Operator Instructions) Your first question comes from the line of Craig Ellis with B. Riley FBR.

Peter Peng - *B. Riley FBR, Inc., Research Division - Associate Analyst*

This is actually Peter Peng calling in for Craig Ellis. On the middle of the income statement clarification, it seems like the gross margin is about roughly 200 basis points from where we expect. I'm wondering if you can kind of quantify -- you talked about the 2 issues of product mix and then the discrete, whether you can quantify how much is true by each of these 2.

Bruce D. Hoechner - *Rogers Corporation - President, CEO & Director*

Well, I'll give you some color on that. The majority is the operating side of the equation. The mix is probably about a lower percentage, but the majority is the operating issues that we had.

Peter Peng - *B. Riley FBR, Inc., Research Division - Associate Analyst*

Okay. And just within that operational issue, would you be able to quantify within that 3 buckets, the capacity optimization, yield and productivity and then also the downtime equipment issues?

Bruce D. Hoechner - *Rogers Corporation - President, CEO & Director*

We're not really breaking them out into specifics, but I would say, as I said earlier, it's in the range of about 60% or so of the miss on the margin side. So there's various puts and takes on that.

Peter Peng - *B. Riley FBR, Inc., Research Division - Associate Analyst*

And kind of looking at the revenue in the EPS guidance, it seems like that margins are going to be a slight improvement and OpEx is flattish. So is it kind of correct to assume that these issues are going to be lingering in the second quarter and clear up in the second half? Or is this going to be lingering throughout the second half as well?

Bruce D. Hoechner - *Rogers Corporation - President, CEO & Director*

So a couple of things here. First, on the operating side, we've addressed certainly the equipment issues that we had. The 2 pieces of equipment are now up and running. On the multisite qualification and new product introduction, we're through a lot of that, although this will also be in Q2 and possibly bleed into early Q3. But the majority of it, we'll be taking care of in the first half of the year. So as we move into the second half of the year, we see that in a lot of these -- or all of these issues should be behind us. The real challenge for us is on the revenue side on -- particularly in ACS, where we initially had planned out that NB IoT would be evenly distributed, let's say, through the year. And what we're hearing is that it's been pushed towards this -- into the second half of the year. So that's one thing that's pushed down on the revenue for ACS. So that's -- when we see that coming back in, that will help us as well on the margin side and help counterbalance some of the growth that we've also seen on PES, which, as I mentioned in my prepared remarks, is somewhat lower in margin so that the balance -- we get back in balance when we see that growth in ACS. And then longer term, the 5G surge or the 5G roll-out, we're -- what we're hearing, we're hearing some mixed reports. One large equipment manufacturer, telecom equipment manufacturer in Europe had said in their earnings call the other day that they would start seeing some of this in the second half of the year particularly in the United States and then rolling into Asia in the first half of 2019. But then we've heard some other things that some of the carriers are saying in the United States, maybe not the -- in the second half for them. So it's a bit of a mixed bag, but our belief is that certainly as we roll into '19, we will start seeing the 5G, which -- of course, that's what we're spending our time preparing for naturally incurring costs right now to make sure that we have the right products being produced in the right facilities in the most efficient way from a productivity and yield perspective and then also, obviously, debottlenecking and adding the appropriate capacity so we're there when 5G hits.

Peter Peng - *B. Riley FBR, Inc., Research Division - Associate Analyst*

Okay. Based on just the flattish sales quarter guidance, can you kind of talk about the gives and takes of each of the segments?

Bruce D. Hoechner - *Rogers Corporation - President, CEO & Director*

So in ACS, as I mentioned, we saw wireless down in the range of about 15%, which was an area that we expected a bit higher sales there. ADAS was up in the quarter, in line with the -- with what we've seen, and that continues to be a very strong market for us. In EMS, the real issue in EMS, we had very good growth across pretty much all of the market areas, portable electronics, general industrial, with the exception of our MSPU product line that goes into OLED, clean room manufacturing. Again, as I mentioned in the call -- in the prepared remarks, that market has stalled. I think the issue there is that the new phones that have come out with OLED apparently are not selling as well as anticipated. So the next round of investment in manufacturing for OLED screens has been delayed, which has affected us. But EMS, pretty much across the board with that exception, had a good run of it but ended up mixing out at about flat. And then PES, which has had the 13% growth year-on-year, a lot of that was in the EV/HEV area and we see that continuing as we move through the year, as well as renewable energy and laser diode as well, laser diode coolers. So overall, PES is doing extremely well. EMS with that one exception is -- seems to be pretty much on track. The challenge for us is ACS and the narrowband Internet of Things and then the 5G roll-out.

Peter Peng - *B. Riley FBR, Inc., Research Division - Associate Analyst*

Kind of following up on the ACS point, there's been a few press release on some tragic accidents in the autonomous space. Has that affected on material demand and the rate of change that you're expecting for this year?

Bruce D. Hoechner - *Rogers Corporation - President, CEO & Director*

Great question. And what we see is that the Level 2 autonomy, which is blind spot detection, adaptive cruise and so forth, continues to penetrate the marketplace. And that is not -- it's assisted driving. It's not autonomous driving. We see that penetration increasing substantially and driving the growth in our ADAS applications. So as we penetrate that market, I think the last numbers I had seen were something like a 20% penetration in -- of those materials into that market. We will see that expand over the coming next couple of years. The autonomous driving, the fully autonomous driving that people talk about some of the issues that have happened with the accidents and so forth, that, even for us, was multiyear out opportunities and we don't see that really affecting any of our sales. We're seeing our penetration and the number of sensors on cars increasing just in the Level 2 as they go to Level 3 autonomous driving, which -- as I said, it's not full autonomous.

Peter Peng - *B. Riley FBR, Inc., Research Division - Associate Analyst*

Great. And on the ZTE issue, has that impacted any of your orders? And have you seen any acceleration from the Chinese pair because of this issue?

Bruce D. Hoechner - *Rogers Corporation - President, CEO & Director*

So that business is very -- less than 1% or so of sales, and what we had seen when this -- when these sanctions had occurred in 2016 is a bit of a delay as other equipment manufacturers take up the slack and procure the materials. And since we're qualified and spec-ed in across all of the equipment manufacturers, it's basically a bit of noise in Q2 for us. And I think Janice pointed out that we've included that in our guidance, but we would see that returning to normal in Q3, Q4.

Peter Peng - *B. Riley FBR, Inc., Research Division - Associate Analyst*

Okay. One more question from me and I'll hop back into the queue. Just on the operating expense, is this kind of the normalized level that you expect for the year?

Janice E. Stipp - *Rogers Corporation - Senior VP of Finance, CFO, & Treasurer*

Are you talking about SG&A or (inaudible)?

Peter Peng - *B. Riley FBR, Inc., Research Division - Associate Analyst*

Just SG&A and R&D. Or do you see this pick up in the second half as you've launched some new products?

Bruce D. Hoechner - *Rogers Corporation - President, CEO & Director*

No, I think if you look back, we -- over the course of 2017, we put in place the SG&A that we believe we needed to have to propel the growth forward. And as we look for forward in 2018, we don't see any substantial adds for SG&A. This should be very steady through the year.

Operator

(Operator Instructions) Your next question comes from the line of Daniel Moore with CJS Securities.

Daniel Joseph Moore - *CJS Securities, Inc. - Director of Research*

Let me just echo -- Bruce, let me quickly echo your thoughts and our thanks to Janice as well, and good wishes going forward.

Janice E. Stipp - *Rogers Corporation - Senior VP of Finance, CFO, & Treasurer*

Thank you.

Daniel Joseph Moore - *CJS Securities, Inc. - Director of Research*

And I will shift gears. Talk a little bit about the -- maybe can we dissect 4G, kind of the legacy wireless between legacy 4G and more 4.5G technologies. And with wireless revenue declining in this sort of gap period a little bit quicker than maybe we thought, is -- just trying to get a handle on the rate of the decay. Is it 4.5G that's slowing or declining as well? Bob, any color you might have on that would be great.

Bruce D. Hoechner - *Rogers Corporation - President, CEO & Director*

Dan, I'm going to ask Bob to comment on that.

Robert C. Daigle - *Rogers Corporation - Senior VP & CTO*

Yes. So Dan, our belief, a lot -- again, it's very similar constructions between 4G and 4.5G, but our belief right now is a lot of what's being deployed in the legacy LTE 4G is -- ia really could be characterized as 4.5G these days. And I think if you look at the decline that -- experienced in the past quarter, a lot of that -- frankly, that gap was -- we believe, was the NB IoT that, as Bruce mentioned, the announcements out of China were in the neighborhood of 750,000 base stations would be deployed in 2018 for NB IoT, which would have been a bit of an increase from last year. From what we're hearing from the OEMs, there -- little to no deployments occurred in the first quarter. Our guidance reflects continued sluggishness in NB IoT in Q2, but what's encouraging to us is that -- I mean, everything we're hearing, reading, being told suggests there's still intent to deploy those NB IoT base stations during 2018. So with that in mind, we would expect to see some -- a nice uptick in that space in the second half.

Daniel Joseph Moore - *CJS Securities, Inc. - Director of Research*

Got it, helpful. And on the 5G front -- obviously, you ask different players. You get different answers. But you're ramping or getting ready. If orders sort of came in today for -- if not in mass but at a considerable level, how long would it take you to ramp up and put the full production capacity or a sizable amount of production capacity in place and actually start shipping?

Bruce D. Hoechner - *Rogers Corporation - President, CEO & Director*

We are well positioned right now. This is not going to turn on in 1 day. There's applications that are being piloted, that we're supporting right now. And so what we see and what we anticipate certainly as we move through the quarter and into the second half of the year, we'll be in very good position to provide materials based on what we know has been designed in and what we believe will be the first introductions of bigger volumes. So we continue there -- and I will also say we continue to make the investment in our presses and installing presses as we speak. There's one that will be completed over the summer here in Europe, and there's others that are going in. So we're well positioned from that perspective, and I think we're well matched for the coming demand.

Daniel Joseph Moore - *CJS Securities, Inc. - Director of Research*

Got it, and I'll shift gears and then jump back out. Remind us how much cost savings expected in the Belgium consolidation as well as any details you might have around the cost save at the newer consolidation of DSP's ops.

Bruce D. Hoechner - *Rogers Corporation - President, CEO & Director*

We haven't communicated that out, and so we're not prepared to do that here.

Daniel Joseph Moore - *CJS Securities, Inc. - Director of Research*

Got it. And last one. You gave a lot of detail on the margin front as it relates to ACS -- PES, really solid growth and yet still sort of below average margins and not a lot of incrementals. What do we need to do? What's the key to lifting those margins in that segment longer term?

Bruce D. Hoechner - *Rogers Corporation - President, CEO & Director*

It's a very good point. The -- we talked about and you just asked about the Belgian consolidation. Part of the improvement during the year here for PES will be the Belgian consolidation. That will be completed this summer. And we've also moved some manufacturing to lower cost sites for PES, so Hungary and China. And in addition to that, we're doing automation installations in the [ceramic] business as we add capacity there. So all of those activities during the course of this year will result in improved margins as we move forward. There's -- as you can imagine, there are so many efficiencies as we move production from site to site and as we install capacity and automation. So there's, to be very frank, some leakage of margin until we get that in place. So as you point out, you would have expected maybe a little bit better gain on -- with the revenue growth in PES on margin, but we had -- as the costs incurred to do some of these things, some of these moves, it kind of took that back from us. But we're very, very confident in our plans there, and that's actually being executed extremely well, those consolidation -- that consolidation and the automation.

Operator

Your next question comes from the line of Sean Hannan with Needham.

Sean Kilian Flanagan Hannan - *Needham & Company, LLC, Research Division - Senior Analyst of Smart Grid, Electronic Mfg Svcs, IT Components & Electronic Components*

Janet, congratulations. I'm sorry -- Janice. It's been a long day already. Congratulations on your retirement. I have a few points I want to see if I can clarify here just to make sure that I'm understanding what's new, what's not new, what might be modifications as we consider the -- some of these impacts specifically within ACS, and there's little mention around EMS. So I'm hoping I can walk through some of these things. Now first, when thinking about 4G or 4.5G particularly as it ties to NB IoT, should we consider this as a push more to a full second half weight? Or rather that your expectation is there really isn't much activity today. And as -- when we have that uptick in activity in the second half, we do expect it. And clearly, it would be a good bump up from very little today, but yet the aggregate expectation here in '18 would be something that would be lower. Just trying to understand that piece of it first.

Bruce D. Hoechner - *Rogers Corporation - President, CEO & Director*

Right. So in the Q2 guidance, we did not guide significant NB IoT. So our view is that this is going to show up in the second half.

Sean Kilian Flanagan Hannan - *Needham & Company, LLC, Research Division - Senior Analyst of Smart Grid, Electronic Mfg Svcs, IT Components & Electronic Components*

Right. But if we were thinking about in-aggregate picture for 2018, does that aggregate -- is that aggregate picture still whole and is just second half weighted? Or is it that the activity picks up in the second half and that becomes our start point and thus, the aggregate is lower?

Bruce D. Hoechner - *Rogers Corporation - President, CEO & Director*

No, no. The -- I think the aggregate is there that the original view of what would be performed in 2018. The issue is that it gets back-end loaded. And so our belief -- and again, everything that we've heard, read and been told from various folks on the NB IoT is that it will happen this year and there's a commitment to that by the operators there in China. So it is in aggregate still in the year, just back-end loaded.

Sean Kilian Flanagan Hannan - *Needham & Company, LLC, Research Division - Senior Analyst of Smart Grid, Electronic Mfg Svcs, IT Components & Electronic Components*

Okay. And so the timing of that shifting more to back-end loaded, that's a -- that was a recognition that transpired during the course of the quarter, correct? I mean, you were already observing we were going to have some downtick hiccups related to demands thematically in support here at least for the first quarter, right? So basically, we have then kind of -- or further realization then an extension of that into the second quarter. Is that how it morphed?

Bruce D. Hoechner - *Rogers Corporation - President, CEO & Director*

Yes, I think that's -- it's a good characterization. I think we were disappointed with that we didn't see really the pick-up in NB IoT, and so we're projecting that through Q2. And unfortunately, we saw a very strong uptick on the EV/HEV side for PES, which helps to counterbalance, which also goes back a little bit to the margin issues in terms of the portfolio of the company, where the PES margins are a bit lower. So we gave up some volume over in ACS and got more in PES but it affected -- negatively affected overall margin. So -- just so you have that in your thought process.

Sean Kilian Flanagan Hannan - *Needham & Company, LLC, Research Division - Senior Analyst of Smart Grid, Electronic Mfg Svcs, IT Components & Electronic Components*

Okay. And then when I look at -- and this is specific to ACS. So when I look at the operating challenges, the multisite quals, we already knew coming into the quarter, that was going to be an issue. It seems that in terms of the resolution, getting that largely accomplished by the end of second quarter definitely -- or at least high, high confidence at least fully resolved in the third quarter? It seems that, at least addressing that part, perhaps that may be stretched a little bit longer. I got the impression we should be resolved within the second quarter previously. So I want to see if that has -- the assumption has stretched just a tiny bit for the multisite quals. The yields, I'm getting a sense that in a very similar vein, perhaps that stretched just a tiny bit further as well. And then the discrete equipment issues, that seems new to me. I wasn't sure if that was something that was well known or telegraphed as we enter this quarter. Can you help me to understand? Because I may have just misinterpreted coming out of last quarter.

Bruce D. Hoechner - *Rogers Corporation - President, CEO & Director*

So we'll start with the multisite qualification. And as we said last quarter, this would come into the -- into Q1, and we're also projecting some of this into Q2 with everything completed by early Q3. Just on that specific issue, in dealing with some customers, it extended some of the time lines for the qualification we hadn't anticipated. But as you can imagine, trying to have customers qualify and going back and forth and so on, sometimes, it's on their time line, not ours. So...

Sean Kilian Flanagan Hannan - *Needham & Company, LLC, Research Division - Senior Analyst of Smart Grid, Electronic Mfg Svcs, IT Components & Electronic Components*

Sure, okay. So then my observations are accurate, right? It's...

Bruce D. Hoechner - *Rogers Corporation - President, CEO & Director*

Yes.

Sean Kilian Flanagan Hannan - *Needham & Company, LLC, Research Division - Senior Analyst of Smart Grid, Electronic Mfg Svcs, IT Components & Electronic Components*

Okay. So it's not a new issue. It has stretched a little bit, but okay.

Bruce D. Hoechner - *Rogers Corporation - President, CEO & Director*

Right, right. And then the new product introduction, part of the knock on from the multisite qualification, let's say extension, a bit of an extension there has -- it impedes our ability to go to that equipment that we wanted to use. That would be vacated by moving some of the multisite products to a different site. So therefore, that impacted us a bit more than we had hoped in the quarter as well. And then of course, the final thing around some of the deferred maintenance and the equipment outages that we had, those are very discrete and understood and are fixed. So we will not see and should not see any continuation of that issue.

Sean Kilian Flanagan Hannan - *Needham & Company, LLC, Research Division - Senior Analyst of Smart Grid, Electronic Mfg Svcs, IT Components & Electronic Components*

Okay, all right. That's helpful, provides some clarity here. I wasn't sure if there was some incorrect interpretation on my end. Last question here. Haven't heard much mention around how some of the demand is going into military markets, particularly in ACS. And if I recall correctly, you folks have really consistently been seeing quite a bit of strong backlog built for that end market. And so what's occurring there? Any increases in terms of opportunity sets especially with the DoD budget expansion? And what are some incremental thoughts? Because I think that's typically some very good and good margin business. And that's just a perspective, I think, that might be useful.

Bruce D. Hoechner - *Rogers Corporation - President, CEO & Director*

Sure, Sean. Thank you. And so let me just address your last question. So for aerospace and defense, in the ACS business, it's about somewhere around 8% to 10% of the total sales of ACS. In the quarter, it was relatively flat. And what happens generally with aerospace and defense, they are project-based. And so the projects will come and it will be quarter by quarter. Usually, we'll see an uptick from one quarter to the next. But your observation is a very good one. Historically, we've done very well in aerospace and defense. As I mentioned though, it was relatively flat quarter -- year-on-year in Q1. And so we'll see how we do in Q2. We anticipate a continued rise in our participation there because a lot of what -- the investments that are being made by the military are -- is in technology and certainly in our systems. So it's something that we have a positive outlook on.

Operator

There are no further questions at this time. I will turn the call back over to Bruce Hoechner for closing remarks.

Bruce D. Hoechner - *Rogers Corporation - President, CEO & Director*

All right. Well, thank you, everyone, for joining us on today's call. We continue to focus on the profitability improvements we discussed as we capitalize on our growth in our key markets, and we certainly do remain on track for our 2020 target. So thanks, everyone. Have a good day.

Operator

This concludes today's conference call. You may now disconnect.
