

**Operator:** Greetings and welcome to Astronics Corporation Second Quarter 2018 Financial Results Conference. At this time, all participants are in a listen-only mode. A question-and-answer session will follow the formal presentation. [Operator Instructions] As a reminder, this conference is being recorded.

I would now like to turn the conference over to your host, Debbie Pawlowski, Investor Relations for Astronics. Thank you. You may begin.

**Deborah Pawlowski:** Thanks, Sherri, and good morning, everyone. We certainly appreciate your time today and your interest in Astronics. Joining me here today are Pete Gundermann, our President and CEO; and Dave Burney, our Chief Financial Officer.

You should have in hand the news release that crossed the wires this morning before the market, and if you don't, it is available on our website at [astronics.com](http://astronics.com).

As you are aware, we may make some forward-looking statements during the formal presentation as well as during the Q&A portion of this teleconference. These statements apply to future events that are subject to risks and uncertainties as well as other factors that could cause actual results to differ materially from where we are today. These factors are outlined in the earnings release as well as in documents filed by the company with the Securities and Exchange Commission. You can find these documents both at our website and at [sec.gov](http://sec.gov).

So, with that, let me turn it over to Pete to begin. Pete?

**Pete Gundermann:** Thanks, Debbie, and good morning, everybody. We're going to do the normal routine of talking through our second quarter results including the review of our expectations for the rest of the year and then do questions and answers.

So, the highlights for the second quarter: You saw the numbers this morning. It was strong top-line performance for our company. We had record consolidated revenue. Our Aerospace segment turned in another record performance on the top line, and our Test segment had its best quarter in three years or so, almost tripling sequentially what it did in the first quarter. With the strong top-line performance, our margins recovered well from our first quarter, again largely driven by the volume improvement. Finally, we remain on target for our 2018 forecast, which at the midpoint calls for consolidated sales of about \$790 million, up about 25% from where we ended last year.

Diving into the details of the second quarter, specifically revenue was strong at \$208 million. That is a new all-time high, as I said, about 38% higher than our comparator period of a year ago and up about 16% from our first quarter of 2018.

Acquisitions, specifically Telefonix, contributed about \$27 million of the \$58 million in growth. So, if you're inclined to back out the acquisitions, you will find organic growth in the quarter was about 20%.

As I mentioned, Aerospace set another record at \$166 million in revenue, up about 28% over the comparator period but up marginally over the first quarter. Test gets a lot of credit for our second quarter results with revenue of \$42 million, doubling the comparator quarter of a year ago and tripling the first quarter of 2018.

Margins responded nicely with the increased volume. We had net income of \$14 million, about 6.7% of sales, up substantially from \$7.7 million and 5.1% of sales in the year ago period. We talked a fair bit about margins in our first quarter call. To recap that conversation briefly, now that we have the benefit of second quarter results in, we said at the time that the company was sized for a higher volume. We think our second quarter confirms that thesis. With the higher volume, our margins came up substantially. It's most easy to see in our Test side.

Sequentially, we did experience reduced purchase accounting or legal expenses, as expected. That drops from about \$5.7 million of expense in the first quarter to \$2.5 million in the second quarter. We made some progress, though frankly not as much progress as I might have expected in some of our challenged

operations on the Aerospace side where we had collective operating losses in the first quarter of about \$8.7 million; and in the second quarter that dropped to about \$8 million, but not as much as we had hoped. We expect further improvement in that number over the rest of the year.

In the second quarter, we had diluted earnings per share of \$0.49 and that compares to \$0.26 in the second quarter last year.

Finally, bookings were solid at \$187 million. That's slightly off the pace from the last couple of quarters, but still very strong by historical norms with the book-to-bill of 0.9. In our Aerospace business, the book-to-bill was 0.96. So, our bookings are keeping up with our record shipments. Test was quite a bit lower at 0.66. One way to think about that, everybody knows that our Test business tends to be a little bit lumpy in terms of shipments, but bookings tend to be even lumpier because we tend to get big orders that are delivered over multiple periods. So, lumpy shipments, but lumpier bookings. We don't get too alarmed about a Test book-to-bill of 0.66 in any particular quarter. Our backlog consolidated at the end of the second quarter was \$377 million. We think that sets us up for a really good second half. We'll talk about that more in a minute.

Year-to-date results: Revenue consolidated was \$388 million, up 28% from \$303 million last year. Acquisitions contributed about \$52 million. Organic growth year-to-date was quite a bit lighter at 4.7%.

Net income for the first half was \$17.3 million, 4.5% of sales. That's down about 10% from \$19.3 million in 2017. We had \$0.60 per diluted share in the first half versus \$0.64 last year.

One observation which I'd like to put forward is that last year we started with our strongest margins in the first quarter and the margin profile dropped throughout the year. We think this year, 2018, is going to be just the opposite trend. We started on the low side and we're going to continue to strengthen. Those year-to-date comparisons are going to flip pretty dramatically from this point going forward through the end of 2018.

On the booking side, through six months, we had consolidated bookings of \$383 million. That's a book-to-bill of 0.99, almost exactly equal to shipments. Aerospace through six months has a positive book-to-bill of 1.03. So, bookings are leading shipments a little bit. Test has a trailing book-to-bill of 0.76.

Turning to our segments: The Aerospace segment, specifically, again, revenue in the second quarter of \$166 million, up 28% over the comparator period, operating profit of \$18.2 million, or 11% of sales. Bookings were \$159 million. That's a little bit of a drop from where we've been in the previous quarters, but still strong with the second quarter book-to-bill of 0.96 and a year-to-date book-to-bill of 1.03, ending backlog in the second quarter of \$299 million, among our highest ever, and quite adequate for where we expect to go through the rest of the year.

Looking at year-to-date numbers referring to some of the charts in our press release, revenue was \$331 million, that's about 85% of our consolidated total and, again, up 24% over the first half of 2017. Operating profit of \$31 million, or 9.5% of sales. That's down a little bit from where we were through the first half of 2017, but we expect those numbers to flip as we're going to have a stronger second half this year. We had a weaker second half last year. Bookings are hanging in there with a book-to-bill of 1.03 with \$340 million through the first six months.

Looking at some of the market numbers and product line numbers. Commercial transport sales through the first six months were \$266 million. That's about 70% of our total sales and up strongly at 28% compared with where it was last year. Our acquisition of Telefonix gets a lot of the credit for that.

If you look at our major product lines, our Electrical Power & Motion, which includes our In-Seat Power franchise, which makes up a significant portion, but not all, of the category, had second quarter sales of \$67.6 million, up 8% over the comparator quarter and \$140 million year-to-date, up a smaller 3.9%. We're pretty excited about prospects for this group. The demand continues to be pretty strong despite the smaller 3.9% growth through the first six months. As a sneak preview, our expectation is that by the end of the year,

we will see strong double-digit growth for the year cumulatively in our Electrical Power & Motion group in 2018 over 2017.

Lighting & Safety, a major product line of ours: \$86 million through the first half, 22% of total, about flat with the year before. Avionics, this is where we categorize a lot of the Telefonix product lines that we're delivering on today, had about \$69 million sales in the first half, that's up pretty crazy, 245% and making up 18% of our total.

Before I forget, let me make a little comment here that our Telefonix acquisition is working out very, very well. If you read the comments throughout the press release, the group there's doing a really good job, fitting into our company culturally, strategically and executing on their business plan. So, it's only been six or seven months, but we're very pleased with how that group is performing so far. We're happy to have them as part of the team.

Some trends in Aerospace: Market demand continues to be really strong. We're setting record sales; we're having record bookings; and we're very, very busy on the front end of our business, across the company, and we don't see that changing. There are some weak spots here and there. There are some scheduled slides in various programs, particularly things we're trying to get going on the incentive side of our business or some foreign military programs but by and large, demand continues to be very solid.

There's always a little bit of price pressure. We see it in some places in our business, especially in product lines that have grown dramatically over the years, but it's not dramatically changing things. We have been spending some time in recent weeks trying to understand the potential implications of the tariff talk, which dominates the airways these days. We don't have any definitive answers today because nothing is firm yet, but potentially it could be a negative impact, difficult to quantify. But we think in a worst case scenario to be somewhere in the neighborhood of a \$10 million charge or something like that. But there's a lot of puts and takes between here and there, we believe.

Turning to our Test segment, again a very good second quarter, revenue of \$42 million, almost double last year and triple the first quarter. The operating profit was \$6.3 million, 14.7% of sales. The improvement was driven by strong semiconductor test shipments. Those were bookings that were pretty evident in the second half of 2017. If you look back at those booking numbers from the second half of 2017, you realize we still have quite a bit in backlog. That backlog is expected to deliver substantially in Q3, maybe a little bit in Q4 and Q1 of 2019. But it's good to see that demand come through which we've been waiting for, for quite a while.

Year-to-date revenue is \$57 million, up 50% from last year. Operating profit year-to-date was \$4.3 million, or 7.6% of sales, with Q2 contributions covering the loss from the first quarter.

Bookings in the second quarter were \$28 million, that's a book-to-bill of 0.66. We actually had some success in the Aerospace & Defense side, and we have some other prospects which we are not ready to talk about today, but we believe we're on the verge of some important wins. But, I guess, we'll have to communicate in some other way if and when they happen. I'd tell you that between the semiconductor business and the A&D business, we've got a more optimistic prospect list for potential business than we've had in some time. We believe that we've got more good times ahead of us, not like 2017, or even 2016 for that matter. Our backlog at the end of second quarter was \$78 million. We think that's really good enough to drive our forecast for the year.

Balance sheet: At the end of the second quarter, cash was \$10.7 million, and total debt was \$265 million. We expect our cash position to strengthen as the year progresses. The one thing that could throw a wrench in that is substantial Test orders that require material investments, which may deliver in 2019 rather than 2018. But of course that's a good reason to have to use cash, if it comes to it. We feel that we're comfortable where we are with our debt covenants right now. We expect we will have more room as the year progress and we put up stronger quarters.

Looking forward, we are maintaining our initial guidance for revenue for 2018. That specifically is an expectation of consolidated sales of \$765 million to \$815 million with Aerospace coming in at \$650 million to \$680 million and Test coming in at \$115 million to \$135 million. If you take the midpoints of all that, you would anticipate consolidated growth of about 26% for the year, Aerospace growth of about 24% for the year and Test growth of about 39% or 40% for the year.

We're obviously maintaining the same range as we had before. That's because there is room for things to move yet. We've got some programs that need to be nailed down and we've got some of the things we expect to win, which could generate upside potential. We would normally expect to be tightening ranges at this point, but felt it's appropriate to leave them where they were.

When you look at Q3 and Q4 specifically, for those who want to make models, we expect Q3 to be perhaps the stronger of the two with Q3 coming in, I would suggest, a little bit higher than where we were in Q2, and Q4 coming in a little bit lighter maybe than we were in Q2. We have better insight in Q3 than Q4, so, there is room for Q4 to move. There also will be a little bit of a mix change. Q3 will have stronger semiconductor shipments, again, like Q2. Q4 will be much stronger Aerospace-oriented as we expect an uptick in certain Aerospace programs towards the end of the year.

We expect also that margins will continue to improve. We talked about some of the dynamics that we're working towards. The acquisition, legal, SG&A expenses, we expect to drop on a predictable path. We expect that we'll continue to make progress with our more struggling units. How much progress we can make will be something that we'll report on when the time comes, but we think we've got positive trends underway, as demonstrated by the second quarter results. We don't think we're going to disappoint going forward on that front either.

So, I think that concludes my prepared remarks. We'll open up for questions now. Sherri?

**Operator:** Thank you. We will be conducting a question-and-answer session. [Operator Instructions] Our first question is from Jon Tanwanteng with CJS Securities. Please proceed.

**Jon Tanwanteng:** Good morning, guys. Fantastic quarter. Thanks for taking my questions.

**Pete Gundermann:** Thank you.

**Jon Tanwanteng:** First one, you spent a lot of time going through the margin expectations last quarter. Where do you expect that \$8 million operating loss to trend for those problems versus Q3 and Q4, and can you break it down by either product or business line?

**Pete Gundermann:** It's a little bit of a moving target. I would tell you that I would like to see that towards the end of the year cut in half. I thought we're going to do a little bit better than that due to the timing of some business.

There're really two aspects to margin improvement in those three companies, one aspect is just being more efficient, lowering costs, and we're doing that. But the other one is generating more demand. I think it's safe to say that in all three locations, we're seeing greater demand. It's a question of when that demand comes through sales.

So, I don't know exactly where we're going to end up as 2018 comes to a close. I can tell you very confidently that when I think about 2019 across all three, it should be a much different picture. I think we see strong demand, or improving demand opportunities in all three locations. I'll be happy to report that when the time comes. The question is, we don't know exactly when that time is going to come.

**Jon Tanwanteng:** Okay, great. Then, just on the Test side, any further orders in the near future, will they impact 2018 at all or is that slated for 2019 at this point?

**Pete Gundermann:** It's possible, but time is running out. So, we're now in the mode of understanding where 2019 is going to be. I will tell you that we continue to pursue various opportunities both on the

semiconductor side and on the A&D side. I would expect over the next three months to have pretty good insight over where we expect 2019 to be. Most of the indications we have are middle to up based on where we are this year. So, we don't expect to go back to the 2017 results. We expect, if anything, we're going to build from 2018.

**Jon Tanwanteng:** Okay, great. Then, just finally on the Test margins themselves. I think the last time you did this level of revenue, maybe exactly three years ago, you had 24% operating margins in the business; this time around, let's call it 15%. What's different this time around and how do we expect that trend to go forward?

**Pete Gundermann:** Well, let me talk about two different sides of it. The A&D is running not at a breakeven level right now. So, that's one of the problems we have going. But we have been investing pretty heavily in these new programs that I keep alluding to, which we have not won yet, which we are hoping will have material ramifications next year. So that's an investment area.

On the semiconductor side in the second quarter, we're basically shipping on two programs in quantity, one new one, one old one. The old one is the one that was pretty much exclusively making up our sales back in 2015 period you're talking about. As happens often in these kinds of businesses over time, their price drops. So, we've seen some of that. With price drops come margin drops. With the new program, there's a significant amount of learning curve effects going on in the initial shipments. So we're incurring a little bit of that too. But we're pretty optimistic that both programs are going well, both have long legs. It's a question of how they're going to play out next year.

Then, finally, when you compare the business today versus the business three years ago, we have a much more filled out infrastructure, especially on the semiconductor side. So, we have a more competent and larger engineering, technical group; we have a sales group that spends a lot of time spanning the world. So, it's a little bit of a different cost structure. But we think the prize is worth it. The programs when they hit production, make up for that investment.

**Jon Tanwanteng:** Great. Appreciate the color. Thank you.

**Pete Gundermann:** Thank you.

**Operator:** Our next question is from Ken Herbert with Canaccord Genuity. Please proceed.

**Ken Herbert:** Hi. Good morning, Pete, Dave and Deb.

**Pete Gundermann:** Good morning.

**Ken Herbert:** Pete, I just wanted to revisit first the Aerospace margins. If you're able to get \$4 million in savings or \$4 million less of a loss in the three troubled businesses in the fourth quarter that should help with maybe over 200 basis points of margin. In the second half of 2018, what's a fair assumption for the margin improvement we should see within the Aerospace business? Or how do you – to maybe quantify some of your earlier comments on sort of a steady ramp through the year, can you put any more numbers around that?

**Pete Gundermann:** Well, let me rely on our age old pattern of not giving bottom line guidance first, you realize that.

**Ken Herbert:** Yeah.

**Pete Gundermann:** Certain amount of it is predictable. I'd like to think that we can, on the Aerospace side, get up easily over 11% to 12%, somewhere in that range. Our goal is to be in the mid-teens. That's where we want to be. We have a majority of our businesses that are there. It's really a question of getting some of the troubled ones to stop hurting us and maybe even helping us. Part of what's difficult to predict Ken is, as I was telling Jon earlier, I think there is a flip coming where these three collectively are going to stop hurting

and actually start helping. It's hard to say when that flip is going to come. But, in each case, I can make a compelling reason why our revenue prospects in 2019 are going to be much more positive than 2018.

So, to a certain extent, the challenge is not just managing the cost, but developing the opportunities such that we can actually execute on them when they mature. So, we don't like having the drags and we don't like looking at the red ink on those businesses. But, it's not a situation where we see nothing but red ink in the future. So, we feel pretty good about it.

**Ken Herbert:** Okay. So, I guess, maybe to interpret that, I know you don't give guidance, but a steady improvement for Aerospace but really maybe a step-up in 2019 obviously from these businesses, but then it also sounds like from sort of incremental volume improvement in 2019 as well?

**Pete Gundermann:** Yeah. Well, especially from those three, I'd be disappointed if we're talking about the same topic in 2019. I think this will drop off the radar screen. We won't be talking about it anymore. There are some question marks in the whole business, and the IFE space in particular, about how 2019 is going to shape out. There's a fair amount of turmoil going on in the industry with certain airlines switching models from one supplier to another or even going in a different direction, a different path. We feel like we're really well-positioned because we're suppliers to pretty much all the contenders, but it's a little nerve-racking to watch. So, it's a little early to put real firm numbers on 2019. As you know, we come out with that guidance towards the end of the year. But we feel well-positioned for whatever's coming down the road.

**Ken Herbert:** Okay. If I look just at top line on Aerospace, the guidance implies sort of a 7% organic growth, 7% to 8% in the second half of this year, which clearly was the pace you were at this quarter. It sounds like maybe with some of your comments that could be a little conservative in the second half of this year. Maybe can you talk about a few of the puts and takes within that? And it sounds certainly like your Electrical Power & Motion side of the business could be a swing factor. But, maybe a little more detail on the outlook at least for the Aerospace topline?

**Pete Gundermann:** Yeah. There are puts and takes. The way I'd describe it is this, and maybe Dave has a different perspective because he spends a lot of time studying these numbers also. But we have some significant programs scheduled for execution towards the end of the year, which if they slide, obviously could hurt revenue in this period, but look at that from another perspective. We always look at the backlog we have and how it's scheduled and what we have to book to fill in the shipping holes to make our forecast. We don't have far to go. So, with any optimism on the book and ship business through the end of the year, and if the big programs stay on schedule, we actually, I think, have quite a bit of upside potential to the median point of that range. Those two dynamics are why we ended up leaving the range as wide as it is. I would expect by the end of the third quarter, we'll tighten it. But there is upside potential. As usual, there is the possibility that a couple of big things flip, and that can throw us towards the bottom end of that range.

**Ken Herbert:** Okay, great. Sequentially you had a nice improvement in free cash flow. It seems like working capital is still a pretty significant use of cash. Seasonally, you tend to have a really nice strong end of the year from a free cash standpoint. Considering all your other comments, should we expect something similar this year or is there maybe any unique opportunities to do a little bit better on cash flow and specifically on working capital in the back half of the year?

**Dave Burney:** Ken, this is Dave. You're right. We expect the last half of the year to be really strong in terms of cash flow. We saw the ramp up of our working capital, particularly in inventory in the first half of this year. I expect that ramp to level out or stop. As Pete mentioned earlier, the only thing that could impact that is if we get some test orders that are scheduled to be delivered in the first quarter of next year. That could impact us buying inventory in the last half of this year. But our expectation is that our working capital will remain relatively flat over the next six months. We should see significant free cash flow improvement. Receivables went up quite a bit in the quarter too. We had a heavy load of our revenue hit in the last six weeks of the quarter. So, I don't expect receivables to increase significantly as they did in the past two

quarters either. So, it's a long way to say yes, we expect our free cash flow to increase significantly in the next six months, particularly in the fourth quarter.

**Ken Herbert:** Okay, great. Nice quarter. Thanks very much for the detail. I'll pass back.

**Operator:** Our next question is from George Godfrey with C.L. King & Associates. Please proceed.

**George Godfrey:** Thank you, and thank you for taking my question. I'll add my congratulations. Nice quarter.

**Pete Gundermann:** Thank you.

**George Godfrey:** The \$8 million drag in the Aerospace segment, Pete, what is the revenue approximately associated with those businesses that are making the \$8 million drag?

**Pete Gundermann:** I'm doing it in my head. I'd tell you, it's probably about \$12 million.

**George Godfrey:** \$12 million? Okay. So if I add back the \$8 million drag and take out that \$12 million from the revenue just reported and ex those businesses, Aerospace segment margin is more like 17%. So, the rest of the businesses look like they're going really well.

**Pete Gundermann:** That's a good point, and that's what we were talking about, I think, a little bit in our last call. We could just fix those businesses even without getting a big contribution on margin improvement would be dramatic.

**George Godfrey:** So, that's the math that I was doing. Even if we just plug in 3% margin on that business, you're hovering near 20 segment margin if everything is going well.

**Pete Gundermann:** Yeah. Agree.

**George Godfrey:** Okay. Then, back on the Test business, I listened to those comments very carefully. This was my interpretation that based on the current product set and customer set that exist today, the margins are structurally lower three years later than they were three years ago. But with new products and a new customer or platform set, then that 24% margin is achievable, or 24% incremental margin on new products and new customers. But because of the pricing discounts from where we were three years ago, yes, that revenue is going to be a lower margin than what it was three years ago.

**Pete Gundermann:** Yes. I've got to think about this. But basically summarized, sales that we had in the second quarter was half the old program and half the new program. So, the old program is a little bit lower margin than it used to be, and the new program is lower margin, primarily because of startup costs. We expect the newer program will continue in force and get better. The older program is always a little bit of a question mark. But we've given indications that there is more demand coming in the future for that than it going away at this point.

**George Godfrey:** Great. Then, my last question is, and I feel like I ask this every quarter is the ability to get more customers on this business, how has that incrementally changed today versus the year ago or six months ago? And I'll leave it there. Thank you.

**Pete Gundermann:** Sure thing. Well, I'll give you the same answer I probably gave you last quarter or a year ago. We're working on it, and we're closer. We have realized bids outstanding and we've got realized discussions ongoing. So, nothing to report at this point. But we are building up the team and developing the expertise to more effectively execute on those opportunities. So, we certainly haven't given up. Hopefully next quarter, we'll be able to talk about some success.

**George Godfrey:** Great. Thank you very much.

**Pete Gundermann:** Thank you.

**Operator:** Our next question is from Michael Ciarmoli with SunTrust. Please proceed.

**Michael Ciarmoli:** Hey. Good morning, guys. Thanks for taking the questions. Nice quarter.

**Pete Gundermann:** Thank you.

**Michael Ciarmoli:** Pete, just looking at the quarter on a sequential basis, the trends. Aero revenues down sequentially, specifically the core power and motion was down 7% quarter-over-quarter on a pretty weak compare. You've said demand remained strong. I would've expected that we would have seen a pick up there. I mean, you mentioned turmoil in the marketplace. Was that a factor or any color you could provide in terms of why the core electrical power products took a little bit of a dip?

**Pete Gundermann:** I would tell you, it's just the program scheduling. I also tried to address that in my comments telling you that our plan is by the end of the year, we are going to see strong double-digit growth there. So, it's going to be a little bit back-half weighted obviously. But overall, we think we're doing pretty well and demand has remained really strong. Your observation is correct obviously, looking at the numbers, but we're expecting double-digit growth when all said and done, when you look at 2018 compared with 2017.

**Michael Ciarmoli:** Got it. In that Electrical Power & Motion product line?

**Pete Gundermann:** Yes, specifically there.

**Michael Ciarmoli:** Okay. On the margins, and I know you gave the color on 3Q to 4Q. If Test has a similar run rate in the third quarter, presumably it falls off a little bit in the fourth quarter. It sounds like the Power & Motion products could be up double digits. Can we expect the margins to grow sequentially or will they – I'm just trying to get – just given sort of the mix and then the movement with Test and obviously you guys still have a wide range of guidance. So it sounds like there's some room for things to move around, plus or minus. But is there going to be any material change in the Test margins if you do another \$42 million quarter and then we drop down sequentially. You mentioned you were sized with a lot more infrastructure. So, just trying to get a sense of the margin mix profile.

**Pete Gundermann:** Well, I think, the biggest driver will probably be volume-related in Test and for the overall business. There will be a mix change away from Test and towards Aerospace as we move from Q3 to Q4. I think it's reasonable to think that Q3 will be a very strong quarter, both top line and bottom line. There are more question marks over Q4, in part because of the mix change, but in part because it's just a little further out there.

**Michael Ciarmoli:** Yeah.

**Pete Gundermann:** But if you're going to be careful, then I would probably, at this point, model a little bit of reduction in Q4.

**Michael Ciarmoli:** Okay. Then, last one for me, can you just give maybe some color? The amount of E&D expense, can you sort of break out how that's being allocated between maybe just Aerospace and Test at the high level? And then, maybe within Aero, the spending for large commercial transport, is it more on the business jet side, just maybe some color on where the R&D dollars are going?

**Pete Gundermann:** Sure. This gets to some of our basic operating philosophies as a company, and it's a big number and we've talked about it for years. But it's one of those things that we think drives the business forward in terms of coming up with the innovations and the technologies that our customers want. Sometimes they are clearly directed at demand that customers are presenting to us. We have a handful of big customers. They ask us to do something. Even if we think it's crazy, we will do it because we want them coming to us with their requests.

There are other situations where we will develop technologies, even in a very secretive climate that nobody thinks or nobody expects from us, nobody even really anticipates from us. It's a self-directed, self-funded R&D effort. Over time, we believe that's an incredible way to create value for our company. A lot of those initiatives over the years have been very successful. Certainly true that some of them are absolutely



unsuccessful, and it just doesn't work for whatever reason. Technology doesn't work or the customer changes their mind or whatever.

But basically what we do is keep the initiative for the marketing and for the product development out in our operating units. We are not a centralized command and control company where those decisions are made at corporate. We look at them in the context of the operating units, finances, and also on a consolidated basis to make sure we can cover the expense of course. But what we do and how we do it, and staffing to make sure we can be effective is really an operating unit responsibility. So, it's a decentralized decision-making process if that makes any sense. In our past, there have been times when our spend has been incredibly outsized relative to the resources that we had on hand because the opportunities that we were seeking were that important. We felt we had to do it.

Today, even though it's still a big number as a percentage of sales, we feel it's a manageable and responsible number. We've been floating in that 13%, 14% range. I would expect as our revenue increases, if anything, it's going to come down a little bit. So, that's a long-winded answer as to how we think about it and how we allocate it and how we manage it.

**Michael Ciarmoli:** Got it. That's helpful. Thanks a lot guys. I will jump back in the queue here.

**Pete Gundermann:** Okay.

**Operator:** Our next question is from Dick Ryan with Dougherty & Company. Please proceed.

**Dick Ryan:** Thank you. So, Pete, back on Test, delivering volumes for the old program and then new program, and it was roughly 50-50. Those are both with the same customer, correct?

**Pete Gundermann:** Our customers get very sensitive about any identification. So we prefer to just think of it as programs.

**Dick Ryan:** Okay. How does the backlog – if the revenue is coming out of 50-50, is the backlog 50-50 old and new program make up there as well?

**Pete Gundermann:** I think, at the moment, it's probably weighted more towards the older program, the semiconductor side. But I don't have them in front of me, Dick. That's just out of my head.

**Dick Ryan:** Yeah. That's no problem. Looking at the three challenges you had, certification sales look like they came up nicely. So I'm moving that under Telefonix. Looks like it's a good move. CCC, if I recall was more of a demand issue of big jets in certain regions, again higher net worth individuals, but AeroSat, the tail-mounted satellite trying to get Panasonic and Satcom Direct. Can you give us an update there? And am I correct in the characterization of the certification business?

**Pete Gundermann:** Sure. Let me go around the horn. I gave Telefonix some compliments earlier, I'll repeat them here. We basically merged Armstrong with Telefonix under Telefonix leadership, and that process is going very well. The combined business is now referred to as Astronics CSC. The revenues are split between the certification numbers that you quoted and the avionics product line. We think there's a lot of opportunity there. I think we're turning the corner. I think, the leadership at Telefonix has been really good at bringing in opportunities. The challenge now for that operation is execution, frankly. It's having the capacity and the competence to turn on these programs effectively. I think they're doing a good job and they're making a lot of progress. There's still a ways to go, but so far so good. So, if we can just extrapolate current trends and assume some execution success, I think that operation is going to be doing just fine.

Moving to CCC and your characterization of their business is correct, VVIP. There are two aspects to their improvement. One is executing on a big development job, which has been a nightmare, frankly, from a cost management perspective. It's costing a lot more than what they anticipated. We took another \$1 million estimate-to-complete charge in the second quarter. So, we think we're getting our hands around it. So, we think long-term is going to be a very worthwhile program. In time that will be, I think, quite evident.

But even beyond that one program, in what we call VVIP, big commercial transports converted to private aircraft A330s, 777s, 737s, A320s things like that. That market is turning around also from a demand standpoint, in part based on some quieting of the geopolitical scene around the world. Still that may seem hard to imagine when you look at the news every day, but also the fact that many of these airplanes are now available for these kinds of modifications where they weren't, say, a year-and-a-half ago. The 737 Max is out there now, the A320neo is out there now, the 787 is more available, A350 starting to be available, 777X is not yet available but will be shortly. So, for people who want to spend \$100 million, converting their \$200 million airplane into a private aircraft, they want the new version, not the old version. So, there's some natural lifecycle that is happening there.

So, that increase in demand and getting our hands around this development program combined should make CCC have a brighter future starting soon compared to what it's done over the last year.

That gets us to AeroSat, the third one of the trio. In AeroSat, there are a couple of things going on, but a big part of it is demand-related and a big part of that is this tail-mount program that we've been working with our partners for some time, and we're still waiting. We're expecting an order that will be deliverable yet this year. It will be a material order in terms of volume. I think there are a handful of airplanes flying right now, but we expect that handful to be multiplied pretty significantly, we hope, by the end of year, at least in terms of our hardware being delivered. We're a little bit on the outside looking in. Our antenna system is ready to go. We think, while everything can get better, but it's proven, it's qualified, it's doable, it's ready to go. We just need to have the switch turned on, have the network proven out and get the customers lined up.

So, we're doing everything we can to cooperate with our partners, but we have to have everybody do their part and get that program turned on. We think it will. There is substantial demand out there for those kinds of airplanes. Depending on who you talk to, there is a universe to be addressed, usually measured in the thousands of airplanes, up to 5,000 potentially. It's a big, huge market. It's a moving target in terms of technology, which is the market that we generally like to compete in because it gives you more opportunities to take a bite at the apple. So, we think that program sooner or later, people who fly those kinds of airplanes, are going to demand this service. We think we're in a good position with our teammates to start delivering on it. We have to get the ball rolling.

So, you look at all those three things in combination, and that's why I think there's going to come a point where they're going to collectively go from being a drag to being contributors. If they just stop being a drag, it's going to be a big improvement to our Aerospace results specifically.

**Dick Ryan:** Sure. That sounds good. Thank you.

**Pete Gundermann:** Thank you.

**Operator:** Our next question is from Doug Thomas with Gabelli & Company. Please proceed.

**Doug Thomas:** Hey, good morning, and congratulations. I just have a question for Dave. Will you for a moment talk about the share repurchase where you – if you executed on any buyback this quarter? And what's your – given the discussion about cash flows, what your thoughts are about share repurchases over the next, whatever, couple of quarters, next year?

**Dave Burney:** Well, nothing has changed in our philosophy on capital deployment. The ranking of what we will do with our free cash flow, the share repurchase tends to be at the bottom of the pecking order there. We continue to be interested in acquisitions and reinvesting in the business. We have historically utilized the share repurchase plan opportunistically when we feel the share price is ridiculously undervalued. We have a \$50 million authorization available to us and we will disclose in our Q, filed next week, if we had any activity under that. So, I would suggest that it's a tool we can use when we need to, but the focus is on growing the company.

**Doug Thomas:** Okay. Appreciate that. Then, Pete, the discussion about where we are in the cycle and obviously it's a fairly strong environment with lots of potential new orders out there. The one thing – I'm assuming that you could take a lot of business to make the top line look better, albeit obviously at lower margins. You don't talk much about the business that you chose either not to take or not to competitively bid for or that – you're flat out, not interested in. But I was hoping you would maybe chat for a minute about in terms of the bidding process at this point in time, you talked about price pressure across certain areas. What is the discipline that you guys employ when it comes to bidding for work, particularly in an environment like this where demand appears to be growing?

**Pete Gundermann:** Well, I don't get this question very often, Doug. Let me think about it for a second. But my initial reaction is that we tend to view ourselves as a technical, innovation leader. Our interest is to be leading new markets. When you do that, you tend to have a little bit of pricing flexibility. We tend to be very close to our customers. We tend to provide value that we think is self-evident. For the most part, we feel generally appreciated and agree. There are situations where we end up having to negotiate maybe a little bit lower than we'd like to, especially on older programs that are a little bit more mature or things that start small and grow really big.

A lot of times, the price that you can get for a new product and low volumes is a little bit different than the pricing you get, once proven itself and everybody wants to buy it. To some extent, we even leave that charge because we want to protect our markets and not invite in competitors who want to copy us. So, it's a little bit of a process like that. But I would tell you that we are by no means a bottom feeder company where we're looking for volume at the expense of margin in general. That's not the way we go about our business.

**Doug Thomas:** Right. That was the point I was trying to make. Okay. Listen, thanks very much. Again, it was a great quarter and looking forward to the rest of the year.

**Pete Gundermann:** Thank you.

**Operator:** We have reached the end of the question-and-answer session. I would like to turn the call back over to management for closing remarks.

**Peter Gundermann:** Well, we liked this call better than the last call. We're hoping that the third quarter is even better yet. So, thanks for your interest. We will talk to you soon.

**Operator:** This concludes today's conference. You may disconnect your lines at this time. Thank you for your participation.