

Company name: MTS Systems Corporation (MTSC)
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<<Unidentified Analyst>>

It is my pleasure to introduce Jeff Graves from MTS Systems and I have said this 1,000 times including in print in the newspaper. It is the best plant for you ever take than in your life, ever. I think they still make the rolling road. Is that right?

<<Jeffrey Graves, President and Chief Executive Officer>>

Yeah, we do in total.

<<Unidentified Analyst>>

Amazing thing you've ever think. So in any event, Jeff is here to tell you and bring you up to date on things at MTS Systems. I'll turn it over to Jeff.

<<Jeffrey Graves, President and Chief Executive Officer>>

Terrific, thank you all. Thanks for hanging in there after lunch. It's usually the hardest, probably not the hardest hour, but it's close to the day. So I'll try to make this lively and likely and I'm not going to use many charts. Actually, I'm going to tell you about the business and a little bit about generally what we do, what the trades are and a little bit about short-term dynamics here in the business as well.

So if you don't know MTS, we are in the space for test and measurement. So that generally needed – if you know a lot of different things, it generally means clearly you make yourself testing systems and then in some case people run tests, we don't, we sell testing systems and you sell products and measure things. So in our case that's sensors, okay.

So sell test systems and since they consensus themselves, they go on to a variety of products. So I'll tell you how that stays statically for people [indiscernible] (1:23) think of as industrial and technology, so we have interest from both parties, but it is a very well defined niche actually in the world. So it's not a huge niche. So we tend to have a well defined market and very stable competitive landscape, very stable customer base, okay, still larger customer base.

So, generally, I am just starting from the bigger picture, so we are today about \$800 million in revenue, split between our two business units, so test is \$500 million of revenue and sensors is \$300 million of revenue, okay. Different market dynamics in those two businesses, I'll tell you about in a few moments. If you drop down any of the profitability metrics, they're fairly even across those businesses. So sensor is obviously a

more profitable business. So when you talk about operating income, EBIT – EBITDA, sensors and test today are generating about the same amount of profits on just some more revenues in sales, I'll you what that is in a few moments.

But sensors is the more recent business for us actually the company was founded 50 years ago [indiscernible] (2:31) making test systems and we sorted out making serial test systems, which are fairly simple machines, sophisticated measurements and software run, a fairly simple looking machines that literally take new materials that are being developed, aluminum, steel, carbon fiber composites these days and basically it's a cycle [indiscernible] (2:53) and use that data to assess the team resistance which is a key design parameter for making anything from a car to an airplane to a bridge to a building.

So there is a key design requirement and we measure that. We basically were the first in the world to do that accurately 50 years ago and that business is still with us today, it's grown nicely all that time. So we're making materials testing systems. We grew them from that start 50 years ago to make systems with test components. They go into a variety of applications, predominantly cars, planes and trains. And then over the time we grew in for making large machines that we would test the full scale vehicle, okay. So that's the 50 year history of our test business. Today if you look at it, half of the revenue we derived in the test businesses is from the ground vehicle business, name to some which is the car business, and the other half is split pretty evenly between materials testing and what we called structural testing.

So we make these massive machines that can stimulate earthquakes and that can simulate the stresses encountered on a bridge entities literally a bridge, hopefully a bridge, hopefully a building, these are massive machines sold for tens of millions of dollars and can simulate any seismic event in recorded history and simulate land turbulence of the mechanical test system with turbulence. This stimulates the tests on aircraft when we takeoff and landing or in an account of storm. So, really a large machinery, very big, very fun to talk about and very interesting on the tour that we still look at.

So materials components full scale vehicles cars, planes, trains, buildings were just – that what we – that we build machines to test all of that stuff and we have it for 50 years. We are generally the biggest in every market that we serve in tests with the exception materials. We have two large competitors in the materials test business. It's a very big market. One is the U.S. Company, primarily located out in UK, and the other one is a German private company. So we do have significant competition from that standpoint in materials business. Vehicles business, we generally have regional players, a very few global competitors we have and it compares to stable long-term competitive landscapes. We'll we sell to in the test business and then I'm going to shift gears and talk about sensors in a few moment.

In the test business, it's just that you would think about. So if we're selling a piece of machinery to the test materials, it's either R&D based university or a basic research lab or it is to a materials manufacturer, okay. So it will be – and I'll call we're a composite company in fact I'll tell you that those kind of companies. We're could be to an end user

that we could do a little bit of characterization material baseline design aircraft, primarily they will get university in materials of suppliers or target the customers for that and we support them around the world. For components, we're generally the tier 1 and tier 2 suppliers to automotives and aircraft manufacturers, so people that make the parts that go into cars, planes and trains.

We're selling components testing machinery to those companies. And it was good after the OEMs and we serve all the OEMs in the world for automotive and airplanes. So every single one of them are significant customers of ours around the world, every geography, U.S., Europe, Asia, and Asia includes Japan, China, Korea where China being a fast growing and large business for us. We sell all the OEMs. And they buy again very large machines for testing the durability of their products, okay, whether it's a car or whether it's in last few [indiscernible] (6:46) okay. If it's airplane, really it will still be able to take off the land [indiscernible] without crash warning and failures.

So we sell two product development labs. We don't sell them in factories. We sell into development laboratories, we sell into R&D laboratories around the world through universities. That is part of our customer base in our revenue stream.

Marvelous long-term business, apart from some of the headwinds we face in that business today in a few moments. On the sensors side of the world, we've been in the sensors, we've been in test for 50 years, we have been in sensors for 35 and we bought a very small company group five years ago that made position sensors. And they were primarily targeted going to the testing equipments. There is a vertical integration strategy.

While we can add a lot more on the cast side, and on the testing business, we make a lot more than we consume. So, we grew over 35 years, to develop a \$100 million sensor business. Very specialized in one technology, we measured position very actively based on magnitude. So, five years ago, we looked at that and said, look we have a 50% market share in this technology around the world. And, we have become move to market growth business to more a specific business, what should we do.

Sensor business is becoming very valuable generating a lot of cash, very profitable business. And, since franchise was also basically building, so we've looked at some business acquisitions that are growing. And as we assess the acquisitions a very exciting one came to market called PCB who made complimentary types of industrial sensors. So, our position sensors historically go in to machine automation.

So metal bending, cutting, machines, lumber cutting machines, they go into hydraulic cylinders, we're measuring the position of wheels on the earth moving or mining vehicle things like this in heavy machineries. We basically launched, so the position of that machine is not raised.

We were able to find a company that just came to market, a 15 year old business, (0:08:55) called PCB, we then made industrial sensors from measured vibration and acceleration. Excellent, this is very similar to ours in terms of topline growth

characteristics, where they were still an exciting part of the growth curve, but also profitability and cash generation.

So we like this business. It sits on our profile very nicely, they're generally low capital required businesses, in the business design and similar products. So, they generate a lot of cash and they don't consume much cash. So, we generally have high profits and high cash generation to grow the business in vertical growth. So, in late 2016, we bought this company PCB, we merged it with ours to create \$300 million business today.

And it is focused on industrial sensors for machine automation, also for the testing market. These sensor go into the testing of part in planes and trains. Just stick them on the inside and outside of the vehicles as you shake and bend them to measure the acceleration and the vibration in the test. So the test market consumes and the industrial machinery market consumes and we have a growing DOD of these sensor go onto some military platforms later are evolving right now.

We are doing the same thing, we do those kind of measurements for the military. So we like the business, we've got great growth potential of generating some strong margins. So, today we're very well balanced at customization of companies. Again, \$800 million in revenue, 500 tests, 300 sensors. Sensors today is growing at a strong double-digit rate. While we advertise for sensors, the ground vehicle sensor business from its \$300 million today is going to grow on average 10% a year, every year for the next five years.

So for the next five years 10% or more in a year on average, selling (0:10:47) but it's a great margin, and it is great for the reasons you're being in the headlines everyday. The are becoming smarter through useful sensors. Everyday life is evolving to more sensor technology, so we have our car initiatives, we are highly vertically integrated. And we have market leading technology with platform and capabilities.

And we have a global presence. So, we're very well positioned across multiple geographies for industrial sensors, again these are not particularly go on the cars, they don't go on any moving vehicle. [Indiscernible] (0:11:22). So, for those of you that don't know how got it, it is sensor products. For those 99.9% that don't [indiscernible] (0:11:28) they don't have any large vertical plans.

So we don't sell into these price driven industries, we sell into industrial markets that go in for the value of the precision from a liability of the sensor you sell over the long-term. So sensors today is doing very well, 10% topline growth, actually initially we'll do a little better than that. 50% gross margin, 22% EBITDA margins and for all of that growth we spend over 2.5% in our working capital, so real growth in CapEx. So, we like to move it with many more growth opportunities coming.

Test side is small and more complicated, on the test side from materials testing, which is our core business starting, this testing business is growing very nicely, 16% here right now driven by the introduction of carbon fiber composites. Very similar carbon fiber composites making their way into many, many types of systems around the world. So,

moving vehicle systems to buildings, to bunch of the product applications, carbon fiber composites are booming.

In addition, very interesting is transport additive manufacturing, the additive manufacturing is real, it will make next shape parts, which obviously you can't get through forging and casting operations. I said, yes, so those parts will have – they have a unique material properties, okay, you have to actually test and find out what they are.

So, you have to make the shape, take it apart and test it, so often these all kinds of specimens test them very precisely in our material test segment. So additive manufacturing is booming and is driving a tailwind in our business as with these carbon fiber composites.

Structural testing for building, bridges all of this, very good business in seismically active parts of the world where there is a lot of requirement today. Our hope in U.S. is around infrastructure investments that's going to fuel our business as well. So relatively flat, we view this as a slow growth business overtime. It is one that we have been in for a long time, known these competitors and we're a market leader and we generate strong cash in that business.

The swinger for us right now is the ground vehicle business. It's half of our test business, \$250 million of \$800 million is unit sales compared to ground vehicle business and that's really what's held our side rack quite frankly over the last year or more has been primarily the search around the automotive industry and testing of new products.

And here is the detail, in durability testing that we performed and aerodynamic testing with exotic rolling road systems are critical, are absolutely critical to the automotive industry, absolutely critical. The issues right now they've announced aggressive plans to introduce autonomous vehicles and electric cars. And autonomous vehicles particularly have a problem right now. Again we see everything periodically as they still have the safety precautions, right. You still hear about strategy [indiscernible] (0:14:19) or another vehicle just running to on road. Those problems have to get solved. And the whole industry is trying to grapple is including insurance industry, the regulatory industry of Washington is trying to come up with more regulations around the requirements for autonomous products. How do you test? How [indiscernible] (0:14:44) the clients? That's also important.

People in the automotive tell us, hey by the way we're going to fuel these [indiscernible] (0:14:50), we'll fuel these in 2020. So what's happened to their segment is all of these great plans we're spending on an important thing, that durability have gotten pushed to back burner as they build a safety code.

And as they have electric cars the problem there is they're different ones, but we don't know what's important is. You can actually save money by making electric cars. If you look at any car company that's known as very famous one, I want all of our customers.

So I don't want talk about barely a few things. So it's something almost even others can lose money, right.

So we're going to make it up in more detail, get a good try, that turnaround in one hand, but electric vehicles today aren't just economical. So they don't have the performance requirements to be more capable, so they're trying address that by using materials like composites to make them lighter than build modern, that's interesting, because they cost more, right. So it makes the cost problem worse, so I think our products are much better.

So they have a roll there, real challenge from the economic standpoint. All they're thinking right now and this is very healthy challenge, the automotive industry as a wide challenge, they are fueling a lot of new products in the pipelines, which is good for our business to generate from it's priorities, they've got to fix other issues before they can get back to other problems and as we are growing say in the aerodynamic cycle.

So we feel good about our position. We have felt good about our position over the last several years. The frustration is more is being pushed down on our vehicle business and there's some meaningfully things for us. Everything else is going very well, materials testing, structural testing, we watched the big service initiative in the last five years, we have a \$5 billion of installed base roughly. Our customers are spending about \$1 billion a year, taking care of our equipment installed. They like us to take that over and pick it up. We're also about \$100 million right now in service revenue and that's growing at about 10% a year. So we like that, very large margin businesses, smoothes the business and makes customers happy.

We've got big push on services, we have a big push on materials testing, metal rate has been growing. We're in a vacancy right now in the vehicle testing business and we announced our results last quarter, not yet granular about that. The order book was really strong last quarter. What we cautioned was we still try to be low and that historic position putting out two data points we can draw a line very accurately. So being optimistic as I am, I want to draw line from one data point. So I love the outlook for business from a long run that cuts out due to a lower interest rate. In the short term, it's still a little frustrating. Test service we've got over it right now. So it's a great business to be in and we're very well-positioned towards it.

So what we say in the long run is if you look at MTS as a long-term investor, we say our \$300 million sensor business is going to grow on average 10% a year; gross margin will grow from just over 50% to 55% annually. EBITDA margins from 22% to over 25%, over the next five years in many of the businesses, looking to regular cash and get there so we'll able to have free cash used for a lot of vehicles.

On the test side of the business, we have one primary and as we are forecasting, we expect that to recover certainly over the next several years and we are sure to win probably sooner rather than later. But we don't have the ability to make into the next few quarters.

So we have a strong pipeline of opportunities over \$1 billion looking upfront of us. In the past few quarters the autonomous vehicles continue to push on, so we're just continuing to win and increases through that market, for us the business has gone very well.

So I love the business, we're in a nice market with large growth around the general and dynamic competitors. And we service some of the very best companies in the world and we're deep embedded with their engineering teams. So I feel great about our position in terms of the world just looking for differentiation, this will be – the question right now is just time. We've just got a little bit of a timing issue right there.

So with that, may be I shall answer all questions. Brian, anything else?

<<Unidentified Analyst>>

I would tell you from an investor standpoint, Brian Ross, our CFO, is with me here today. He's got a little bit job, especially we faced some of these changes in Washington with tax law changes which draw our tax rate down a little further, which is really a nice thing for us. Tax rate going forward, Brian, can you talk about....

<<Brian Ross, Senior Vice President Chief Financial Officer>>

Well 15% to 18%.

<<Jeffrey Graves, President and Chief Executive Officer>>

15% to 18%, so at the level Washington did in essence it is a rare thing. So thinking of what Washington did in essence it has been a really good thing for us. So we take accretion of the cash. The opportunity has been good for us. We've had cash from the overseas for a long time with many companies to bring that back in order to help deleverage more quickly our balance sheet, we have levered up to about 4.5 times EBITDA with our sister acquisition, that stands today about 3.5, headed towards 2 to 2.5 by end of our next fiscal year or so, next month.

So in terms of our use of cash and our priorities, we are willing to see the investor growth, that's usually around 3% of sales, we re-invest for CapEx in the business for maintenance and growth. We have a 146 consecutive quarter record paying dividend. The yield rate is 2.3%. As that probably goes up that gives our company the confident and the future test forward we will be able to save effort and time. We've never reduced it, we have only increased it periodically and that will continue.

Today we yield over 3% of the stock. And other than that rest of cash we use it in our balance sheet. So I think once we delever we obviously start bolt-on opportunities for acquisitions. We have two great platform businesses that are very, very low. We are well exposed in China and I say that very positively. We just sell into their development process, they already revamped some things. We've got a very good compliance infrastructure to make sure we will target commercial applications. And they are consuming lot of our products in order to develop their company, in order to grow like a

strategic power, having an automotive and aerospace business. And a world-class conversion system so spending a lot of money gearing them so we are already, 20% of our sales come out of China today and that continues to grow very aggressively. We are excited about that but rest of the Asia, Japan and Korea, particularly very strong for us. Western Europe, Germany, France, Italy are the strong customers with us and obviously the Americas.

So today by distribution, 35% of our revenue out of States, 25% out of Europe, 40% out of Asia and half of the Asia number is China, so we are very pleased. Here's the impact with that is not lost, obviously we consume steel more than like everybody. So that ran down with some cost pressure on us, but we have also sourcing capabilities without having to worry about that right now.

Labor is maybe tighter, and we have experienced a lot of inflation from a labor standpoint. But we are mindful of that, so we can keep an eye on that in terms of tariffs and disputes [indiscernible] (0:22:10) initiative, that's a very good profile of our country. So we think that effort will be accidental shot you know what we call that [indiscernible] (0:22:19). So I feel good about our position frankly as we evolve the company right now.

So with that, maybe we could open up for questions now, we are good on time.

Q&A

<Q>: Great and I will ask the question.

<A>: Sure.

<Q>: In the test, the slowdown in the automotive industry, the test right now in domestic are there opportunities internationally where we could go over the [indiscernible] (0:22:52).

<A>: Great question, Frank. So it's very interesting to test in general, every automotive manufacturing in the world is working on some discoveries, so its been sort of globally this push astonishes in a bit. I'll tell you the reason in China and the reason is simple there are [indiscernible] (0:23:04) affect us on automotive are mostly driven no longer than 169 new automotive OEMs in China today that weren't around as of a couple of years ago and the reason they are springing up so fast is number one in China, the thing in China has fallen from being a manufacturing country in the world wants the design from us especially for their own mill appliances, their own consumers.

So they are beefing up design work, also with government for a huge incentives on electric vehicles within the – they are tracking pollution problems in their big cities. The big city playing out of Shenzhen we'll able to allow the automotive side. And most of the challenges due to that, so they try to imply by – how many people to drive into the city that is not a very long term strategy [indiscernible] (0:24:06) it's a great business for us. So China has probably been the recent factors [indiscernible] (0:24:22).

<A>: It sounds like every automotive [indiscernible] (0:24:34) so they also feel kicking off the normal part of the discussion [indiscernible] (0:24:42) well in terms of total volume its fine but they had a lot of fair bit of capacity, in prior year so they were keeping up with their growth in demand, its exactly right, the question – overall capacity utilization, so they were buying that to keep up year by year, and what's happen now is they are using the equipment.

So actually our sensors sell into test space to view testing, its going very well, they are good. It kind of test with lot of companies, sensors is to test vehicle block, the problem is in terms of growth, for the capacity growth it should be happening from these own sorts of things, that's converted in the space. So it's a incremental capacity add and upgrade it to the customer, so the baseline business is fairly stable, which can made us a lot of - number of perspective to keep this thing. In order to drive the final product into field.

<Q>: So its more of CapEx sort of thing?

<A>: Correct.

<A>: In R&D CapEx actually its more of our revenue stream is R&D CapEx...

<Q>: [Question Inaudible] is that a headwind for you or it does not matter as long as still same number of models...

<A>: It would be – it would be – it's the once in a while two or three years [indiscernible] (0:26:27) and then you take the reserve for example, there is very little new platform clients, specifically from the Brazil, it will take platform from one of the big OEMs, [indiscernible] (0:26:38) to manufacture there but there is a lot of treatments [indiscernible] (0:26:41) suitable for the Brazilian standard. So that's only thing you have to do. So what's good for us is still pretty consumed enough and repeat the renewable testing in the country and sold that. Does that answer your question?

<Q>: Yes. You mentioned the challenges in the automotive segment, would there be any of the OEMs in the field?

<A>: Everything else has been really good, [indiscernible] (0:27:15) but since everything that has been good and attracting the business is the problem is ground vehicle segment, its 50% of the tested and 50% of that number is parts so that feature is kind of been struggling in terms of demand. So if you go to the other segments, they've been planned nicely, so service is good for us, it's the 100 million supplies growing 10% rate. Materials testing growing 6% to 8% a year, very nicely, restructure testing particularly last year, so this year will be kind of flat for last year, we expect a little more trends to go forward, its not a fast growing business, this data in upward and nice margin growth.

Embedded structures, our aircraft structure servers about – structure is 25%, aircraft is about 10% of it, 10% of the 25% [indiscernible] (0:28:08) that remains very good.

Energy testing, which is in that sense is oil and gas pipeline and big drill bits structures; so things like exploration and transmission has come back a little bit up. So we see growth in that as well as service growth in that exploration.

So I'll just rollover our segment and say great, you're all doing good to very good if this vehicle business goes longer. And strategically overtime we won't let the vehicle segment grow faster. So overtime we're a little bit better balanced than our investors. But that said, I love the ground vehicle business, they're extremely loyal customers, they're very, very good long-term customers. We know there are engineering clinical designed practices. All that stuff is very, very hard to replicate. So it's a good business till the end. We would just like [indiscernible] (0:29:04) and we're kind of little bit more consistent right now. Yes.

<Q>: So, as you're looking forward, I mean, I'm getting excited of solid growth in the comps. What are new applications like you're using your technology on...

<A>: Good question. It's a very good question. So if you – it depends on the market, \$200 million depends on the business. So for sensors we're extending the business now into what we call load cells. So I think it's a measure of force whether you're twisting or you're pushing and pulling, sounds mundane, but the load cells are used in a tremendous number of applications, including our own test equipment, so nice growth market.

We're also moving into what's called MIMS technology for sensors. We have a small amount, I'd tell you about \$5 million of sensor revenue on MIMS technology. MIMS is a fascinating area. They basically look to you like a computer chip, but they're operating layers of materials, some of which are mechanical, some of which are electrical.

So they do things like measure very precisely pressure changes in a room so you could put them in a ventilation system to measure the air going to all ventilators, that sounds mundane, but it's important. But think about baby – a premature baby in a net field, in an incubator with a breathing tube; yet very precisely controlled air is going through the child since it is going for the lift. You put these net sensors in their control to measure the pressure, so the machine can adjust and serve the baby. So, those very specialized applications we're excited about.

On the cash side of things, one of the finest things you talk about, most exciting, are driving stimulators. Our play in autonomous vehicles is to build an extremely realistic driving stimulator. So, it's the first thing you've ever seen sure going existing role, maybe including existing role. You sit in the stimulator and take to the car that it looks very realistic. You're wrapped around a giant video stream exactly like video games, which is made by video gaming company; that wraps you around in this room. And the platform of the car is on drop cylinders move back and forth. And it fools your brain into thinking you're moving.

So, four background sides is tied, it rocks and turns going intensely. It's used for the testing of the influence of the car on the person who is sitting in it. It's also for

conventional driving. You assume the car to accommodate the different types of drivers in the vehicles. So direct cars are now mostly released drive-by-wire. So, you're not really turning the wheels. You're telling them to turn the steering wheel, you're telling a computer to turn the wheel, right, it's a computer system. Well, the computer itself has to turn so fast that you flew out the door; it would make you very uncomfortable if you want it to.

But what they do know is by these driving stimulators, that whether you're too tired to develop tyres, you use driving simulators. It came out in Formula 1 racing we partnered with McLaren, then we just field ran our first system. So, our play on autonomous vehicles are play on drive-by-wire systems are through these driving simulators. And their systems itself are several million piece and unbelievably realistic feel of being in a moving car.

So, exciting new products coming to market, with top core [indiscernible] (0:32:37) what people really care about is the financial impact of these. Those are future growth businesses. Right now our core business is growing nicely and the vehicle business is, wait and see, here it comes, situation. Maybe one more topic, one more question.

<Q>: [Question Inaudible]

<A>: Yeah. So, it's \$100 million today. So what it does is it's servicing our installed base. So round numbers being...

<Q>: [Question Inaudible]

<A>: Maintenance calibration, steer parts, software upgrades, all the normal things that a industrial have, that's compensated. Our customers today spend \$1 billion on it per year and sounds like a huge amount of money for \$5 million installed base. So remember, our machines are imported to break them, to break the wings of an aeroplane, to break their car in half. There's a lot of wear and tear. So the maintenance required is tedious and large.

So, five years ago we were serious about this with growth of \$100 million in businesses has drawn 10% a year, around 10% a year, and it's doing about 5 points better margin than the average margin in the segment. So today, if we could low-30s gross margins, we're doing high-30s as soon as there are 40% in our services business. And it continue growing at 10% a year and the margin is growing 10 points better than the equivalent business out there, okay.