10-Mar-2020

Westinghouse Air Brake Technologies Corp. (WAB)

Investor Meeting

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MANAGEMENT DISCUSSION SECTION

Operator: Good day, and welcome to the Wabtec 2020 Investor Conference Call. All participants will be in a listen-only mode. [Operator Instructions] After today's presentation, there will be an opportunity to ask questions. [Operator Instructions] Please note this event is being recorded.

I would now like to turn the conference over to Kristine Kubacki, Vice President of Investor Relations. Please go ahead.

Kristine Kubacki

Vice President-Investor Relations, Westinghouse Air Brake Technologies Corp.

Thank you, Elisa. Good morning, everyone, and welcome to Wabtec's 2020 investor conference. With us today are President and CEO, Rafael Santana; CFO, Pat Dugan; along with several members of our leadership team. As you can see, we have a packed agenda today. We have about three hours' worth of content, followed by a Q&A session for about an hour.

Today's slide presentation and financial disclosures were posted to our website earlier today and can be accessed on our Investor Relations tab at wabteccorp.com. Some statements we're making are forward-looking and based on our best view of the world and our business today. For more detailed risks, uncertainties and assumptions relating to our forward-looking statements, please see the disclosures in our presentations. We will also discuss non-GAAP financial metrics and encourage you to read our disclosures and reconciliation tables carefully as you consider these metrics.

And now, I'd like to turn the call over to Rafael.

Rafael O. Santana

President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

Thanks, Kristine. Good morning, everyone, and welcome. I'm Rafael Santana, President and CEO of Wabtec. I want to extend my sincere thank you to everyone joining us on this morning's webcast. While we had really hoped to do this event in person, we felt moving to a webcast format was the most prudent decision in the light of the dynamics surrounding the coronavirus in our utmost commitment to safety. So with that we have some important content that we'd like to share with you today. So with that, let's get started.

As you know, 2019 was a transformational year for us. It was a significant milestone on strengthening our company, on bringing together solid businesses with unique technologies to create leading rail technology company.

Today we have a strong base of diversified revenues and we have a significant competitive advantage. Those include an unmatched market position when it comes to our global installed base. If you look at our service capabilities and manufacturing footprint as well as significant and established relationships are around the world.

Looking forward, we will grow faster than the market through the cycle by focusing on aftermarket and services, by focusing on driving international opportunities, growing to Digital Electronics to accelerate the productivity for our customers and by churning around our Transit business. But it will also drive over 300 basis points of margin expansion. We are continuing to drive significant cost actions and executing on our synergy plans.

Third, we have a unique opportunity to grow profitability faster, by driving a lean culture, rationalizing our footprint, improving cash management. In addition, we are committed to driving double-digit earnings per share growth with a disciplined capital allocation.

Finally, we have a team that is committed on building about a company with a culture of accountability and continuous improvement. In summary, we are committed to extending our lead as a number one rail technology company in the world. We are stronger and better positioned to drive efficiency, to drive safety, in a more sustainable way for the rail industry to grow.

As we walk through the program this morning, we wanted to give you an opportunity to really hear about some of the most impactful programs and initiatives that we've got going on across the company. With that, I'm excited for you to hear directly from several of our top leaders who are driving an exciting transformation. They're building a lean culture with a mindset of continuous improvement and a commitment to outperform. Each of them will also have an opportunity to share with you how the integration is going and how our cost actions and synergy initiatives will continue to provide a significant opportunity for us in 2020 and beyond.

As I just shared, 2019 was a transformational year and the result is a stronger Wabtec, with deeper roots in Freight and Transit, we have a diversified set of businesses both in terms of segments, regions, aftermarket and OEM mix. Together, we have grown to over $8 billion in revenues and we have catapulted into the Fortune 300 and now S&P 500, and we nearly have 27,000 employees.

But let me go back to our portfolio. We often talk about rail industry we serve, but the reality is, we have taken a lot of the technologies that were originally developed for rail and we have expanded them into adjacent markets. Today, we have over $1 billion in revenues that come from these adjacencies. These include propulsion systems that go into mining trucks, heat exchangers that go into the power industry, or software products that support both mining and ports. Our installed base continues to have a significant growth internationally and it's certainly an engine of recurring revenues. Over the years, we have shifted from primarily a US-focused business to having nearly 60% of our revenues coming from outside the US. This diversity profile gives us the confidence that we will better navigate today's dynamic market conditions.

The other thing that gives us confidence is our incredible value proposition. Let me start with technology and innovation. We have been at the forefront of shaping and transforming the rail industry for more than 150 years. It started with our founder George Westinghouse and with the inventions like the air brake. But since then, our technical, engineering and manufacturing expertise have led the way in the innovation. Today, we have over 7,000 patents. They date back to great inventors like Thomas Edison and Louis Faiveley. And this innovation leads on with our teams today who are driving safety, efficiency in a more sustainable way of moving freight and people.

Next, it takes global teams with deep established customer relationships. Across the company, we have 27,000 employees in more than 50 countries that continue to build a strong track record of executing for our customers. Our market share position is a testament of our execution. We are a market leader in many of the solutions we provide. This include systems and components like doors, brakes, pantographs, medium speed diesel engines, propulsion systems for mining trucks, diesel electric locomotives and software solutions for ports, railroads and mines. We are a trusted provider of mission-critical products to customers and operators around the world. Our installed base enables us to generate strong recurring revenues with replacement parts, overhauls, and modernization solutions in the aftermarket.

Finally, we have a relentless focus on driving [ph] continuous (00:08:30) lean improvement. Our manufacturing footprint allows us to leverage cost, drive margin expansion to productivity and deliver for our customers across multiple product lines. Hence all of this comes together on next page on how we create value. When it comes to driving value creation, there's no greater asset than our people, who share a common vision for accelerating the future of rail by building a safer, more reliable, and sustainable freight and transit solutions.

We believe that the best teams win and we operate in a meritocracy. We believe in domain expertise on attracting, developing, and retaining the best people. We believe that compliance, integrity, and safety is part of how we work.

The next pillar of driving value creation is innovation, it's at the core of what we do. We have to keep moving the needle for our customers so that they can get better. Our businesses operate in spaces where there's still significant unmet needs or where we have great opportunities to accelerate the speed or the scope of innovation. And we'll talk a little bit more about that later today.

The third pillar is a lean mindset. In order to help our customers be better, we have to make sure that as a company we're constantly improving, especially when it comes to quality, delivery, and costs. These are areas of focus that matter to our customers and that matter to Wabtec.

Ultimately, the reason we can continue to invest in our businesses is because we earn our shareholders' trust and confidence by delivering superior returns, while maintaining a deep commitment to really building a better business every day. These are the fundamental building blocks of our culture in areas where we'll continue to evolve going forward.

As we look into the future, we see a great opportunity in rail. As we all know, rail has been a cornerstone of the global transportation system for more than a century, moving roughly billions of tons of freight and millions of people around the world every year. It's one of the most cost-effective, energy-efficient modes of transports when it comes to moving freight or large numbers of people over land. It represents one of the simplest and most efficient ways to address the world's transportation challenge. And why? Well, let me give you just an example. In North America, it takes about 25,000 locomotives to move about 40% of the freight, but it takes roughly 25 million trucks to move about 30% of the freight. With 25,000 locomotives, emissions and accidents run in the single digits versus trucks. In fact, rail is four times more fuel-efficient than trucks, and 23 times more fuel-efficient than in aviation.

And that it's not only more efficient, when we look at demand, demand is growing, current trends indicate that rail and passenger activity will more than double by 2050. Governments, operators, citizens-alike are looking for transport solutions that address the need for cleaner and more energy-efficient transportation. Rail is, again, one of the simplest answers to solve for these challenges. And with that, there's no water company more uniquely positioned to lead this charge than Wabtec.

We can and we are helping accelerate this transformation. Just look at some of the numbers. When it comes to freight trains, Wabtec moves more than 20% of the world's freight with about 23,000 locomotives around the world. We're constantly monitoring the movement of these trains. With our remote monitoring capabilities, we track and analyze over 2.5 million messages a day. Why is that important? Well, ultimately, our customers demand asset availability and by leveraging our technology we're helping them detect and prevent failures before they occur.

In the Digital Electronics, we are delivering cleaner and more sustainable passenger and freight solutions. We are on a path to drive increased efficiency and productivity through automation. Today, we also – we monitor more than 30% of the freight that moves through the ports in North America, utilizing software that provides greater stability to our customers.

Finally, when it comes to passenger transit, over 15% of the contents on the trains is ours and we're opening up new and significant opportunities for critical infrastructure in key global regions. There is no doubt that in today's industry we have a key role to play. We matter to the customers we serve, to the countries where we operate, and on solving the world's transportation challenges every day.

Next, I'd like to focus on the macro market. As we all know, rail is a growth industry. And our portfolio of products, geographic footprint provides differentiation to take advantage of the different cycles across markets. We're constantly monitoring how customers are navigating volume trends in various industries, including energy, construction, or agricultural products. We also look closely at market trends in passenger traffic which align to population growth and improvements in infrastructure, especially in developing economies.

And since we play a significant role in mining, well, if you talk of iron ore or coal, demand to link to construction and electricity production, these are areas that we also focus on. This page shows you some of the key indicators for these markets in 2019. And as you can appreciate that, while North American freight's volume contracted in that timeline, other markets such as international freight and passenger traffic continue to grow, opening really new opportunities for increased sales and orders.

On the other hand, even though iron ore and thermal coal consumption went through a difficult 2019, we continue to perform well in our mining and industrial businesses, a testimony of our strategy and broad customer base which has helped us capture share across new geographies.Looking over to next five years, we expect to see freight growth in-line with GDP growth roughly at 2.5% in average across the freight market. We expect to see about 3% to 4% growth in passenger and roughly 3% to 5% growth across industrial sectors we serve. We are confident on the business fundamentals of our industry on how we are positioning our portfolio. Our diverse business portfolio gives us an ability to better navigate the cyclicality of our end markets.

At the same time, we have the opportunity to grow revenues at mid-single digits through the cycle. Over the next five years, we're also confident that our strong foundation of growth, significant installed base, aftermarket reach, and global diverse business model will help us manage through a very dynamic environment.

To deliver, we must focus on really three key imperatives. Let me start with our customers. We must focus on really growing aftermarket and services. There's a number of international opportunities on growing our Digital Electronics portfolio as we help accelerate automation for our customers and ultimately on churning around our Transit business. When it comes to technology, it's all about leveraging our installed base and leading products. We have the opportunity to expand our share with products that we have recently launched as well as we have the opportunity to base investments so that we win an increased share of wallet while driving even further differentiation against the competition.

Finally, we are committed to lean culture. This comes with a mindset of continuous improvements and looking for efficient ways to deliver outcomes. We will continue to take the necessary cost actions to adapt to the business to the realities we face and focus on what we can control.

Over the next five years, we're focused on outperforming the industry and growing faster than the markets we serve at mid-single digits. We will deliver on margin expansion and in average double-digit EPS growth as well as

cash conversion about 90% through that timeline. As we look in 2020, we will continue to build on the strong execution we had last year and the integration efforts that allowed us to achieve the results we did in 2019, which brings me to the next page.

In a year of market challenges, we saw a growing number of assets parts, including an all-time high number of locomotives parts in a significant number of freight cars in storage. This was also the year that we started the integration with GE Transportation. Despite of all of that, this was a strong year of execution. Let me share a few specific highlights. In 2019, we've delivered $8.2 billion in adjusted sales. We saw continued strength in our aftermarket and services revenues and we grew our international footprint. We launched more than 10 new Digital Electronics products, further enabling our [indiscernible] (00:19:29) to autonomous operation. We grew our Freight Services business to $2.2 billion, providing stability in key markets. We ultimately delivered $4.17 in EPS at the higher end of our guidance. We drove a strong cash generation to roughly $1 billion and we continued margins expansion.

In the areas of synergies, we delivered roughly $30 million in 2019. We've exceeded our target and we're putting the business on a path to deliver a total of $250 million in synergies before 2022. Overall, we have made significant strides in delivering to our key stakeholders including customers, employees, and shareholders. But 2019 is over and it's all about what's ahead of us.

That brings me to the next page, which really focuses on some of the elements of our cash profile. We will continue to strengthen our balance sheet, allowing increased optionality on how we allocate capital. We will continue to invest in technology ultimately so we can grow our leadership position. This includes our focus also on a strategic bolt-on M&A that enhances our ability to grow our aftermarket, opening new product offerings and driving market expansion. Finally, we will return cash to our shareholders through dividends and share repurchase. Pat Dugan, our CFO, will share more on the specifics regarding our capital allocation framework.

But before I close this session, I wanted to emphasize our commitment to create a more sustainable world. Our values are based on the principles that by integrating health, safety, and environmental considerations into all aspects of our businesses will help our people, will help the communities we operate in, and will help the environment. All of this is critical to this company's future as well as the future of our stakeholders, partners, and the communities we operate in. We are committed to driving sustainable growth, and our business model is around accelerating productivity for our customers, for ourselves, and for the world. We are committed to developing technologies that expands the sustainable capacity of the world. Over the past several years, we have illustrated our focus on sustainability through what I'll call reliable, clean, and innovative transportation products.

Beginning this year, we're committed to do more. We are focused on continuing to create products that significantly reduce energy consumption, that drive fuel efficiency, that eliminate wastes, and that promotes reuse, through products like our battery electric locomotive, modernization programs, additive, and for sure the advancements we're making on green technology across Transit, all of which you will hear about through this morning.

We're also focused on reducing our own carbon footprint across our operations. We are taking strides to drive down our energy consumption, repairing the grids, and making use of alternative power sources. Finally, we are focused on creating a more inclusive culture, one that it's grounded in integrity and where people are empowered to lead, a culture where we hold ourselves to the highest standards and value the importance of giving back to the communities where we live and where we work.

With that, let's shift gears and spend some time talking about the two segments; Freight and Transit. Let me start with the Freight segment. Today we're a leader in freight solutions for the rail industry and we feel strong about the growth potential for this segment. Most notably, we offer compelling and comprehensive line of locomotives, including the most efficient diesel electric fleet in the world. We have a broad selection of railcar components and mission-critical controls which include PTC and advanced braking systems.

We're also a significant player in mining equipment, in marine, in stationary power, in drill, and in industrial solutions. Overall, our Freight segments derive 60% of its $5.4 billion in revenues from aftermarket parts and services, which provides a strong recurring revenue profile. The remaining 40% of the segment's revenue comes from OEM business. Here we're focused on expanding our installed base, whether it's on locomotives or components.

Over the last few years, we've been successful in doing just that, especially outside North America, with a significant part of our business coming from international markets in 2019. Looking forward, our geographic mix will continue to evolve in line with international opportunities, enabling us to take advantage of our global manufacturing footprint, commercial capabilities, and establish partnerships, and technology advancements in propulsion, controls, fuel consumption, and hybridization, while we maintain the reliability and quality of the products we deliver to customers.

In addition to world-class technology, we're also working closely with [ph] power (00:25:36) customers to drive more efficient operations and high utilization of their assets. We have a strong portfolio in Digital Electronics that is helping unlock significant productivity improvements. It's helping drive fuel efficiency and it's creating pathways to automated operations. In 2020, we will focus on driving more content per locomotive. We'll further leverage our existing customer relationships. We will rationalize our footprints and we will reduce our product cost to drive continued margin expansion for Wabtec.

So, let's take a look at our growing international footprint, and where we see this market heading. As we all know, the North America market has mostly gone through a reset as customers drive increased asset utilization. With that said, we see continued opportunities for modernization and in some cases new equipment in North America as the new operating conditions demand more availability and reliability of the assets on the road. Our international markets continue to be a bright spots and there is ample opportunity for new equipment and for us to win share.

We also see strong opportunity to leverage our relationships for strong components pull-through and market expansion. In the APAC region, we have successfully delivered over 100 locomotives in India. We are expanding share in components. We're also working actively with customers in Southeast Asia to increase our share of wallet when it comes to the lightweight rail segment.

In Russia, CIS and MENAT region, which you'll hear more later on from Gokhan Bayhan today, our established partnerships are continuing to bear fruit. We continue to expand our installed base. We've signed orders roughly of $900 million just in 2019 alone, and we're expanding our share as we delivered freight components for over 1,200 tanks cars just for Saudi Railways alone.

In Latin America, Africa and the Middle East, we expect that the positive volume growth will continue. Almost a third of their fleet is more than 30 years old. And together, these dynamics create a strong opportunity for fleet and for technology renewal.

Finally, in Europe, that's a region that offers the opportunity to deploy new hybrid technology, as it transitions to non-fossil fuel-based power. Well, in response to all these dynamics, we will continue to develop new products and partnerships to drive near-term order backlog across international markets, while North American demand resumes.

Well, when we completed the merger last year, we highlighted how this strategic combination would unlock significant synergies across the company. Well, that can be seen here. Today, we have significant Wabtec IP content on our locomotives. This is important for several reasons. First, it allows us to capture further margin on the sale of new locomotives and extends our aftermarket footprint with our current customer base. It also gives us additional opportunities to insource and expand margins. Over the last year, we have proven our ability to insource products like coils, radiators, power electronics. Alicia Hammersmith will describe in more details in her section.

Now, there are additional opportunities in this space as well with HVAC systems, castings, additional electronic assemblies and some other key components.

Finally, when it comes to freight cars, the opportunity exists in growing the percentage of content on the car. Today, we have roughly 10% of that content of rail cars, and we see opportunities to organically and inorganically grow that percentage, bringing in larger revenues and increased margins on rail car sales. Both of these strategies could help us grow that percentage of share by mid-single digits by 2025.

But, hey, another important and strong part of our Freight business is how we apply our core technologies throughout adjacent markets. Earlier, I told you we have over $1 billion in revenues in these adjacent markets. For example, across our mining portfolio, we leverage our core technology in electric drives and propulsion to produce integrated and advanced propulsion systems used in off-highway vehicle mining applications. These solutions enable mining customers like Komatsu, like NHL and BelAZ, who serve the world's largest mining end-customers, customers like Rio Tinto, Anglo American, Vale, BHP and others, to ultimately increase their productivity and reduce their maintenance costs.

Similarly, in the marine sector, we have adapted our locomotive engines for marine applications to produce fuel-efficient medium-speed diesel engines for fishing vessels, tugboats, ferries and offshore oil and gas vessels. Our technologies are helping reduce key emissions by more than 70%.

In the stationary power market, we provide fuel-efficient medium-speed diesel engines and generator setups for continuous and emergency stand-by power applications. These generators deliver significantly lower life cycle cost due to the reduced fuel consumption, less downtime and reduced maintenance spend. Our primary stationary power industrial customers are based in Asia Pacific, Sub-Saharan Africa and the Middle East. Finally, in our components business, our proprietary technology used in radiators is also used in heat exchangers and cooling systems for non-rail applications, such as steel factories and chemical processing.

Next I'd like to cover our Transit segments, which you'll hear more in details from Lilian Leroux later today. This is a 00:32:43$2.8 billion segments with a strong backlog, increasing sales and the number of tailwinds go in our favor. Passenger ridership is up. The global shift to green is continuing to gain momentum. And our OE business is continuing to grow yielding aftermarket opportunities. Today, we operate in five main product lines and we have a leading position in each one of these segments.

We have the largest product portfolio in the industry and we provide products and services to virtually every major rail transit system around the world. Investments in transit rail systems across Europe, UK and certainly, in the US markets are presenting unique opportunities for us to grow.

Starting this year, I'm confident that we can start improving profitability of the business. And with that, we have an opportunity to outgrow the segments, while driving profitable growth. On that point, it's no secret that there it's extreme challenges in our Transit portfolio. We talked about it in our last earnings call and 00:34:00Lilly and the team have been taking an action to churn profitability around. The time is now and we must show improvement and it starts in 2020.

As you heard today and you will hear later on, Lilian and the transit team are focused on stabilizing their projects business and improving profitability in its various segments. They have started to leverage the integration and they are gaining momentum to improve transit's costs footprint, while driving lean initiatives across the portfolio. By taking these actions, we're confident that we will expand margins over time while delivering at least 100 basis points improvement in 2020. Our Transit portfolio presents significant opportunities to grow. Lilian will share some of the opportunities to improve profitability, while we win share supporting sustainability globally. With that, I wanted to thank you for the time this morning, and I'll turn the program over to Dominique Malenfant to talk about our differentiated technology solutions. I'll join you back on the line later in the program for Q&A. Dominique?

Dominique Malenfant

Global Technology Officer, Westinghouse Air Brake Technologies Corp.

Thank you, Rafael. Good morning. Happy to be with you this morning virtually. My name is Dominique Malenfant. I am the Chief Technology Officer for the new Wabtec reporting to our CEO, Rafael Santana. I have 25 years of engineering experience, the last 29 being in the rail industry with Wabtec and before with Bombardier Transportation. I also did work internationally in Canada, China and Europe, and it gave me a first-hand chance to see the unique needs of customer around the globe for both Freight and Transit.

Right now I cannot be more exciting time for me to be the CTO at the new Wabtec. And this for a couple of reasons; first, Wabtec 150 years of success is deeply rooted to our ability to differentiate ourselves with superior products and technologies. And it is my role to ensure that it stay the same way in the future; second, the company is extremely well-positioned to disrupt the rail industry for the next five to 10 years by leading the charge on innovative, breakthrough technologies.

So let's start by giving example on how we get our market leadership position so far. So switching at page 26, Wabtec is having a strong track record of being the first to bring innovative technologies to market, which has contributed to build our reputation of industry leader. It started with George Westinghouse, first brake system in rail, followed by Thomas Edison first electric locomotive and Louis Faiveley, first pantograph. Building upon the work of these engineering icons, here is the list of first of recent innovations that contribute to our market leadership.

The first one, an advanced adhesion control system. We all know the mission [indiscernible] (00:37:32) freight locomotive is to pull weight. In fact, a lot of weight 5,000 tons of freight in the typical North American train transit. So adhesion control and tractive efforts are critical.

Wabtec was the first to introduce an advanced adhesion control technology and the results is 15% more haulage capability compared to competition. The second one on train energy management, a product named trip optimizer, optimize the control of the locomotives based on multiple parameters to save fuel and improve train handling. The product was accepted by the EPA, the Environmental Protection Agency to provide Wabtec with

emission credits equivalent to 10% fuel saving for each trip optimizer installed, a first in the industry. We were also the first one to introduce the AC drive system for mining truck with weight greater 300 ton payload. This technology offers significant advantage over the traditional mechanical drive system in term of cost per ton haulage in an industry where cost per ton is everything. Then the global remote monitoring and diagnostic system, think for a moment about 17,000 locomotives connected, monitored 24/7, 365 days a year, leveraging artificial intelligence and machine learning to optimize the fleet and given insight to customer, a unique advantage on the market.

Then an example on the Transit business, the first fully electronic brake control system [indiscernible] (00:39:26) function are now electronically managed. The first of its kind to be certified with the highest safety integrity level, SIL 4. The product is named MetroFlexx and I will cover it later in the presentation.

Then we were the first with an electronic train management system in North America known as PTC or Positive Train Control, which became de facto, the standard and the backbone of the North American Freight operation. More than 90% of the North American locomotive and cab car are equipped with Wabtec PTC.

Then 2015, the first diesel electric locomotive, meaning the EPA stringent Tier 4 emission requirement without after treatment system. We are talking here about 70%, 7, 0% emission reduction. It was done three years ahead of competition when the industry did not believe it was even possible. Over thousand of those Wabtec locomotives are in operation today and the Wabtec locomotive has accumulated more than [ph] 3,800 locomotive years of (00:40:40) operation. Wabtec also introduced the first production Metallic 3D printed parts for an [ph] EV locomotive (00:40:49) and currently we are testing our first main line [indiscernible] (00:40:54) locomotive that is 100% battery powered. I will cover in details in few minutes.

Now switching to page 27. Expanding our technology leadership is very important. So for us, let's take a look at what are the new technology advancement, while Wabtec will have opportunities to extend its technology leadership and disrupt the industry. The first one, energy management. Why is it important for our customer and for the environment? Simply because fuel is the second larger operating cost of the railroad and global warming is currently the greatest risk facing humanity. I will detail the benefit of the Wabtec energy management innovation at the next page. Then, automation, addressing the biggest operating expense of our customer, variable cost. This technology will be covered by Peter and Bob later today. You will see that it not only reduced labor costs but it also improved safety of train operation as well as reducing dwell time and increasing an overall efficiency for the rail operations.

Then the additive manufacturing; one of the very few truly transformative technology impacting the industry is in multiple ways; [indiscernible] (00:42:20), simplification, cost reduction and advanced feature. I will explain in few pages with examples. The fourth one, ecosystem enablement; this describe all Wabtec digital products would enable our customer to manage a complete freight ecosystem, yard, rail, ports, [indiscernible] (00:42:45), et cetera, leveraging multiple technologies such as big data, Internet of things, artificial intelligence and machine learning. This will help our customers significantly improving their operating ratio, improving the visibility of the goods being transported as well as visibility of their own assets and finally improving significantly the network velocity. This would be covered by Bob and Peter a bit later on.

Finally, in the transit industry, customer and regulators raised the bar continuously demanding products which has minimum impact on the environment as will explain Lilian later this morning. I would highlight in few minutes an impactful example regarding how we develop technology to reinforce our market leadership in that domain.

Now, before moving in more detail, I want to point your attention to the following. [indiscernible] (00:43:46) advancement in technology and all of them with no exception will help significantly our customer reducing their operating expenses and have a significant positive impact in reducing global warming. So Wabtec is uniquely positioned in an industry, which is already the most sustainable as explained by Rafael a bit earlier.

Now moving to page 28, energy management. As mentioned earlier, energy is the second operating expense of our Freight customer. In North America alone, more than $7 billion of – is spent on fuel [ph] class 1 railroad (00:44:34) each year. So no surprise that a significant portion of our R&D investment is focused on improving energy management, which positively impact the operating ratio of our customer. In addition on investing in engine technology to reduce fuel consumption and emission, as well as others as will cover Pascal later on the one which will truly disrupt the market, is harnessing the rapid advancement of the battery technology. But why now? Considering the state of the battery technology development largely driven by the automotive and renewable industries, the very cost curve is going down and the energy density curve is going up and both should achieve their entitlement within the next two to three years. So the time is right to develop a pilot and be ready for commercialization in that timeframe.

What describes what it is, the Wabtec is working of the new 100% battery operative locomotive called the Flexdrive. The Flexdrive is a locomotive where the diesel engine and alternator has been replaced by battery cell, 18,000 of cell per locomotive for a total 2,400 kilowatt hours for our demonstration locomotive, which weigh-in at 5,000 kilowatt and 6,000 kilowatt hours in the product roadmap. We have an idea the 6,000 kilowatt hours version is equivalent energy than 60 of the most powerful Tesla in a single locomotive. This locomotive will be used by our customer in train concept with the conventional diesel electric locomotive. The Flexdrive would harness the braking energy to recharge the battery, energy that will otherwise being lost. This technology will provide 10% to 30% of fuel saving for the complete train concept, depending, if we're talking about the 2,400 kilowatt hour version or the 6,000 kilowatt hour version and also depending on route profile.

This is a true step change. So the key to retain here is that the fuel saving is happening when the complete train concept that now become an hybrid concept. So when you think about the advantage for our customer by adding the Flexdrive product to the fleet it get suddenly a significant fuel saving benefits out of its older assets. This is one reason making the concept of Flexdrive so unique.

Additionally, the Flexdrive locomotive will provide exceptional flexibility to our customer by either operating in fuel saving mode, either in near zero emission mode or either in full velocity mode. To explain it, take this sample example. The Flexdrive locomotive operates [indiscernible] (00:47:46) with two conventional diesel electric in fuel saving mode. The energy management system, thanks to our popular trip optimizer product, knowing in advance the route profiles curvature, hill, [ph] load behind (00:48:02), traffic ahead and so on.

So with the proper algorithm, it calculate and optimize the control of the [indiscernible] (00:48:09) to ensure the optimum time to charge and or to use the battery and therefore, minimizing the fuel consumption at a complete [indiscernible] (00:48:17). Now take the same [ph] concept (00:48:21) now and picture in your mind that it's leaving out a port of LA, en route to Barstow, so the [indiscernible] (00:48:29) with its 5,000 tons of freight will have to travel across the city. The locomotive can then transition to near zero emission mode turning off the engine of the two diesel loco in the [indiscernible] (00:48:45) and running solely on battery power, while operating in the [indiscernible] (00:48:49) and therefore reducing emission and noise. [indiscernible] (00:48:54) up to 45 miles in the 6,000 version. Now let's continue the example getting out of the sensitive or urban area, it could then transition back to fuel saving mode until it get to a steep hill to climb. The control system have now the capability to flex into the full velocity mode to combine the power of the [indiscernible] (00:49:17) the engine power, so that it can climb at the top of the hill without the need of an extra push for locomotive [indiscernible] (00:49:23) needed.

This flexibility is currently unseen in the market and the impact on environment as well as customer operating expense will be significant. This technology give Wabtec another first of with the first mainline battery operated locomotive on the market. The Flexdrive product is currently in tests in our design center in Erie, Pennsylvania. This exciting project is developed in partnership with an important customer of Wabtec, BNSF and together we received a grant from the California Air Resource Board to develop this prototype. The Flexdrive will start its operational testing phase in California, San Joaquin Valley and [indiscernible] (00:50:14) sensitive zone at the end of 2020 and the commercialization will be for the next three to five years.

Now, let's switch to the next page, Additive Technology is a well-known disruptive technology but a key initiative for Wabtec. Why? First, it provide the ability to combine multiple parts into one, saving complexity and improving quality and reliability. Second, it provides steam, it allows engineers to do multiple iterative prototypes to converge rapidly to the optimum design, thus shortening significantly the time-to-market. Third, it is financially quite attractive, additive improves working capital.

The ability to trim the part only when you need it instead of starving parts to compensate for long lead time associated with traditional manufacturing provide up to 75% inventory reduction for the 3D printed parts. But among our haul, more importantly, additives give the engineer the complete freedom to innovate in the part design and shape, which is not possible when machining is used. It creates opportunities to develop solution that will not otherwise be possible, pushing the boundaries of performance and fuel consumption and emission reduction, weight reduction et cetera. The example shown on this page is a fuel cooling nozzle. This part is used in an engine cylinder where the fuel is injected.

It is designed with very sophisticated internal passage to create a special pattern during the fuel injection process and it does help to optimize the mix of fuel in there to increase significantly the combustion efficiency within the cylinder, and therefore improving the fuel consumption. The result is an improved 1.5% fuel consumption helping to create further differentiation in the market where fuel economy is prime. So, the end result to additive manufacturing, it's a product of being designed faster with lower cost, higher-quality and advanced feature. The first result for Wabtec are quite impressive. In 2019 alone, 1,250 prototype parts were done by the engineer to accelerate the engineering development of our product. 12 different production parts types were designed to be printed for manufacturing usage for the locomotive, 1,500 of those parts were produced and currently using our product with customer. All this for cost saving of $4 million in 2019 alone, which represent $0.02 per share and this is just the beginning. Now imagine the impact of having 25,000 of those part in circulation by 2025. This is our target with additive technologies.

Now, moving to the next page, I talked to you earlier about the trends at customer and regulator demanding more and more products with minimum impact on the environment. Energy recovery, environmental-friendly refrigerants for air conditioning, friction brake [ph] gas (00:54:10) reductions are all example of impactful technology we have in our plan that will be covered [indiscernible] (00:54:16), but the example on this page is the one of the most promising R&D investment that we have done in the transit unit. Traditional brake system rely on [indiscernible] (00:54:28) propagation to provide the desired brake [indiscernible] (00:54:31). This process invented by George Westinghouse 150 years ago is still the main technology behind your brake system in operation today with some evolution from [ph] pneumatic propagation to well-equipped pneumatic (00:54:43), but the new MetroFlexx system, is proposing a brand new approach, which significantly reduce the weight, energy consumption, lifecycle cost and braking distance, and this while improving the overall safety of the brake system. Our automatic functions of the brake system in MetroFlexx are now electronically managed through a system able to reach the highest safety integrity level.

The system has 3D printed parts, which is the key enabler to reduce the weight and consequently the energy consumption. By example, the baseplate original design has three parts. It is now printed in one single part, thus allowing a significant weight saving increasing airtightness and quality. Additionally, the system was designed with recyclability in mind while 95% of the parts could be reused at the end of life. This is an example of combining multiple technology enablers like digital, 3D printing and others to our customer achieving the goal.

In conclusion, I'm very proud of the engineering team that I have the privilege to lead. The team are passionate, brilliant, innovative and digital savvy. This team turned their best idea day in and day out into market differentiating technology. This team is creative with more than seven patent in force to-date. This team capability is also quite impressive, with major design and development center on three continents, North America, Europe and Asia including India where we have our biggest engineering development center. The Wabtec India Technology and Engineering Center it's having the full capability of all engineering discipline as you will see there with Sujatha. The engineering organization is flexible. Our organizational model allows thus globally to flex up and down by 20% to be able to adapt to business cycle.

We achieved it by leveraging a group of preferred engineering partner globally for non-critical, intellectual property design. This valuable workforce approach is providing us full flexibility which is particularly important when we hit down cycle and it allow us to control our cost and get ready for the next up cycle.

The team is also very competitive with more than 30% of the engineers located in best country and the team is having a solid track record of 3% productivity improvement year-over-year leveraging a solid set of processes and digital tools such as augmented reality. This team make sure that the investment done in technology maximize the return over multiple market segment as Rafael explained earlier. Speaking about investment Wabtec is investing in average about 5% of its revenue in technology developments. Some of it is done off cycle and what we characterize R&D and when it's on off-cycle project are selected with regular – rigorous capital allocation process based to maximize our return on investment over a five years period.

That ROI needs to be [indiscernible] (00:58:18) weighted average cost of capital in the double-digits range or better. So in summary, the technology team is truly an enabler for productivity, cost competitiveness and the growth of the new Wabtec. Thank you for your time and now I'll turn things over to Pascal who will cover the Freight service business.

Pascal Schweitzer

Group President, Freight Services, Westinghouse Air Brake Technologies Corp.

All right. Thank you very much, Dominique. Good morning, everyone, and thank you for listening this morning. My name is Pascal Schweitzer, I'm Group President of Wabtec Freight Services. So I've been honored to lead the team for the past three years and prior to this role I have over a decade of experience leading global and regional service businesses based both in Europe, as well as in the US and primarily in the power and rail industries. I started with Alstom, then General Electric and now, Wabtec.

I'm very passionate about our service franchise. As Rafael mentioned, we have this great installed base of locomotives and rail car that are pulling freight for our customers every day and every night in the most strategic logistics corridors of the world with our most critical components supplied by Wabtec. This gives us the privilege to help the best railroads in the world, increase their operational efficiency by optimizing these assets throughout their entire lifecycle and create significant value both for them as well as for Wabtec. This service franchise has tremendous potential going forward as we are going to discuss in the next few minutes.

Now, the very exciting thing is that at its core, services is first about people and there we have a great team. On the leadership front, we have a team with an average 23 years of experience in the rail industry, a team that is deeply committed to the company and to our customers. All around the world, we have a global, diverse and highly skilled hardworking team, a team that is focused on safety, a team that is embedded in our customers' operations to support them 365 days a year. So, this is a truly exciting time to be in Wabtec and to be in services because we see a number of converging trends.

The first trend that we see is a new Wabtec with a unique installed base, strong service franchises that have been developed over the past decades in various parts of the company, a broader and unique portfolio of components, value-added solutions and technologies. The second trend is an increasing demand from railroads for efficiency gains and for asset optimization. You can call this precision scheduled railroading in North America or use a different name elsewhere in the world, in the end of the day, the ultimate goal is the same. And the last trend that we see are these new technologies that Dominique just mentioned, additive manufacturing, cloud computing, artificial intelligence, battery technology, all these technologies can be turned into new service solutions for our customers incorporated into the installed base in order to deliver additional benefits to our customers and bring the performance of the installed base to the next level.

As a summary, Wabtec service is a fantastic toolbox that our customers can leverage to optimize their operations and now, I'll go into some more detail in the next pages.

So, if you move to the next page, striving to be railroads' service partner of choice. Both locomotives as well as railcars are key assets for railroads. The way these equipment perform has a direct and significant impact on their operational and economic performance. These assets have a long and demanding lives and therefore a proper maintenance strategy can unlock tremendous value.

If you take a typical mainline freight locomotive for instance, over its more than 30-year life, these locomotives will pull freight over 2 million miles on average, this is the equivalent of 80 times around the year. To fulfill this mission, it will consume more than 4 million gallons of fuel, we are talking roughly $10 million in cost depending on the region and fuel prices. So, while this seem substantial, we still make freight rail more than four times more efficient than any other means of transportation as Rafael mentioned earlier. This locomotive is going to travel through very harsh environments, hot and cold, wet and dry. These trains will carry different types of freight and on different routes over mountains, across deserts and through communities. The safety of the engineers on board and the communities they pass is paramount for us. So, such performance is going to require a significant maintenance investment.

On average, a locomotive will visit a service shop around 120 times over its life. These events will vary in time and will vary in scope in terms of scope of work. However, the shorter the downtime and the more reliable the work, the faster and better our customers can generate revenue with their assets. Now, most of the maintenance activity will be concentrated on what we call core technology starting with the main engine, with the locomotive controls, with the propulsion system. We are a highly integrated OEM supplier, supplying around 90% of our locomotive content. This maintenance therefore translates not surprisingly into significant spending for our customers and we estimate that they will spend around 50% more on maintenance over the life of the asset than to acquire the new locomotive.

On the freight car as well, there are several components that are highly strategic to our customers. And these components are supplied by Wabtec whether we are talking about pneumatic control valves, draft gears, end-of-train devices, hand brakes et cetera. Now, by combining our approach on both assets, we can leverage our new

scale, engage with customers at a total train level and this presents a significant opportunity for the combined company to offer a range of products to support our customer needs.

If you move to the next page, let me be a little more specific and give you a few examples of how we create value for our customers and how we differentiate ourselves from the traditional service provider. So, we talk a lot about modernization. This is a midlife refresh for locomotives where we take a systems approach to packaging upgrades enhancing the overall performance of an asset and extending its life. If you take the case of a DC to AC modernization which is one of our best sellers, there we are going to convert the propulsion system from older DC to AC propulsion, enabling our customers to see significant improvements in fuel efficiency and hauling power of their assets. This enables them to run the same trains with fewer locomotives and displace the less efficient ones. This modernization business has grown over time because we took a radically different approach by tailoring our solutions to meet our customer needs. We have delivered hundreds of units globally and we will continue to grow this business.

An example of a vital organ upgrade that we are rolling out this year actually is our FDL Advantage product. So, we have about 10,000 locomotives running with an FDL engine globally and many of these engines are approaching their second overhaul. We are introducing an upgrade that reduces fuel burn across the entire duty cycle of this older platform by up to 5%. If you take the example of a locomotive burning 200,000 gallons, that could mean $25,000 of savings per asset and per year, so very significant.

Our value creation does not just end at the asset. We have developed digital solutions such as Smart Shopping based on our remote monitoring and diagnostics platform, enabling customer service shops to prepare for inbound assets early, customize the required workflow and therefore reduce the amount of time a locomotive spends in the shop. This can reduce dwell time in the yards by 40% which is what we have observed with customers that have implemented this solution. This can decrease the amount of either fuel consumption by up to 200 gallons per locomotive and this can reduce the number of repeat issues from a maintenance standpoint.

When it comes to our overall lifecycle cost, which is the next example I want to talk about, we are investing around 3% of our sales back into optimizing our capabilities. This includes investing in our Grove City engine remanufacturing facility which Alicia will highlight a little later, redesigning our products to perform better and extend their useful lives.

These investments ensure that we can provide the best outcomes to our customers. And our target is clear for when we develop these new solutions and these new products, we are targeting a payback under two years both for us, as well as for our customers. So, keep in mind that maintenance represents less than 20% of the locomotive total cost of ownership and less than 5% of total railroad operating costs. We are constantly working with our customers to optimize the total cost of ownership and obviously a smart investment in maintenance is a very strong lever for railroads to improve their operations and their operating ratios.

Let's move to the next page and let's have a look at our locomotive fleet. So, in order to generate service revenues, locomotives must run hard and this is where our strategy starts. We want to make sure that our customers prioritize our locomotives. We have a truly global fleet that is in operation across more than 40 different countries supporting over 200 railroads, which is the largest mainline diesel/electric fleet with around 23,000 units in operation. It is also the most technologically advanced fleet, the youngest fleet with an average age of about 13 years and which is the best performing fleet in this segment. These locomotives are pulling freight into the most important logistics corridors in the world. They are moving the US economy west to east, north to south. They are moving agriculture in Brazil. They are moving mining in Australia. They are transporting freight along the New Silk

Road between China and Europe, and we are expanding with new loco deliveries in economies such as India and Egypt just to name a few.

So, very often these locomotives are being dispatched in priority and whenever railroads increase their focus on performance, we observe that they increasingly rely on Wabtec locomotives. This can be explained by some of the key technologies that have been developed over the past decades and that are present in this fleet today leading to an increased performance.

Earlier Dominique spoke to you about some of the exciting technologies that we are investing in for the future, but our success today is built on our past investments. Our service business is succeeding because of superior technologies like the engine, propulsion systems and digital control interface that have been developed and improved over the last three decades. So as an example, based on independent fuel tests, our engines are up to 6% more fuel efficient which is directly leading to operating savings for our customers. These engines also meet the highest level of emission standards and this has enabled us to take the lead in the delivery of our T4 locomotive technology positioning our fleet as the youngest and most reliable in the industry.

When you look at hauling power, there our AC technology is able to haul significantly more tonnage than legacy DC locomotives. With differentiators such as advanced adhesion and individual axle control, we can haul up to 14% more tonnage by our locomotives. This is enabling longer train and once again helping our customers save on operating cost. Lastly, when you think about our investments in digital technologies and to control infrastructure, we have some of the most technologically advanced locomotives running with Trip Optimizer for instance which Peter and Bob will take you through a little later in more detail.

So, if we go back to the age distribution of our fleet [ph] and it's on (01:11:26) this page you look a little bit at the age parameter that we show. So, when you go from left to right, we have more than 1,000 T4 locomotives in operation. They have accumulated more than 300 million miles of revenue services. This is a leading T4 technology and we are continuing to improve it. Many of these units are just getting off warranty and are just now starting to generate service revenues for us. We then have a fleet of around 8,000 Evolution Series engine in operation. These engines are now getting close to their first engine overhaul. Our more than 10,000 FDL engines are still heavily used today, this is a proven workhorse for the industry. They are now approaching their second overhaul and this is highly strategic to our FDL Advantage strategy that I discussed earlier, as you can imagine.

Now our DC-powered fleet represents more than 7,000 units. These are older, however, still very reliable and highly used locomotives by railroads all around the globe. As they age, these locomotives obviously require an increasing amount of maintenance and we are constantly working with our customers to improve their performance. Across all these fleet, there is a large pool of around 10,000 locomotives that we estimate eligible for modernization of midlife refresh that we discussed earlier. We have been putting dedicated product management effort in place to develop a range of options for our customers with a very attractive payback based on an increased asset performance.

So to conclude on this page, this fleet is a fantastic asset for Wabtec. This fleet is a backbone of freight railroads' operations globally today and for the years to come. We will continue to grow our service business by supporting our customers, operate it efficiently and by introducing new technologies to further improve its performance.

Let's move to the next page. So, when you put it all together, we have developed a unique franchise that has grown revenues by more than 80% over the past decade creating a highly profitable $2.2 billion business. About 80% of our revenues are generated through multi-year contracts whether long-term service contracts or modernization contracts creating a $12 billion backlog where we get paid based on our ability to deliver key

outcomes to our customers. Service is obviously also more resistant to the impact of market volatility versus new equipment sales which is very valuable for the company in a cyclical environment.

We are staying very close to this fleet. Wabtec field personnel are present across more than 100 customer locations all over the globe. We have performed hundreds of locomotive modernizations in the past three years and this fleet is running extremely well today to the satisfaction of our customers. So, while the concept of modernized locomotive has been around the industry for many years, we have taken it to the next level by investing in the specific product development efforts together with our customers by rethinking our supply chain approach in order to deliver scale and bring to the market a brand new type of product. So, when you think about service growth, these locomotives can be considered like new units.

Today, we have more than 500 performance upgrades in our catalog allowing us to offer to deliver outcomes to our customers and performance improvement. More than 80% of our fleet is covered by remote monitoring and diagnostics. Here as well, Wabtec has been a pioneer introducing this technology in the industry. We collect and treat over 2.5 million messages per day through our Global Performance Optimization Center. This is allowing us to detect around 80% of the failure modes and to anticipate more than 50% of road failures, significantly optimizing the overall performance of the fleet from an availability and from a reliability standpoint.

We have a diverse and a global team in service platform. We are embedded with our customers in order to manage complex logistics to dispatch parts around the world and keep their assets running. We can now leverage this scale as one company and pull through content from all of Wabtec's businesses. We have a dedicated supply chain with over 20 remanufacturing sites globally capable of preparing complex parts and decreasing assets downtime. So, really a unique franchise with a proven track record of growth.

And when we look into the future, there is a strong opportunity to keep growing this business. So, let me first review the key drivers of service spend for our installed base and let's start with the fleet lifecycle. As I mentioned previously, our fleet has an attractive age profile and our customers tend to prioritize the use of our locomotive. As railroads look to optimize their networks and run their assets harder, this is accelerating the maintenance interval on the active fleet. There is inevitably a tradeoff as customers are reducing the size of their active fleet through parking and managing short-term operating ratios, but we firmly believe that higher asset utilization is in the long-term benefit for our business.

If you take the example of precision scheduled railroading implementation in North America. So, through the implementation of this initiative, we have observed an increased usage of our locomotives with more than 15% of additional megawatt-hour per month for running locomotives. From a fleet performance standpoint, our customers increasingly demand locomotives that run reliably, efficiently and timely and we are well positioned to support this. Lastly, looking at fleet size, it is clear that Class I parking and the focus on operating ratio is putting pressure on maintenance. However, we are able to mitigate this through our continued international growth and our youngest fleets coming off of warranty. These dynamics when taken together suggest a relatively stable fleet size, all things considered.

We are executing on a clear and focused strategy to make the most out of this environment, make sure that our fleet is running, capture our entitlement with a superior service product, deliver outcomes and performance to our customers and keep improving the locomotive's total lifecycle costs.

If we move to the next page, Wabtec freight services is ultimately aligned to precision scheduled railroading. The value that we can create for our customers is very significant. So, today, railroads are on the hunt for reliability, velocity, longer trains, better operating ratio. This is not a new phenomenon. Since the concept was first

introduced with the Canadian railroads, we have worked with our customers to drive operating improvements and we estimate ultimately lead to longer-term growth for our business. Our customers know very well that cutting on locomotive maintenance is not a sustainable long-term strategy and that this ultimately destroys value.

When you combine our solutions, we can enable our customers to unlock value throughout their entire operations by accurately predicting the health of their assets, by empowering their technical staff with the right training, by providing guaranteed parts delivery and by providing world-class reliability with remanufactured components. Wabtec has the most comprehensive service solution in the industry. Our service business is the tool box that railroads need to implement precision scheduled railroading and overall operational efficiency program.

So, to conclude on service and the key takeaways there is that we have strong foundations for our company with our global installed base, we have developed a strong franchise that is dedicated to creating value for a customers, we have a great team with significant potential ahead of us. Based on the point we find ourselves in our fleet lifecycle and as a combined business, we can continue to grow both from the top line by working together with other Wabtec businesses and on the bottom line with an intense focus on cost and leveraging our global scale.

Thank you very much for listening. I now like to turn things over to Peter Thomas and Bob Bourg who will share more on our digital offering.

Peter Thomas

Chief Commercial Officer-Digital Solutions, GE Transportation, Westinghouse Air Brake Technologies Corp.

Good morning. My name is Peter Thomas, and I'm the Chief Commercial Officer for Digital Electronics business and I'm beginning for those following along on page 40.

I've been in the transportation industry now for almost 17 years including four years outside of the US, based in Europe and the Middle East and Africa. And prior to that, I spent about eight years with GE's industrial automation business. I'm joined by Bob Borg with GE's industrial automation business. I'm joined by Bob Bourg, who is our Vice President for Core Electronics and Data Analytics. And Bob and I want to spend a few minutes this morning basically doing four things.

First, we want to provide a brief overview of the business and some of the dynamics that we face especially here in North America. Second, we want to detail a number of the solutions that we provide and specifically highlight some of the outcomes that we deliver to the customers. And third, I'll talk a little bit about our 2020 strategic imperatives. And then finally, Bob is going to cover a number of the key initiatives that we're driving as a business and really highlight how we believe that it's going to help us to innovate, transform the industry going forward.

So, next page. So, if you take a look at the Digital Electronics business, it's really the result of a combination of what was Wabtec's Railway Electronics business and GE Transportation's Digital Solutions business. Combined in 2019, we delivered about $700 million in revenue and we entered this year with just over $1 billion in backlog. And together, we've deployed our solutions to help our customers to improve their operations in more than 30 countries around the world. As you can see on the left-hand side, we primarily serve three key segments. Of course, freight, which includes what we do for rail shippers and ports, transit or passenger rail, and in the industrial segment, which is primarily mining. As you can see, freight is our largest segment. It represents just over 70% of our revenues and below that about 60% of our total revenues come from North America.

We'll talk more about the solutions that we provide really on the next page, but in general, we focus on software and digital systems that help our customers to manage and operate their networks, their assets and their

operations both safely and efficiently. And today, we arguably have one of the broadest and most advanced digital technologies and services offerings for the markets that we serve.

And in terms of dynamics, I'm really going to shift and focus primarily on the North American industry and, yeah, I think it's no secret that this industry has been managing through a fairly tough cycle especially in 2019 where we saw carloads down about 4% overall and we've seen both railcar and locomotive parkings at relatively high levels. This in turn has led to a challenging CapEx and OpEx environment for our customers, in other words, they're spending less money. In 2020, most of our railroad customers anticipate flat performance with some indication that there may be a modest upturn later in the year which will be good news for us. Probably, the biggest dynamic that we've seen over the past two years has been a, call it, a dramatic shift in focus towards operations, specifically precision scheduled railroading, both Pascal and Dominique mentioned it in their presentations.

As you know, precision scheduled railroading or PSR has five key operational tenets. The first and foremost is operating safely. The second is aggressively controlling cost. The third is optimizing the asset utilization. The fourth is improving service for customers and the fifth is really to empower and develop employees with better insights and visibility to the operations. What does this mean in terms of growth and opportunity for our business? Well, it might seem a little bit counterintuitive given the constrained OpEx and CapEx environment that I mentioned before. But if you think about it, and I'll talk more about it on the next page, almost all of the digital solutions we provide not only help our customers to achieve these core PSR principles, but more importantly, it helps them to sustain them over time. In addition, when you think about automation which really automation offers that next-generation of productivity for our customers. Digital is absolutely fundamental, in fact by definition, you can't have automation without digital. In turn, if you combine this with the fact that we still have a lot of opportunity to take our solutions to underserved international markets, it puts us in a great position to grow at 10% or better for the foreseeable future.

Next page. So, if you think about the end-to-end transportation landscape for a second, our railroad customers' primary mission is to serve their customers by moving freight and passengers safely and efficiently across their networks leveraging both rolling stock and locomotive assets. On the mining side, it's all about safe and highly efficient operations. Our digital and electronic solutions literally touch and impact almost every aspect of our customers' missions and deliver outcomes that truly matter. Our solutions roughly map into four key categories. Safety, as the name implies, is all about protecting our customers' operations and its employees and in the case of rail, even protecting the public. Asset performance are solutions that help to optimize assets making them more reliable and efficient and ultimately improving utilization. Network performance are systems that control and optimize the traffic flow across the network, reducing dwell and increasing velocity. And then finally, supply chain visibility in transportation management which is really about integrating data from diverse sources and providing it in the form it's needed in, when and where it's needed for better planning and optimization.

I'm going to quickly touch on just two examples to really highlight how closely we're aligned to these PSR principles. The first example is safety and safety has long been the number one priority for our railroads. In 2008, as a result of a Federal mandate, passenger and freight railroads with US operations began implementing positive train control or PTC for short. Since that time, it's estimated that the railroads have invested more than $11 billion in systems and in system implementation. As Wabtec, we've been a major part of this PTC journey literally since the beginning. Today, we're the leading provider of the onboard systems. We have about 22,000 units installed and operating on over 65,000 miles of PTC territory. And those systems are not only installed on our locomotives, they're installed on our competitors' locomotives. What's more, not only does this system help to provide for fundamental safety of the rail network, it's also evolved to form, call it, a fundamental foundation for more next-generation applications like train automation which we'll talk about in a minute.

A second great example which falls into the asset performance category is a product or a solution we call Trip Optimizer. And Trip Optimizer was rolled out in 2009, it's a bit like cruise control for your car. The big difference is that Trip Optimizer has situational awareness. In other words, it knows where it is at all times as a result of GPS. It knows the track, it knows the train, it knows the concepts to the train that it's pulling and it's able to operate the train at a fuel optimal level. I think, as Dominique mentioned, the Trip Optimizer system has been EPA certified and to-date, it's completed over 430 million auto miles. That means, when it's actually in control of the locomotive operation and have saved more than 250 million gallons of fuel so far across all of our customers.

So, as you can see, we have about 12,000 of these units installed globally. Those are primarily on local Wabtec locomotives today, but our teams are working hard to take this solution to other locomotives later this year. So, really kind of two key points from this slide. First and foremost is the alignment of our solutions with what really matters to our customers. That gives us great benefit, but it also gives our customers great benefit in terms of the outcomes that we're able to provide.

The second is that we see solutions like PTC and Trip Optimizer as building blocks and we're pursuing a strategy whereby we leverage these building blocks to implement more and more advanced capabilities like automation instead of forcing our customers to abandon their investment in these systems. They're able to leverage that investment for more and more capability.

The next slide, please. So, in terms of the Digital Electronics business and how we win with customers, again, we believe we're in a really good place. The markets that we serve offer huge opportunity for growth even in top cycles, really because, as I mentioned before, we're very well aligned and provide the types of solutions that deliver the outcomes that address our customers' most compelling needs and ultimately deliver meaningful value.

In terms of the markets, a couple of key examples in the Freight market. At the North American Class 1s, they have over $15 billion a year in operating expense, which we can directly address with our digital solutions. On the Transit side, Lilian is going to talk a lot more about it. But at a high level, we expect ridership to more than triple. This creates great opportunity for more and more systems as well as turnkey project services.

In mining, a 1% decrease in operating cost, represents over $5 billion to the industry and here focus on more efficiency and automation solutions are going to be key. And then, for shipper imports customers, as I mentioned before, more and more demand for visibility, for better planning and optimization, will continue to become increasingly important.

In terms of our 2020 strategic initiatives is pretty simple. First, growth on our existing platform. Our goal here is a two-fold increase and product penetration in the next five years. We're going to do that by leveraging our experience, our relationships and especially our installed base and gives us a great head start as we look to continue to grow our share in both North America and globally.

Second, it's about continuing to invest in new products, new features and new capabilities to take our solutions to the next level. Annually, we'll invest about 8% a year in R&D. Bob will talk more about a couple of these particular areas of focus. We're also building then in Aftermarket and Services model and just about every digital solution we offer. This not only creates another revenue stream, long-term revenue stream for us, but it also helps our customers to better operate and maintain their systems over time.

Third, it's about being the absolute leader and ushering in greater and greater levels of automation. Here, we will continue to leverage systems like Trip Optimizer and PTC as building blocks, again allowing our customers protect our investment and as importantly allowing us to leverage that installed base. And then, finally, we're

going to continue to evaluate new business opportunities, whether it'd be through strategic partnerships or strategic acquisitions or geographic expansion, or whatever, the point here is that we're constantly on the lookout for opportunities to expand our portfolio and to better serve our customers.

So, with that, I'll kick it over to Bob to go through some of the initiatives.

Robert Bourg

Vice President, Core Electronics and Data Analytics, Westinghouse Air Brake Technologies Corp.

Thank you, Peter, and good morning. My name is Bob Bourg and I am the Vice President for Core Electronics and Data Analytics at Wabtec. I've been with the company for 27 years in various engineering and leadership roles and I led the Wabtec Electronics Group that developed and deployed our PTC system after the Rail Safety Improvement Act in 2008. Just prior to my current role, I supported our business development activities including the merger with GE Transportation. Having worked closely with GE Transportation for most of my career at Wabtec, I was delighted about the opportunity for both companies to come together as one, and I am excited to be in my current role in helping to integrate and grow our combined businesses.

On slide 44, I would like to start by reflecting on the achievements of the freight rail industry in recent years. Over the last 40 years, we have been able to double the miles that have moved a ton of freight with a single gallon of fuel. Greenhouse gas emissions have also declined significantly during this time and today, we are about 75% lower when moving freight by rail versus truck. There are many reasons for this progress; technological innovation, investments in advanced locomotives and modernizations, improved rail car designs, new software advancements and improved operating practices are just a few. But we believe we are just scratching the surface.

In fact, we project that what took us 40 years to do in terms of fuel efficiency, we can do again in only 10 years' time. How? By driving further advances in locomotives and alternative fuel solutions like hybrid technologies, but also through digital technologies such as energy management systems like Trip Optimizer which Peter spoke about, improved network management and pacing and data analytics to optimize utilization and performance. But the biggest driver of change across the rail landscape will undoubtedly be fleet automation.

To expand further on how we will achieve these efficiencies on slide 45, we show how our digital electronic products and technologies give us $6 billion in opportunity by reducing the operating expenses of our Class 1 customers. As we have discussed, up to 25% fuel savings can be achieved through solutions like Trip Optimizer, Smart HPT, Zero-to-Zero operation and the next-generation Locotrol platform called Locotrol XA. Some of you are familiar with these technologies, but let me expand on Smart HPT, which stands for Smart Horsepower per Ton.

As background, most freight trains operative with multiple locomotives connected together in what we call consists. In the current method of operation, these locomotives are effectively hardwired together and all the locomotives run at the same power notch level. This is inefficient in situations where perhaps only one of the locomotives is needed to pull the train. Smart HPT allows each locomotive in the consist to be controlled independently, such that individual locomotives can be placed in a lower notch than the lead or even idle down if not needed. When used with our Locotrol distributed power system the same intelligent control of individual locomotives can be applied to remote consists in the middle or rear of the train.

Finally, Smart HPT also includes a feature called Smart Planner that provides the ability for the railroad to create a pre-determined operating profile which is loaded onto the locomotive and enforces idle downs and notch limits to comply with the plan. We currently have an installed base of about 3,000 Smart HPT systems with the market potential of over 16,000 additional systems in North America. There is also an upgrade path for our other global

customers using Trip Optimizer. So, to recap, the suite of Wabtec fuel savings products including Smart HPT can enable customers to achieve annual cost savings of over $1.5 billion.

Moving on to labor costs, significant labor savings can be realized through Road RCL, which stands for Road Remote Control Locomotive. Road RCL enables a single operator to remotely control a train on the mainline or any yard using an operator control unit or belt pack unit. We expect this type of labor productivity to increase as railroads move towards more autonomous operations enabled by digital solutions.

And finally, our Core Electronics portfolio consists of technologies like EdgeLink, which provides edge to cloud connectivity and data steaming analytics, enabling real-time data processing and optimization, resulting in improved asset performance. EdgeLink is on the technologies that gives us $500 million of opportunity in the repair and maintenance category.

On slide 46, looking to the future, we're confident that automation will be a huge leap forward helping lower railroad's operating costs and improve service levels. It starts by leveraging existing systems and capabilities like PTC and Trip Optimizer, which are key building blocks to automation. As Peter described, Trip Optimizer has completed over 430 million auto miles, has saved over 250 million gallons of fuel so far and is now integrated with our PTC systems. We are also testing Zero-to-Zero train operations which enables starting a train from zero miles per hour and stopping the train by automatically controlling the throttle and air brakes in concert with PTC.

We're also exploring new ways to optimize the rail yard. We estimate that roughly 30% of the time a railcar is loaded with products, it is waiting in a classification yard. For empty cars, that time jumps even higher. So, on a typical roundtrip for a railcar, nearly two-thirds of the time it spends is in a yard and is wasted. Improving the order of how trains enter the yard with railcars grouped by time of departure and location of destination for optimal efficiency is essential. Creating a digital map of the rail yard using technology will help yard operators understand what tracks are available, when trains will be departing and how many trains are waiting in the queue. Autonomous control of locomotives, once they enter a yard, will also help make it easier to deliver needed maintenance, refuel and prepare locomotives for their trips.

Finally, we are prepared to fully support our customers' journey to full automation. Our flexible toolbox of solutions in these building blocks allow us to support customers who are at different stages of that journey. Our ability to more fully integrate Trip Optimizer in PPC for a more seamless automation experience is the principal example of our capabilities in this area. So, as you can see, each of these building blocks deliver utility and value in its own right in the form of fuel savings of up to 25%, productivity and labor reductions of up to 50% and significant reductions in train delays and accidents due to human error. With these building blocks, we address customers' current needs in the PSR environment by leveraging the installed base, which allows the customers to protect their investment on their journey to automation.

Thank you. And I would now like to turn it over to Alicia who will talk about our global operations.

Alicia Hammersmith

Vice President, Operations, Transit, Westinghouse Air Brake Technologies Corp.

Good morning. My name is Alicia Hammersmith, Global Operations Leader for Wabtec. I have 28 years of operations leadership, spanning three large industrial segments, across to aviation, oil and gas, and transportation. Nine of those years have been in the rail industry. During my career, I've had the opportunity to live and work in both the US and Europe which is highly beneficial in our global environment. Most of my career with the GE and I'm excited to be part of those leadership team at the new Wabtec transforming and strengthening our business to improve customer value.

I'd like to spend a little bit of time defining operations at Wabtec. We define operations here as everything required to transform the commercial demand signal through the engineering specification to procure, manufacture, assemble, distribute and service the final product to the customer. Our speed, agility are the key differentiators allow us to flex to market conditions across our global network.

I'm proud to explain our operations strategy to you today and show you examples of how the strategy has been deployed. You will hear me referencing many times and examples. Wabtec has been and continues to be committed to lean continuous improvement methodology and this long-term focus is yielding significant benefits.

On slide 47, I'd like to go through our manufacturing strategy. There are three key pillars that we are focused on; building flexibility, accelerating lean, and transforming our capabilities to have competitive in-region operations.

Regarding flexibility, our first pillar, we think about it in terms of being able to respond to market needs and cyclicality, while maintaining cost competitiveness. As a part of the recent merger, we are executing on this front, focusing on a site's core competencies, we have moved over $70 million of work into our operations, while also reducing our footprint by 6% in 2019 and we're actioning on another 9% in 2020. We're constantly evaluating our made by decisions and best locations for our given production needs.

When looking at the second pillar here, lean, our operations are most cost effective and efficient on throughput, which allows for an even more collapsed footprint. Then, when we get to our third pillar, local transformation, it's about being close to the customer, for the customer, which also means a regional footprint and best cost capabilities. All three pillars work together to build strength. You can't just rely on one pillar. This creates a more agile and a lighter model.

As a proof point, we have a track record of optimizing our footprint and lowering our variable cost, while maintaining our regional presence to be close to our customers. You can see this in our locomotive assembly capabilities that we've established in India, Brazil, Kazakhstan and North America. This is our strategy and I have multiple examples that show this strategy in action.

So, when we go to slide 48, we are proud to showcase our North American flagship locomotive facility in Fort Worth, Texas. This facility deploys all three pillars. As background, this site began in 2013 to build a single model of new locomotives. You heard Pascal speak about modernization of locomotives. As the commercial team began forecasting increasing demand for modernizations, the team began to transition this plan to handle multiple locomotive models and modernization work. A transition of this magnitude was no simple task. It required the team to host numerous lean events, well over 50, rethink the plant operations and product flow within the facility and also the material coming to and from the facility and then train all the employees on the new work and the multiple models.

The team transitioned this plan to assemble 12 different models of both new and modernization locomotives. This transition occurred over three years to increase the capacity and the capabilities year after year and most importantly, we did this with minimal capital investments and without increasing our footprint. As a result, the facility gained the flexibility to work on multiple models. They decreased manufacturing assembly hours and balanced the production mix with approximately a 50/50 split of new locomotives and modernizations since 2017. This is a great example of how we've optimized our footprint to put the right products in the right locations.

The next example on slide 49 is a great example of our strategy in action. It's our Brazil site in Contagem. This site is globally capable site. They've exported locomotives to South Africa and Nigeria. Contagem is also a strong

in-region, for the region assembly and component manufacturing site for new end services. A few years ago, this plant was space and capacity constrained, as well as experiencing a number of safety issues.

The team turned their lack of space into a competitive advantage. Instead of saying we can't grow because we physically can't expand, the team turn the plan around. They've freed up space. They increased capacity, improved safety, and introduced the industry's first mixed model, continuous moving line. And it's important to understand that moving the line is the easy part. But you can't move the line without having all the materials, the processes, the systems, the training and the cultural buy-in first.

The teamwork to understand and document the standard work developed value stream maps and simulations. They created hundreds and hundreds of simulations to understand and test processes with minimal investment. Model lines were developed and most importantly, everyone was involved across all functions. This created a culture of continuous improvement.

Once all the culture and materials, processes and systems were in place, the team was able to start moving the line in 2018, and the results are impressive. The lead time has been reduced by approximately 20%. We've got $2 million of working capital improvement in this site alone. They created 13,000 square feet of space savings within the factory walls. With the space that was created, they consolidated three sites and new products into Contagem, a site that was originally space and capacity constrained when they began this journey. Most importantly, lean enables our teams to quickly accommodate different combinations and changes in demand, and this is critical for sustainability.

Before we leave this slide, I want to point out the incredible safety record of zero recordable injuries since we implemented the moving line two years ago. Everything's in its place. The team has developed and continues to refine its standard work. All aspects of safety and quality are part of the lean operation. Our Brazil team is a lean powerhouse. They not only explain and teach the principles; they are hands on with our global teams transforming our site. They were a huge part of our turnaround in the UK transit location and also in the previous slide, where I showed you the Texas locomotive. The continuous investment in lean in Brazil continues to pay off, not only for Brazil, but for all of Wabtec.

On slide 50, I'd like to show you what we're really excited about here. The next step of lean transformation is Industry 4.0. With machine automation and optimization to not just connect our factories, but connect our customers into our factories. And our best example of this is our Grove City engine manufacturing and repair facilities. When you think of a smart factory, our engine facility is just that. It connects our customer to the factory. It understands the condition of the parts before they arrive on our docks. It allows us to turn around repairs in a more efficient manner as we anticipate and prepare for the work scopes required.

We contract the genealogy of all the critical parts, such as power assemblies, turbos, crankshafts and then apply analytics-based work scopes, based on the repair history and the service of the engine. When you go to the doctor, you expect personalized treatment based on your symptoms. This is exactly how we're able to treat our engines with personalized or what we would call analytics-based work scopes.

This helps us in the factory as well. Internally inside the factory, it works as a neural network where all the machines in this factory update you and how they're doing. The digitization of the facility allow the team to focus on problem solving and continuous improvement. When one of our production lines is behind tech, the coaches get an alert on their phone to support the need for the floor. If you need to do maintenance, the machine tells you, so that they can prepare for the maintenance and minimize plant disruptions. This is an example of the evolution

of lean and productivity. Once you do manual lean long enough, the real industry lean is at that the factory doesn't require manual manipulation to create productivity. It's more system-driven productivity and system driven lean.

It's no longer optimizing a workstation for a single line, but the entire value stream or system is optimized. This started in Grove City and it's now permeating through our lab techs. Not all of our factories are here, but once you get here, it puts continuous improvement on steroids. You can see this, 60% improvement in safety, 70% in quality, think of the potential.

The last example I'd like to show you is how we're building flexibility is our electronics center of excellence in Germantown, Maryland. This location is having a direct customer impact by reducing our lead time by 30 days. This allowed us to secure a critical customer order. We didn't have this capability in legacy GE Transportation and we're able to insource the capabilities in Germantown. This site used to be product line specific. It is now multi-model which increases its capability and has expanded to six more product lines. This flexible competitive high technology site is running at 75% utilization and continues to grow.

If you look at all the capabilities of what a site can do versus a market it's historically served, the opportunities are much greater. This is causing us to radically rethink about how to use our footprint differently to harvest our capabilities. This mindset shift to multi-model capabilities versus one site for a product line is something we're now optimizing in the transit space as well.

In conclusion, we spoke about our strategy at the beginning and showed you the example. This model is scalable, it's proven and has room to expand across our portfolio. As I described, lean is a journey that we are committed to across Wabtec. The long-term outlook that's shown here are the proven outcomes from our existing lean sites and the goals for those sites are in the transformation journey. We are accelerating this plan across Wabtec as we move expertise, harmonized processes and tools to drive continuous improvement.

I'm just one example of this cross-pollinization across Wabtec, recently joining the transit team from locomotive. We believe that using this strategy allows us to drive cost reduction, capacity utilization and capital improvements, while maintaining and improving our great quality and safety track record to delight our customers.

Thank you. And with that, I'll turn it over to Lilian Leroux, President of Transit.

Lilian Mathieu Leroux

Group President, Transit, Westinghouse Air Brake Technologies Corp.

Thank you, Alicia and good morning. I'm delighted to be here with you today, on slide 54. It is a very exciting time to be in Wabtec and Transit. First, you heard Rafael and Dominique, the transit industry is one of the key solutions to the climate change. Congestion, urbanization, pollution has to be tackled. We are the center of it. We are developing environmentally friendly solutions to capture this market momentum.

Second, we have initiated a turnaround in order to gain profitability and competitiveness. Finally, and you just heard Alicia, the new Wabtec provides us success to a new footprint to people and processes that will contribute to the success of those initiatives.

My name is Lilian Leroux, Transit President for Wabtec. I have been in the rail industry for more than 24 years, including Faiveley, now Wabtec, in various leadership roles and working in Germany, in the UK, in France and Italy. In the coming 15 minutes, I will come back to our market, continue on our turnaround initiatives and conclude on our future profitable growth.

So, moving to slide 55, I'll now describe what is our Transit segment in more details. In 2019, our sales were up 6% at $2.8 billion. Wabtec won orders in every region and across all our product lines to achieve this $3.5 billion order book. Within the Transit market segment, we operate with two different types of customers. The train manufacturers on one side, think of Alstom and Bombardier, Siemens, [indiscernible] (01:56:34), Hyundai Rotem and others.

As an equipment supplier, we specialize in providing to the OEM high technical added value subsystems on both of that trains. These solutions are in many cases critical for safe train operations, brakes, doors, passenger information, are some key examples and we do rank among the top two suppliers in all those products.

Typically, before any original equipment orders, we would work between three to four years with these OEM customers to customize a solution that would fix the specific need of that own project. It is about engineering collaboration, understanding the end user habits and requirements. We will reuse already validated and homologated products that were built around a unique solution integrated within the train.

Our teams do also support a second type of customers; transit operations and this throughout the life of the assets which can be between 30 to 45 years. Here, our local teams located in more than 60 service centers, develop specific understanding of the local operators' maintenance practices, needs and challenges. Of course, they do supply spare part, but they will also reuse the best practices and solutions that we have developed with other main centers elsewhere to help these local ones to reduce their operational cost.

And remember as well that our position in the market helps us to sell on the shelf several product lines both for the same OE and aftermarket customers; that will include for instance relays where we have a successful product line, but also frictions or [ph] bookstores (01:58:27). These product lines that are at very a little risk and operate in profitable segments.

Transit market is a non-cyclical market and it does provide a great contribution in revenue on our Wabtec operation. We do recognize though that the profitability level is not at all the expected one. And I want now to explain what we have implemented to turnaround this profitability in Transit.

So, let's look now on slide 56, and really our turnaround strategy is built around three main pillars. First, we are focused on stabilizing the project portfolio. This includes building on the effort already underway to drive more prudent project governance and of course with strictly reinforced risk management process. I'll come back to it in a second. Second, we're driving a lean culture. We have started to operate in a leaner, simpler and more efficient way, while taking the benefit of our new footprint, leveraging here our integration within Wabtec. It comes with implementing a continuous improvement mindset in all we do. Thanks to these initiatives implemented in 2019, we have generated 6% in the cost of poor quality reduction. We have improved our on-time delivery by 3 points. And by leveraging our Wabtec volume material, we have generated 2% of material deflections. All these indicators and many others are being accelerated in the year 2020, this year.

Third pillar of our strategy, we want to capture the profitable growth that we see. And here, I will focus on two elements. First, the existing fleet in Transit and the potential they do represent. Secondly, the shift to green momentum. These three pillars will generate more than 100 basis points margin improvement in the course of this year. So, let's now look at our turnaround drivers more closely.

Moving to slide 57 and starting with projects. We have initiated index reviews of our major project in 2019. Our first actions have been, of course, to stabilize them operationally and better serve our customers. We have also reviewed our financial positions and implemented the right measures to continuously monitor the improvement we

are bringing in. And here, we have seen the benefit of our new Wabtec. We were able to bring expertise in management to these extremely complex projects not only from within our Transit teams, but also lean and technical experts from the freight locomotive side of the business.

You heard it from Alicia. We've got the benefit from some of our colleagues from Brazil and even India that have helped us through the year. The UK is and has been a special situation for us. We are implementing a much more controlled and prudent project selection process. As you can see, the rolling stock refurbishment project represents now a minor part of our order book. In 2019, we have completed 75% of the UK refurbishment that we had in our books and we have a strategy in place to accelerate the delivery of the rest.

To support this effort, we have also made key changes in our UK team, and brought in experienced and talented new leaders. And globally, we're following the same path, much more rigorous project selection, focusing on attractive segments, reinforced risk management process. But we do not want to stop here, and we are working in parallel on accelerating the margin improvement of our backlog. This come through integration. We are benefiting now from our fantastic engineering footprint in India. You will hear more from Sujatha in some minutes, but we have a pool of 1,200 engineers in India. They are talented and experts in railway. We are not only transferring work packages from our center of competencies, but also doing complete design activities, as described on this slide, with [indiscernible] (02:02:50) example.

Second integration example, we are also benefiting from a very competitive manufacturing footprint in Eastern Europe and India. We're investing significantly in these plants to ensure that there will be at the highest level of operational excellence, and that they can increase capacity. Integration again, in sourcing, we are now leveraging the volume from Transit globally and also leveraging on the new Wabtec common commodities. It does generate an improved savings in sourcing that will be beneficial to our global business.

Continuous lean improvements, we have started to optimize our operational cost and will continue moving forward. We are looking at shared services, as well as simplifying the way we do operate across the globe. And we are confident that a proper follow-up and management of all these initiatives will generate a steady margin improvement for the years to come. I would like now to present the strategy in action through one of our business units.

So, moving to slide 58, brake traffic is a great example of our turnaround and it demonstrates our enhanced capability to drive operational changes. In this business unit and by applying the key actions I just described, we were able to increase our load in best cost countries up to 45% with a significant reduction in our average manufacturing rate. We have used our plans in Czech Republic, our plans in Macedonia and of course in India.

In parallel, we have managed to significantly reduce our cost of poor quality by more than 60% over two years and our number of quality incidents have reduced in an impressive manner in 2019. And we were also able to improve our on-time delivery by a massive 8 points. All these positive indicators delivered over the same timeframe are a great demonstration that we can reduce our cost and improve our own performance in parallel. And the teams are not stopping here. For instance, they have a further strong commitment to increase our manufacturing hours in best cost countries in the coming years. This is for us a solid foundation to replicate such initiatives across the Transit activity and deliver our improved profitability.

Now, I would like to move to the third pillar of our strategy; profitable growth, that I will detail in the following two slides, slide 59 and then slide 60. On slide 59, I would like to focus here on existing fleet and our activities with Transit authorities. Our position in the market gives us the ability to propose new models all around the world. You have heard it before from Pascal and in Transit as well, we have several projects with condition based

maintenance. As one example, we are maintaining today a fleet of air conditioning systems on board of trains in the north of Europe, where we've been able to improve the reliability, reducing failures by 30%. We detect symptoms of the coming failures remotely and we do intervene before it occurs. The improved quality of service for the passengers means that this project is loved by our customers and we have initiated similar ones on other projects sending system for breaks, doors, platform screen doors.

Our team has also developed online smart solutions to facilitate the access to our spare parts and improve customer experience across all our transit authority around the world. We also started some dedicated solutions to facilitate maintenance with kits specifically packaged and to improve significantly operational efficiency for the train maintenance and 3D printing, as explained by Dominique previously, will provide products with significantly reduced keep time, up to six months in transit, while guaranteeing the safety, integrity and performance of our products.

We know that today, 30% of the trains in transit are 30-years old or older, 50% of the trains in operation in transit are more than 20-years old. As you can imagine, there is a significant market need to upgrade and improve the comfort of the passengers, the performance of these trains and their integrated equipment. Wabtec is a leader in passenger information system. Here, there is a very strong appetite for better information on board of trains and we do have screens that are requiring less energy, that are fitting in all available space and where we can integrate any transit authority's information within our solutions. This type of upgrades are through across all our product portfolio and we expect this market segment to generate sales growth at a CAGR of close to 15% in the next three years. And there is also a second element of our profitable growth that I want now to highlight.

So, moving to the next slide, we know and you've heard it already that rail is second to none and specifically for Transit that's ridership capacity, 20 times better than car. CO2 emission, more than 10 times better than car. Energy efficiency, 9 times better. Safety, 6 times better. What has changed recently is how global warming has become the number one concern worldwide. In many countries and regions, it is now fully part of the political agenda. And as Transit is dependent of public investment, the shift to green is going to positively impact our industry moving forward.

There are numerous examples around the world. In New York, largest investment plan ever disclosed with $51 billion. In Europe with the Green Deal where 2021 has been announced to be the year of the rail. Take the example here of Germany, massive model shift that shall represent more than €94 billion of investment in the coming years. There have been also recent investment announcement in the UK with the new high speed line after London and many pro-rail initiatives [indiscernible] (02:09:26) many other countries. The time is actually attractive for us to be in our sector. Sizable investments are being launched in all these regions where we do have a strong position. We are therefore ideally positioned to benefit from it.

How do we do it? You have heard Dominique. We are focusing our R&D initiatives towards the shift to green momentum. We have segmented our effort into the areas described here – energy management, weight reduction, dust reduction, charging solution for electrical vehicles, CO2 reduction. Our distinctive engineering capabilities around the world allow us to develop differentiated innovations on all these segments. With solutions to reduce cost of ownership for our customers, of course, but are also more environment friendly. Some of these initiatives had been explained by Dominique already, but I would like to mention two more – a new friction material, which will reduce dust emission significantly through friction braking and therefore limit any potential pollution. The new natural refrigerant for air conditioning that will be a breakthrough in technology while reducing the [indiscernible] (02:10:35) impact of our onboard air conditioning significantly.

As you have heard and in conclusion, we have a clear strategy and have launched significant turnaround initiatives – prudent project selection, reinforced governance and processes, lean initiative as well as [indiscernible] (02:10:56). The transit industry is a key focus area in climate change and we are the center of it and the new Wabtec is giving us access to the better footprint to people and processes that will enable us to deliver on these initiatives. Therefore, we are very confident in delivering the necessary margin improvement in our Transit business moving forward 100 business points (sic) [100 basis points] (02:11:21) in 2020 with a target of mid-teens in the mid-term.

On this, I would like now to turn it over to Gokhan who will share more on our growth strategy in one of our most exciting markets. Gokhan?

Gokhan Bayhan

Regional General Manager-Russia/CIS/MENAT, Westinghouse Air Brake Technologies Corp.

Thank you, Lilian. Good morning, everyone. My name is Gokhan Bayhan and I lead the Wabtec team in Russia, CIS, Middle East and North Africa. And just as a reference, I'm starting on page number 62. I've joined the GE Transportation team over 20 years ago and first half of this period I spent in the US headquarters in various roles, focused mostly on the international markets. During this period, we were able to transform our business from a US market focused business to a global business. And as we completed this transformation in 2007, I moved to the region, and based out of Istanbul, Turkey, I've been leading the regional team.

Over the last 10 years, Russia, CIS and Middle East, North Africa region has been a key growth region for our business. During this period, we have been able to establish long-term relationships not only with our customers, but also with the regional supply chain, [ph] build (02:12:37) partners and government stakeholders. Our employee base, regional coverage and operational footprint allow us to be viewed by many as a local player, which differentiates us from our international competitors, and puts us on the level-playing field with the local competitors.

Over the last five years, we have received annual double-digit revenue growth, which reached $450 million in 2019. But more importantly, we have a healthy backlog of $3.5 billion entering into 2020 and have positioned ourselves to continue to capture double-digit growth for the next five years and for the foreseeable future. So, how did we do this? Page number 63.

Our region represents the largest diesel locomotive market outside of North America, but also have significant barriers to entry. To be successful in this market, our regional strategy has been and will continue to be one of [ph] long-term (02:13:41) partnership. We do not see ourselves as transactional product and aftermarket sales company. Our approach has always been one of complete solution provider. In the target market, we start with understanding our customers and government goals and objectives, their strategy and their current challenges. We partner with these countries and customers to provide long-term solutions to achieve their operational and growth target. Of course, these complex solutions always start with the state-of-the-art technology, world-class products and services combined with localization of these solutions and services, creating growth of the local economies and capability.

Our technology, products and services [ph] fit (02:14:31) all of the key business measurements of our customers – improving their fleet utilization, providing them with operational savings and allowing to maximize their revenues. We support these elements with complex international financing packages, utilizing international export/import banks [indiscernible] (02:14:51) banks to provide affordable long-term funds for our customers. As a result of this successful strategy, over the last 10 years, we have been able to grow our product portfolio and our

installed base in the region from almost negligible numbers to where we are today, over 1,500 locomotives and 300 engines in operation.

This installed base growth not only drove the backlog and revenue numbers I mentioned earlier, but also allowed us to build up an incredible supply chain and service footprint and infrastructure. We have 50% of our fleet under long-term service agreement. These service packages provide our customers a reliable solution for their operations, making sure the assets they purchase and the capital investment they spend is protected. The reliability and availability targets we achieve allow them to utilize their rolling stock to the maximum capacity, reduce their operating costs and improve their productivity.

Let's talk about an example of this. A great example on how we partner up with our customers and government stakeholders is our current success story in Egypt. While we had a small fleet of locomotives in Egypt before, our true partnership with ENR, the Egyptian National Railways, goes back to 2007 when we were able to win a contract to deliver 80 Evolution Series locomotives. In 2017 and 2018, we were able to work with ENR, Ministry of Transportation, Ministry of Finance and multiple other stakeholders to sign a landmark contract to deliver 100 more state-of-the-art Evolution locomotives. We have [indiscernible] (02:16:42) 80 Evolution locomotives delivered in 2008 and entered into a long-term parts agreement and technical support contract to cover the entire fleet for 15 years. This was a very complex deal that included coordination across multiple ministries, government agencies, local suppliers and ENR. But more importantly, we were able to fund this project with a very attractive international loan package.

I'm proud to let you know that we started delivery of these locomotives in fourth quarter of 2019. We continued deliveries this quarter and have established a very capable service team on the ground executing the [indiscernible] (02:17:24) and the long-term parts agreement.

If you look at it, ENR has a long-term goal to increase their freight movement on rail from less than 1% to 5% and from there to 10%. We believe that we have the right experience, products and services to be their long-term partner on this growth path. In fact, we are now getting ready to participate in the next locomotive standard for 100 locomotives. Our experience, our local presence, our technology and our understanding of ENR operations, goals and objectives will position us well for this opportunity.

So how do we take this to the entire Wabtec portfolio? Our Wabtec advantage, which is existing local services, manufacturing sourcing capabilities across the region could also be utilized and extended across the new Wabtec portfolio and can help us achieve greater market access in growing markets such as Russia, CIS, Middle East and North Africa while reducing our cost [indiscernible] (02:18:35) through regional synergy.

Most of our regional customers also have transit operations, they purchase freight wagons and freight components. Our local build partners and service partners serve transit, freight wagon and passenger coach markets as well. New Wabtec portfolio allowed us to further our relationship with our customers, local partners and stakeholders, offering them a wider and more complete array of solutions and help us increase our total addressable market significantly, giving us a good base for our double-digit revenue growth for the next five years.

As a team, we have identified specific growth areas to allow our key partners in Russia, Ukraine, Turkey, Egypt and Kazakhstan to have more competitive local and state-of-the-art solutions while improving our market presence for the entire portfolio. Our cross-functional teams have been working closely with the stakeholders to bring these projects to life. We have a matrix commercial organization. The key account managers are specifically focused on our customer strategy, goals and objectives, and they work closely with the business unit commercial

team who are focused on our products and solutions and we go into the market as one voice. We are excited about what we have already accomplished in this region and our growth potential into 2020 and beyond.

With that, I would like to give the microphone to Sujatha to talk about another exciting region.

Sujatha Narayan

Regional General Manager-India, Westinghouse Air Brake Technologies Corp.

Thank you, Gokhan. Good morning. I'm Sujatha Narayan, the General Manager for Wabtec in India. It is a pleasure to be speaking to you today about Wabtec in India and our big plans to make India a growth engine for the company. We are very proud of the large and profitable business we have built in India in the recent years. We have a world-class locomotive factory, a large and rapidly growing Transit business as well as an engineering center that serves global Wabtec. We are proud not only due to the thriving business we have created, but also because we have developed world-class technology and even more due to the impact we've had in terms of creating jobs, developing infrastructure and building communities in India. As you know, India is one of the fastest growing large economies in the world with a rapidly growing transportation sector, and it is our aspiration that India will continue to be a growth engine for the corporation in the years to come.

Today, I will spend the next few minutes talking to you about how we are going to become a billion-dollar enterprise in the next few years. I move to slide 67 and I would like to start with where we are today. I am proud to share that Wabtec Corporation today is the number one rolling stock and rail equipment company in India, with revenues of close to $450 million to the market in 2019 and more than $100 million in internal exports of sourced components and products. This growth has been rapid and really impressive and has been enabled by a fantastic team back in India with great support from the global corporation, of course. More than 2,700 employees across the length and breadth of the country are supporting both the Transit and Freight businesses as well as engineering, digital and IT function.

Over the last 20-plus years, the company has continuously invested in India and today we have close to 1 million square feet of operational footprint. This footprint is predominantly serving the India market today and our plan is to use this footprint to serve the global Wabtec businesses. We are one of the few railway companies in India that has close to 1,200 engineers designing locomotives, building digital solutions, working on signal engineering, software development, mechanical analysis and testing. We intend to strongly leverage this talented base of engineers to drive innovation for the company globally and help improve our competitiveness and profitability. I am excited about what we have managed to do this far and this gives me confidence that we can become a billion-dollar enterprise in the next few years.

I move to slide 68. When we talk about a billion-dollar enterprise, we're talking about the value of India to the corporation, which includes external sales to the market as well as global sourcing and manufactured products for exports. So how do we get there? We have identified three pillars for this growth plan. These are the market, the engineering talent and the operational costs that the country gives us. We are uniquely positioned with the strong Wabtec advantage for them. We have a market that is growing where we already are poised as number one player. We have an economy that offers us big advantages on operational costs and we have an established operational footprint. We have a country known for its engineering talented entrepreneurial spirit and we have one of the largest engineering footprint in the railway industry. I will now talk about each of these pillars and how we plan to leverage them for a billion-dollar journey.

Moving on to slide 69, I would like to talk about the market first. Before I talk about the contents of the slide we are looking at, I wanted to share that the Indian rail transport market offers a fantastic opportunity for Wabtec. This is because India is aspiring to modernize the rail transport in a big way, focused on safety, security, comfort, energy

efficiency, et cetera. Dedicated freight corridors, modernization of the entire rail signaling network, rapid electrification, building world-class passenger trains, creating metro systems across the cities in the country have begun in a very big way.

Not many people are aware that the Indian Railways is the fourth largest railway network in the world with 68,000 route kilometers. 23,000 locomotives and trains run across the country's geography and carry 23 million passengers and 3 million tons of traffic every single day. Similarly, the future of metros in the coming years is as promising. Wabtec in India is uniquely positioned to leverage this market. Our strategy starts with protecting and growing our core profitable businesses. This includes the Transit products we sell to passenger coaches, metros and electric locomotive that has seen tremendous growth in the recent past and the continued execution of the diesel loco project that we have begun.

Our key strategy in the short term is to aggressively drive our aftermarket business for both Transit and Freight businesses to leverage the installed base we have created in the recent years. Additionally, in Transit, we have started a strong program to bring global products from the Wabtec Transit basket into India for the applications we serve today. This is intended to drive diversification as well as profitable growth. The urban transportation or metro market is poised to grow very rapidly in the coming months and years and we strive to compete strongly in that space with the full Wabtec portfolio.

The opportunity for Digital Electronics is at its infancy stage for us today, but offers a lot of potential. To give an example, the Indian Railways mainline network has initiated the work to completely revamp their signaling system across the entire country. We believe our PTC product is ideal for this. Today, our remote monitoring and diagnostic solutions are currently being demonstrated in our running locomotive. There are many such examples of opportunities in front of us. For Digital Electronics, the time is truly now.

Our approach now is to focus on business development and concept selling for Digital Electronics and our recipe for success will be to really understand the problems our customers are trying to solve and customize our global solution to create – global products to create local solutions. As I look at the market overall, I'm really convinced that we have the portfolio, the technical capability and the relationships in the market to make our business growth happen.

Moving on to slide 70, we now come to our second pillar, which is the engineering talent. We are excited about the value our global engineering centers in India have brought to the corporation thus far. How can we leverage this further? A quick perspective of the talent availability in India, India produces more engineering graduates in a year than US and Europe put together and houses 1.5 million engineers today. Many of these engineers are working on cutting-edge technologies both for multinational companies like ours and also as a part of the startup ecosystem, working on deep technologies in the area of Big Data, analytics, artificial intelligence, Internet of Things, et cetera. There are many companies who have set up and are setting up their engineering design centers and global R&D centers in India.

In the end of 2019, we took our big step as a part of the integration. We brought together engineering and IT groups from legacy Wabtec and GE Transportation and created the Wabtec India Technology and Engineering Center referred to as WITEC that Dominique referred to. We have moved a large portion of the 1,200 engineers under one roof for the first time and under one organizational structure. We believe this will really help maximize synergy and utilization. In this global center of excellence, we now have world-class competitiveness both in terms of cost and talent. Our core strategy is to build system engineering or solution development capability in all the technologies that we work on in India. To take a specific example, we have been very successful in structural design of global locomotive projects from India. As you heard from Dominique and Lilian, we plan to do the same

for Transit systems to drive competitiveness and profitability. This engineering center will be the critical lever of our success for the future.

Moving on to slide 71, the last pillar we want to talk about is operational costs. Over the years, we've leveraged global sourcing from India to drive profitability for our locomotive business across the world. From a manufacturing perspective, today we run a locomotive factory which has churned and will churn state-of-the-art 100 locomotives a year for 10 years. Our factories that make transit subsystems in India has grown rapidly and are considered equivalent to any of our European sites. As mentioned before by Rafael, in 2019 alone, we supplied 3,000 brake systems for coaches, metros and electric locomotives and 30,000 brake discs for passenger coaches to the Indian Railways along with other transit subsystems such as air conditioners, couplers and pantographs made in our factories in India. We are ready now to take this to the next level.

The low operational costs in India, such as commodity cost, especially in metallics, overhead costs in engineering and manufacturing labor costs are well-established and known. At the same time, India has an entrenched supplier ecosystem that has been built over the last couple of decades, thanks to the automotive and aerospace industry and more recently the rail transportation industry. We want to leverage this even more in the coming months and years to drive global sourcing to new heights for all our businesses across the world and drive profitability for the company.

India has also transformed in the recent years with a stable infrastructure-focused government that is promoting Make in India. The government policies and finance reforms we're seeing makes India a much easier place to do business and a great destination for global manufacturing. Our key strategy is to take our factories through the Industry 4.0 journey to position them for global manufacturing. Our intent is to strengthen our already strong operational presence and leverage the advantages offered by the country on costs and policy to make India a preferred destination for manufacturing Freight and Transit solution for the rail transportation market of India and the world.

In closing, I am fortunate to be the leader of a vibrant, growing and profitable business in an incredible industry. I have the strong belief that we have something nobody else has – a fantastic combination of great talent and access to more of it, a strong brand and position in a growing market, superb operational and engineering capabilities, all of which can be leveraged to build a billion-dollar enterprise, which will drive growth, profitability and innovation for the company.

Thank you. And with that, I'll pass on the floor to Pat to talk about financials. Pat?

Patrick David Dugan

Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

Thank you. Good morning, everyone. My name is Pat Dugan. I'm the CFO for Wabtec. And during my career with the company, which is now approaching 17 years, I've had the opportunity to see Wabtec evolve significantly and as you've heard today, we are clearly a stronger, a better and more resilient Wabtec. You've had a chance to hear from our leaders across the company and you've heard that as a technology leader with world-class products, we have a solid strategy for profitable long-term growth while continuing to drive a lean continuous improvement culture.

I'm going to spend some time talking about the year ahead and where we are on our integration and synergy efforts, I'll also cover our strategy for capital allocation and our long-term financial plan before handing the program back to Rafael to close out the remarks. I am going to discuss our previously issued guidance for 2020. I'll just remind everybody as we stated earlier that this guidance has not been revised for any potential impact to

the COVID-19 and more recently with volatility in commodity and financial markets. So, so far, we've seen limited impact to our results. However, we're continuing to monitor our customers and the end markets we serve as those could have an impact on our business, our operations and our financial performance.

So, looking at our 2019 pro forma results, and before we look at our previously issued outlook, I want to review this table, which should look very familiar to you as we walked through it during our fourth quarter earnings call a few weeks ago. The intent here really is to help everyone build their model considering the challenging 2019 with lots of pluses and minuses, restructuring and integration costs and changes to adjusted earnings and make it comparable to our 2020 guidance. In other words, we want to put into context 2019 on a like-for-like basis versus our previously issued 2020 guidance and our long-term targets.

So, on the left in the first column, we start with our GAAP results. The second column highlights our adjusted results, which were covered in our earnings call and are consistent with our 2019 original guidance. Then we are bridging those adjusted to 2019 results to a comparable pro forma 2019 and then our 2020 guidance. Essentially, the 2019 pro forma view includes four notable changes versus our comparable 2020.

First, okay, the pro forma is inclusive of the two additional months of GE Transportation results and related interest charges. Remember we closed at the end of February and we're including the full year in this pro forma.

Second, as we've discussed publicly and many times, we're no longer making the adjustments for accounting policy harmonization. As a reminder, there were some meaningful differences in accounting, especially around revenue recognition between the two companies and we were adjusting for that in 2019. No more, no longer that we're now one company, one set of policies and approach.

Third, we're now adding back the non-recurring purchase price accounting, so amortization costs will be added back to describe our adjusted results, consistent with a lot of other companies in our situation.

And finally, we've modeled the year with a fully dilutive share count of about 192 million shares. So, as a comp or as comparable to future periods, our jump off point for 2019 is about $8.7 billion in sales, $1.5 billion in EBITDA, $800 million of operating cash flow and $4.26 earnings per share.

Going to next slide looking at our 2020 outlook previously discussed, our sales on a comparable basis to the pro forma 2019 are flat at about $8.7 billion. As it relates to margins, we've exited 2019 with solid momentum on our integration and our synergy and cost activities, which I'll talk about a little bit more. Therefore, we anticipate a margin expansion year-over-year of about 100 basis point, mostly again from the realization of incremental synergy as well as the improvements in operational performance in our Transit group and other areas, including digital and electronic sales and revenues from our international footprint. These opportunities alone should drive a margin improvement, but we do have some negative dynamics around activity in our Freight markets and sales mix in North America.

Our adjusted EPS range is $4.50 to $4.80, a roughly 10% increase at the midpoint over the comparable 2019 EPS of $4.26. We expect another strong cash generation year with cash from operations of about $900 million. This includes about $100 million of cash outflows. So, a hurt to our cash flow from operations related to prior-year restructuring, transaction and litigation costs. A comparable $1 billion to the 2019 $1 billion of cash generation would be appropriate. We will cover our cash generation and how it compares to 2019 in a few minutes. We'd also like to talk more about our long-term capital allocation strategy. All-in, we expect a solid year with margin expansion, EPS growth, cash generation despite the challenging markets that are affecting our top line.

So, moving to look at our sales portfolio. We have a strong global diverse business portfolio. As you would expect, not all our end market conditions are favorable, you know the challenges that we face near-term with the North America Freight markets, but we have elements of the portfolio that are offsetting those headwinds. We're expecting flat sales of about $8.7 billion. It's driven by a positive growth [ph] and (02:40:02) low-single-digit growth in Transit, low-double-digit growth in our digital and electronics group, our international services and slight growth in our modernizations. This growth will be offset by a double-digit decline in locomotive deliveries. An increase in North America locomotive parkings, which impacts our services, and flat to slightly down freight car volumes.

We feel confident in the sales estimate given our backlog and our significant installed base. And again, this demonstrates the power of our globally diverse business portfolio. From the point of emphasis, roughly 60% of our portfolio is related to aftermarket components and services, thereby we're helping reduce the cyclicality of some of our end markets. And just as a reminder, we are looking at the risk in our markets due to the recent economic volatility and how it can impact 2020.

Moving on to our synergy opportunities. I want to point out that a big key strategic consideration of combining the two companies was that we had a $250 million synergy plan. As you know, during 2019, we worked very hard to first validate that plan, execute the plan and now we're working to accelerate the synergies. We are on track to achieve the $250 million run rate before 2022. And as we've talked about previously, we expect a fairly sizable step-up in net synergies in 2020 with $120 million of incremental synergies, achieving $150 million full run rate late next year.

The synergies are coming from savings and facility consolidation, from sourcing, from IT savings, our reduced SG&A costs by achieving shared service model. And finally, some of the synergies are from revenues. We've taken significant actions, including closing locations and operations, consolidating over 1 million square feet across our facility footprint, capturing, sourcing savings and discontinuing several shared service contracts with GE ahead of schedule.

So moving to the next slide and to talk about our margin expansion. The synergies lead into this and I've touched on this already and I've heard and we've heard from the other groups about the productivity actions that they're taking. We're confident in our framework to drive about 100 basis points of improvement in margins in 2020 on about flat sales. I want to just use this opportunity to describe how we'll get there. Our Freight segment margins will increase due to the positive mix effects from growth in digital, electronics, from cost synergies discussed earlier, the lean and productivity goals that were also reviewed in our part of our normal operating rhythm. Offset, we do have some negative headwinds from fixed cost absorption related to lower loco sales and some change in sales and margin mix. Our Transit segment margins will increase as part of the benefits from our previously mentioned restructuring, our incremental cost actions and better project execution across the whole segment. Just to state again, this will equate to about 100 basis points of margin expansion on comparable sales to the 2019 performance.

Next I want to talk about the tax benefit that is being driven by the combination with GE Transportation. This benefit, as a reminder, is driven by the step-up of the balance sheet and the related deductible cost benefits it creates. We continue to expect the cash tax benefit with a net present value of about $1.1 billion over the next 15 years. The benefit is not linear. It's not straight line. It will be impacted by the timing and the jurisdiction of our profitability. The first $470 million of gross cash tax benefits realized are to be paid to GE by Wabtec, which we anticipate will be over the next three to four years.

The net present value of this liability to GE is reflected on the balance sheet. It's on the balance sheet as a liability. The first payment, which we estimate will be between $150 million to $170 million, will be paid in the

second half of 2020 and this cash outflow will be a use of cash reflected in the financing section of the cash flow statement. This portion of the liability is reflected as a short-term liability on our balance sheet.

Now looking at cash generation. We expect another strong year for cash generation in 2020. It's driven by the realization of synergies and profitability of the company. As we've covered in the pro forma slide, we had some timing of cash payments and receipts along with transaction expenses that have impacted the cash flow in 2019 and will continue to impact us somewhat in 2020. The pro forma 2019 cash from operations was about $800 million, which we bridge to a GAAP comparable $900 million in 2020. This guidance of $900 million for 2020 considers the negative impacts of payments made in 2020 for restructuring, litigation and transaction costs that were accrued and expensed in 2019. Additionally, our guidance does not consider some working capital assumptions around down-payments and the seasonality for the second half of 2020. We expect some working capital use of cash in the second half of the year that ties with our sales profile, our seasonality and some of our project operations.

Now shifting to our capital allocation strategy, I just want to emphasize that we continue to apply the same historic discipline to our capital allocation opportunities and decisions. I want to emphasize that our goal as part of the combination is to pay down debt. We want to improve and maintain our credit ratings. Being investment-grade allows us to access capital when refinancing or when we need to access new capital to drive opportunistic growth and that means a target of 2 times to 2.5 times debt to EBITDA.

But in terms of really defining our capital allocation priories, we expect the following. First, we want to invest organically, we want to invest in the company, and this means funding R&D expenditures and CapEx investments that drive organic growth. That organic growth would be funding and delivering new products, new products with aftermarket and recurring and revenue streams, including our digital and electronics portfolio, but also to support our lean activities. Each will align with our internal processes. We expect short payback periods and higher returns.

As for acquisitions and M&A, we will continue to invest in areas like technology to grow our leadership position as well as focus on strategic bolt-on acquisitions that enhance our aftermarket business, add new products as well as open doors to new markets. And then we provide returns to our shareholders. We maintain our dividend policy and we also look at other opportunities like the recently announced share repurchase authorization.

I want to emphasize our earlier discussions about long-term financial goals. Over the past year, our team has focused on developing a long-term financial plan that is the blueprint for our company. Rolling out these expectations, you can see consistency and execution beginning in 2019. Our five-year view, we expect a mid-single-digit organic sales growth over the period that capitalizes on recurring revenue base and deep partnership with our key customers in what is really a long-term cycle industry.

With these strong fundamentals in place, we will deliver growth through the business cycle. We expect margin expansion of 300 basis points that's driven largely by our continuing lean and productivity goals as well as delivering and executing on the significant synergy opportunities that the two companies have together.

Finally, we expect to have strong cash generation, placing the company in a position of continued strength, to be able to execute – focus capital deployment strategy that grows shareholder value. Over the next five years, we focus on cash generation that would be in excess of 90% cash conversion in any individual year for the five-year period.

So, in conclusion, before I turn it back over to Rafael, I want to thank everybody for participating today. To close, we had a strong 2019. We recognize the challenging markets in 2020, but remain focused on the things that we can control. We can control cost, we can defend our margins and we can deliver the synergies. I've been with the company for its dramatic growth and I'm incredibly proud of our achievements. Each milestone of that journey paved the way, allowing us to leverage this combination between GE Transportation and Wabtec, really creating a compelling future for us and significant growth opportunities for everyone.

So, with that, I'll turn it back over to Rafael.

Rafael O. Santana

President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

Thank you, Pat. So as you heard throughout the morning, we are a leading global technology company and we have a strong portfolio that is uniquely positioned to outperform in the industry. In particular, we will drive above market growth by focusing on key growth opportunities like services, international, Digital Electronics and Transit where Wabtec is well-positioned to win. We have unique opportunities to grow profitably, faster by executing on our synergies and by driving continuous operation improvement. That includes rationalization of our footprint and improved cash management. Looking forward, we will continue to deliver strong cash generation and we're confident in the fundamentals of our business and our ability to execute in a dynamic environment. Finally, we have a strong team that's committed on building a better company and to outperform.

With that, I'd like to open up the session for any questions.

QUESTION AND ANSWER SECTION

Operator: [Operator Instructions] Our first question comes from Justin Long with Stephens.

Justin Long

Analyst, Stephens, Inc.

Q

Thanks. Good morning and appreciate the presentations and all the information that was provided this morning. I wanted to start with a question maybe for Pat on the guidance just to clarify the long-term targets. What are you using for the base year for those targets? Is that based off 2019 or 2020 when you're talking about kind of EPS growth and margin improvement? And then also wanted to ask if there's any M&A or buybacks that's factored into that long-term 10-percent-plus EPS growth?

Patrick David Dugan

Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

A

Yeah. So we're using 2019 as a jump-off point to pro forma 2019. We are not considering any M&A in these numbers and we haven't considered any significant buyback on shares. So, the EPS growth comes from margin expansion, leveraging up our operating costs, some assumption about reducing debt and related interest costs and it gets us to a 10% EPS growth through the five-year period.

Justin Long

Analyst, Stephens, Inc.

Q

Okay. That's helpful. And within the guidance as well, could you comment on the OE outlook? If we just see locomotive and railcar deliveries bounce along the bottom and remain around 2020 levels, maybe even a little bit

worse, are there enough levers you can pull in other areas of the business to still drive that 10%-plus EPS growth or do we need to see the OEM environment recover in order to hit that earnings target?

Patrick David Dugan A
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

I think we looked at those OE markets and we did not anticipate or build any kind of modeling in there that was like a dramatic or a huge recovery or over-recovery in those things. We did make some assumptions about getting back to kind of maybe some more historical levels of freight car builds and a very modest improvement in any kind of look at the loco business. But for the most part, we remain very conservative [indiscernible] (02:54:08) focused. To us, the levers are the Digital Electronics business, our service business, international opportunities and, again, the margins in Transit and the overall productivity margin improvements along with synergies.

Justin Long Q
Analyst, Stephens, Inc.

So would it be fair to say that on the OE side, your assumption is that we're somewhere around replacement in terms of locomotive and railcar builds?

Patrick David Dugan A
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

Yeah. Somewhat around – I think we're right around there.

Rafael O. Santana A
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

I'll be careful with our replacements. So when you talk about locomotives per se because that would suggest you would be back to some of the historical rates we have not incorporated any, I'll call, substantial changes to locomotive purchases in North America.

Justin Long Q
Analyst, Stephens, Inc.

Okay. That's helpful. Thanks, Rafael. And maybe a last one for you. Just given what we've seen in the markets here recently with coronavirus and just the macro volatility. As we look out over the next five years, I'm sure one of the things that you looked at was a stress test of the model assuming we go into a recession and I think that's a question that's on a lot of people's minds right now. So how do you think about the resiliency of the business in a recession scenario? Obviously, a lot has changed since the last recession based on M&A and different things that have happened with the business. So, would love to get your thoughts just on the positioning of the business and what a recession scenario could look like financially.

Rafael O. Santana A
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

Justin, we're number one as looking through the fundamentals of the industry and the company, I think we're really fortunate to have done this merger last year. That translates into a business that can certainly navigate much better any elements of the cycle. And you've got to think about the operations that we've got around the world, the level of scalability, we continue to have significant opportunities to really consolidate the footprint that will drive significant, I'll call, productivity and efficiency for the Transit product line. So it's a big part of the continuous improvement in Transit. You'll continue to see us being able to take share in the market by really moving those products to be manufactured and serviced closely. So, really excited about that.

I think the fundamentals on services, I mean, you saw Pascal's presentation. I mean, we look back at the last 10 years, more than 6% growth. We believe we can operate with that kind of growth. Especially excited when we look at investments we've done to continue to improve the installed base and make sure that customers are coming back to us despite of the cycle to be able to drive productivity and efficiency. So, especially as we look into all the volatility we've got in the very short-term, we're focused on the things that we control, and we're confident we have a lot of value that we can extract from this combination. We'll continue to act on the actions necessarily to adapt our business to whatever realities we face.

Justin Long Q
Analyst, Stephens, Inc.

Okay. Great. I'll pass it on. I appreciate the time.

Rafael O. Santana A
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

Thank you.

Operator: Our next question comes from Allison Poliniak with Wells Fargo.

Allison Poliniak-Cusic Q
Analyst, Wells Fargo Securities LLC

Yes. Good morning.

Rafael O. Santana A
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

Hi Allison.

Allison Poliniak-Cusic Q
Analyst, Wells Fargo Securities LLC

I just want to get a little bit more color on the service side. Understanding it's a less cyclical business for you, but you did mention some of it was under pressure. And I understand it's contract basis. But can you help us understand sort of the volatility we could expect kind of going back to just into the recessionary commentary?

Rafael O. Santana A
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

Sure. I think when we talk about the pressures and headwinds in services, I mean, make no mistake, we're sitting on an all-time high number on locomotives part. So that certainly presents some of the headwinds. I wouldn't say any of that is, I'll call, completely new. I mean, we've been seeing that building off throughout the last year. I think on the auto side, what you have is an opportunity to continue to expand on international fleets, which are growing. So our installed base is growing and there is significant opportunity there. In North America, despite of the dynamics I just described, there continues to be an opportunity to modernize the fleet. I talk of North America, but we've taken I think steps on taking the mods program internationally. The team is working hard and very excited about being able to do that. We did the first one – first program in Latin America. That's something the team is going to be executing here in the next couple years, but there's opportunities in the MENAT region, as you heard from Gokhan. So, dynamic mixed environments, but I'd say continued opportunity to grow. Pascal, do you want to comment?

Pascal Schweitzer
Group President, Freight Services, Westinghouse Air Brake Technologies Corp.

A

No. I think you're little bit right, Rafael. It's true that the level of [ph] parking (02:59:19) is a challenge for us, but at the same time, we have these great toolbox that is allowing us to help our customers get the most out of their fleet. And in a competitive environment where there is a lot of pressure on every metric, I think the right thing is to keep investing in the fleet, so we see what we're working on.

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

I think, Allison, if you go back to that chart where we show the fleets, the age the fleets, I mean, the fundamentals are very strong in terms of fleets coming out of warranty. Fleets are running hard and also the elements of fleets that are really at a point where with the fuel advantage we'll be able to be really updating those fleets to fuel saving levels that are comparable, newest generation of technologies we've got out there. So I think strong fundamentals from that perspective.

Allison Poliniak-Cusic
Analyst, Wells Fargo Securities LLC

Q

Great. And then just going on to the Digital Electronics growing double-digits. This industry historically have been slow to sort of accept the emergence of technology in their business. Can you talk about how that's evolved new entrants coming to the market? I have to imagine since it's growing, it's attractive to just some folks, and obviously the Wabtec-GE portfolio is well-positioned. But how do you see this market evolving in terms of new technology, the ability to, I guess, approve it by the FRA in a timely manner just given [indiscernible] (03:00:39) approach? Any color there?

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

So, also, I think you're right on your comments in terms of the speed of adoption. I think on the auto side, I mean, just to give you some perspective, we closed last year with what I'll call double-digits growth in our orders case for Digital Electronics. So that shows you really the opportunity that we have ahead of us. The second element for me is really being very closely aligned with our customers. We're really holding, I'll call, regularly discussions on what does it mean, automation, what does it mean gaining efficiency and making sure that we're putting our money behind some of these initiatives and tools that will help them do that. So, it's a continuous exercise. But by doing so, I think we can accelerate some of the elements of adoption. And as we prove ourselves with various customers, of course, we can accelerate that especially as we go into international markets and touch other parts of the portfolio.

Peter, you want to comment on it?

Peter Thomas
Chief Commercial Officer-Digital Solutions, GE Transportation, Westinghouse Air Brake Technologies Corp.

A

Yeah. I was just going to emphasize all the things, of course, Rafael said, but as importantly is our ability to leverage this new Wabtec footprint as we think about going internationally. We've got a lot of capabilities that individually create value for the customers, but when combined, it creates even more value. So, as we start thinking about combining solutions, we historically have had on the GE side with things like PTC and others on the Wabtec side, it creates these combinations that really enable that next generation of solutions, but next generation of productivity and value for their customers. So, those are the things we're going to emphasize and, again, continue to innovate and bring new products and capabilities to market.

Allison Poliniak-Cusic
Analyst, Wells Fargo Securities LLC

Q

Great. Thank you.

Operator: Our next question comes from Steve Barger with KeyBanc Capital Markets.

Robert Stephen Barger
Analyst, KeyBanc Capital Markets, Inc.

Q

Hi. Good morning, everybody.

Patrick David Dugan
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

A

Hi, Steve.

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

Hi, Steve.

Robert Stephen Barger
Analyst, KeyBanc Capital Markets, Inc.

Q

So, just to start, you put the $500 million buyback authorization out there on the last earnings call in front of what's really been dramatic volatility. Just wondering if you've already been active on the buyback.

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

So, I'll just be very straightforward, yes, and we will use a disciplined approach as we look into that and that's the reason we ask for the reauthorization, we'll be doing that along the year.

Robert Stephen Barger
Analyst, KeyBanc Capital Markets, Inc.

Q

That's great. Thanks. Thinking about the 300 basis points of operating margin expansion by 2024, the $250 million in synergies gets you a pretty good chunk of the way there. So, can you just talk about what you think the base business will generate in terms of incremental contribution margin on mid-single-digit growth as you look through that target period?

Patrick David Dugan
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

A

Well, yeah. I mean, we gave you some growth by segments and I think that the contribution margins would be kind of typical historical with what the segments produce. I think that when you look at the 300 basis points as we are modeling and we're looking about, two-thirds of that comes from the synergies, the remainder is our lean activities that fall through contribution margins. We're obviously modeling in a little bit of a view on the normal inflation and other cost pressures that occur over a five-year period. But all-in that's our net improvement expectation for margin in the five-year period.

Robert Stephen Barger
Analyst, KeyBanc Capital Markets, Inc.

Q

Got it.

[indiscernible] (03:04:34)

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

...is just an element of potentially negative mix as you look into growth in the OE and Transit business, so when you look at relative margins.

Robert Stephen Barger
Analyst, KeyBanc Capital Markets, Inc.

Q

Understood. Back to the Freight Services segment or the presentation, what is the monetization cadence of the $12 billion backlog or how many years of visibility is that?

Patrick David Dugan
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

A

It's a multi-year backlog. I mean, it depends on the individual contracts. I don't think we've kind of allocated the $12 billion by year, but you have some maintenance projects that can be quite a long time.

Robert Stephen Barger
Analyst, KeyBanc Capital Markets, Inc.

Q

Okay. And for the modernizations for that 10,000 locomotive market potential, do you expect to get all that or what is your historical conversion rate from the population of eligible mods in any given year.

Pascal Schweitzer
Group President, Freight Services, Westinghouse Air Brake Technologies Corp.

A

All right,. So, no, we are not expecting to get 100% of this market potential because ultimately it depends on the fleet strategies from our customers and their capital allocation decisions. Now what I would say is that we have delivered hundreds of these modernized locomotives over the last three years and we estimate dramatic acceleration of this business. So I think we have a strong value proposition to put in front of our customers, but then again depends about their growth and their overall fleet strategy.

Robert Stephen Barger
Analyst, KeyBanc Capital Markets, Inc.

Q

Fair to say that just as you look at the target timeframe that you expect Freight Services growth to exceed the mid-single-digit organic growth rate for the entire company by a decent amount?

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

Steve, we certainly expect to be ahead of the mid-single-digits. Historically we have been at 6% and we're certainly investing in order to make sure we continue to drive that growth.

Robert Stephen Barger
Analyst, KeyBanc Capital Markets, Inc.

Q

I would just ask one more and then jump back in line. On slide 29, which is the additive slide, how realistic is it moving from 12 production parts to 25,000 in four or five years? It just sounds like that could be a nice tailwind. But can that be done from an engineering and qualification standpoint?

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

Yes. Definitely. When you look at one of the big enabler for that is the fact that you combine multiple parts into one. So, by example, if you take two parts of [indiscernible] (03:07:03) that we can print into one, you accelerate quite significantly. So, we are as we've seen in 2019, our first year of deployment a rapid acceleration of what we can do and now we are adding our capability in terms of a different material. So far, we have been dealing especially with steel and stainless steel and now we're looking to add aluminum which will increase the size of potential opportunity to move faster.

Robert Stephen Barger
Analyst, KeyBanc Capital Markets, Inc.

Q

Any clue on how to frame up what that means from cost savings and working capital improvement if you hit that target by 2025?

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

I'll let you draw your own conclusions. I give you the results for the year and I think there is a great potential obviously, but I will not comment at this time of what [indiscernible] (03:07:50).

Patrick David Dugan
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

A

Yeah. Steve, we've kind of baked that into the overall margin expansion and the cash flow generation profile.

Robert Stephen Barger
Analyst, KeyBanc Capital Markets, Inc.

Q

Got it. Thanks.

Patrick David Dugan
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

A

Yep.

Operator: Our next question comes from Chris Wetherbee with Citi.

Chris Wetherbee
Analyst, Citigroup Global Markets, Inc.

Q

Hey. Thanks. Good morning. I wanted to ask about the revenue...

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

Good morning.

Chris Wetherbee
Analyst, Citigroup Global Markets, Inc.

Q

Good morning. I wanted to ask about the revenue trajectory and the guidance. So, obviously, starting in 2020, on a flat basis and then kind of moving up from there. But can you give us a sense that maybe where in the five-year cadence you begin to see revenue growth again and then maybe how we think about it whether it is sort of more back end loaded versus maybe picking up kind of gradually in 2021 or recovering more linearly?

Patrick David Dugan
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

A

Yeah. Typically, we're not – we don't want to comment too much on the years beyond the current year, right. So, like 2020 guidance or not wouldn't be something that we would typically do. But use that kind of revenue guidance for the five-year period I think is the right way to approach it as kind of overall.

Chris Wetherbee
Analyst, Citigroup Global Markets, Inc.

Q

Okay. And maybe sort of maybe a different way to ask the question about cycles and understanding sort of how these kind of tend to play out, at least on the freight side if we could. How many years do you often see the downturn kind of lasting or maybe what is the lag between sort of freight volume recovery, particularly on the North American side or maybe how we see your freight revenues recover?

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

I'll be careful in terms of really predicting exactly what cycles will look like. I think we've had some of the shifts on timing of cycles. So I think the way we approach it is a lot more – we got to be lighter in terms of our asset model. We got to make sure that we got manufacturing footprint that allows us for that flexibility, allowing productivity and ultimately allowing us to be more competitive. I think cycles will be determined by a variety of factors and they're really beyond our control. As I look at any crystal ball analysis model that I've seen, you – where we're most of the time wrong.

Chris Wetherbee
Analyst, Citigroup Global Markets, Inc.

Q

Fair enough. Again, appreciate that. I guess the next question is on synergies. And on slide 77, you kind of lay out the walk there and the items included in the opportunities included. When you think about the before 2022 for the $250 million, should we be assuming that that means that you will reach the $250 million run rate during the year 2021? Is it a full year 2021 kind of number, I just wanted to get some clarity on that specific comment.

Patrick David Dugan
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

A

No, it's – the way I look at it is, we'll hit the run rate by the end of 2021 before 2022. It doesn't mean that the full $250 million will be realized in 2021. We still have activities and TSA agreements that we are exiting and transitioning from. And so, all those activities continue on this year and next.

Chris Wetherbee
Analyst, Citigroup Global Markets, Inc.

Q

Okay. And you talked a lot about acceleration when you're referring to that slide deck, so maybe if you could talk a bit about sort of where you think within the opportunity set the best chances, we have to see acceleration occur? And then, maybe the areas which are potentially a little bit more at risk, I don't know if that's on the revenue side, could be a little bit shakier depending on sort of how the economy plays out over the course of 2020 given the current uncertainties, but if you kind of go through and maybe set aside a little bit some of those potential opportunities and maybe where there aren't as many?

Patrick David Dugan A
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

Right. I mean, this is just kind of off the top of my head. I think that the consolidation of manufacturing facilities and combining businesses, that remains probably our best opportunity and one that we can execute on kind of as a nearer priority. Sourcing also remains something that we focus on and to offset any inflation. So, we're now buying as one company and we're learning more and more about each other's supply chains and how we can leverage it. The SG&A side is, it's going to take – continue to take some investment where we exit the TSAs and stand up our own operations and then leverage that across the global company not just perhaps the transportation side.

And then, revenue synergies, interestingly we never really, that wasn't a big slice of the pie in our total $250 million, it was more longer term and it was a more modest estimate, but I think that we still have opportunities there and more when you look at some content that we can incorporate and then regions we can leverage. So, that's kind of how I would prioritize that in terms of opportunity.

Chris Wetherbee Q
Analyst, Citigroup Global Markets, Inc.

Okay. That's helpful. And I mean, one last sort of big picture question, Rafael, maybe if I could. When you think about sort of the market split, 60% aftermarket is kind of where we stand today if you look out kind of five years' time over the guidance period. Is that number appreciably more? How do we think about sort of the business mix and would that be a goal to get that number higher than where it stands today?

Rafael O. Santana A
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

So, I'll say, the goal is certainly to get that number higher. How much higher it could get, I think [ph] coming in we'll (03:13:28) certainly and I think would be open about in terms of the areas that we'll invest even inorganically. I mean, we'll certainly touch some of the elements of services and when we think of Digital Electronics especially where it allows us to have I'll call continued revenues from providing those services. So, the direction is yes, it's to continue to grow that, so we continue a path to reduce the impact of cyclicality.

Chris Wetherbee Q
Analyst, Citigroup Global Markets, Inc.

Got it. Thanks very much for the time and the presentation this morning. I appreciate it.

Rafael O. Santana A
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

Thank you.

A

Thank you.

Operator: Our next question comes from Matt Elkott with Cowen.

Matt Elkott
Analyst, Cowen & Co. LLC

Q

Good morning. Thank you. Just a quick-follow up first on the cycles question. I know that your five-year EPS growth guidance does not include or it does not include or it does not bake in acquisitions or share repurchases, but you do have an authorization in place. And in the past, you have done about three or four acquisitions even per year before GE. So, should we think about these two levers or at least the M&A lever as one that you are more likely to exercise in a down cycle and a potential valuation opportunities to add external growth in absence of organic growth?

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

So certain, you look at M&A as a key IFRS to continue to grow the company, especially if we're faced with, I'll call, more attractive opportunity. And we'll certainly be looking at that. Pat?

Patrick David Dugan
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

A

Yeah. I mean, I would just add that clearly, the history of Wabtec for the – that I've been here is complimentary to the growth strategy was acquisitions. I think that you would expect that we're going to continue to evaluate and look at strategic opportunities. We talked about that in the capital allocation strategy. For share buyback, I mean, again, we have the authorization. We're going to use that on an opportunistic basis where we think that we're going to get a kind of a return that would be consistent with our strategic plan, to reduce the outstanding shares and drive earnings growth.

Matt Elkott
Analyst, Cowen & Co. LLC

Q

Got it. So, just to make sure I understand this, the way you guys see it, M&A and share repurchases, could our potential upside to that 10% growth – average growth average growth rate you're expecting over the next five years?

Patrick David Dugan
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

A

Yeah. Definitely. That's the way we look at it. So, where we wanted to do in this financial plan is describe organic plan one that will drive value, but of course, the opportunity for M&A would be upside for us.

Matt Elkott
Analyst, Cowen & Co. LLC

Q

Got it. And then, guys, I want to switch back to the freight car information you gave. I think you said 10% of Wabtec's contents or 10% of the content of a railcar is Wabtec's. So, firstly, tell us what that translates to in terms of dollars, $4,000, $5,000 per railcar. And I know you have – you said there is an opportunity to double that over

the next five years. Can you talk more about how that – what those opportunities are and if those opportunities require some bolt-on acquisitions?

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

So, just to give you a perspective, I mean, in average if I was to look at it, I mean, we will sell about $5,000 per car. But I mean, if we sell the full content of a car, that could go up to closely to $18,000. So, I think that's ultimately a function of not just how we partner with some of the car builders, but also there is an element of really making sure that we're building what I'll call access into the various opportunities that are out there. That's why I mentioned to you earlier on the Saudi Rail opportunity. I think we've got a lot more access with the combined companies and it's a piece of really winning share ultimately out there. So, no, it would not necessarily mean acquisitions, but certainly through acquisitions we could further expand that.

Matt Elkott
Analyst, Cowen & Co. LLC

Q

Perfect. And then, one much longer-term question. Tier 5 locomotives, so Tier 4, I think there is consensus that it has really not been – not yielded the, I guess, fuel efficiency benefits that maybe people have hoped for. If we have a change in administration and there is an increased focus on energy saving policies and then we see a Tier 5 legislation introduced, can you kind of walk us through what that would mean for you guys?

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

Okay. Well, a couple of comments. First, I mean, as you look at the investments on Tier 4, there were substantial investments done by the industry overall. I mean, if you look at the numbers of that installed fleet today, I'd say they're fairly well, if you were to consider it in terms of the installed base. I think the right question is the one you asked towards the end which is how do you continue to drive energy efficiency through that process and I don't think it needs to be solely a function of, I'd call, the next generation of engines. I think there is some exciting technologies out there. Dominique highlighted the electric consist model, which allows you to really gain fuel savings that can go up to 30%. And in some cases, we've been doing the modeling with various customers. It's very substantial the benefits you can get and that maybe what I'd offer.

Matt Elkott
Analyst, Cowen & Co. LLC

Q

Okay. And just one last question on the Transit side, I know we're in the midst of the virus crisis here and I know that even if transit ridership decreases significantly, transit system will continue to run pretty much as planned. So, it really should not affect your business. But in a grim however unlikely worst case scenario where transit systems start to actually halt operations altogether, can you give us an idea on how that would impact your aftermarket business in Transit?

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

Okay. Let me start with – I think we see Transit as a significant opportunity. I think [ph] there is (03:20:48) many aspects of the business that we have underperformed and I'd like to [ph] think that's (03:20:53) working through the elements of cost, so we have an opportunity to grow there. With regards to, I'll call, the specific short-term on, I'll call, impact, I mean, it's very forward and kind of, well, unpredictable at this point to comment on some of these elements. I think we have a significant installed base similar in many ways that allows us to continue to provide not just elements of services, but upgrades. But, Lilian, you want to more specifically comment on it?

Lilian Mathieu Leroux
Group President, Transit, Westinghouse Air Brake Technologies Corp. A

Yeah. Yeah, I agree fully, Rafael. I think it's difficult to comment on the specific what's happening really right now and already we know is, but what we know is history and when you look back on the previous recession, that was a question, actually the transit numbers were not at all affected and I'm talking about the transit industry here during the previous recession. What is happening during recession is that you've got public funding which is accelerating because number of governments will want to create a stimulus to recover for the industry and because we are an extremely sustainable green industry, we will get a very high benefit of that kind of investment. So, if anything when you look back at the previous recession, transit was not affected to the contrary, the number of fundings and global orders did increase.

Matt Elkott
Analyst, Cowen & Co. LLC Q

Great. Thank you very much, Lilian and Rafael. I'd appreciate it.

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp. A

Thank you.

Lilian Mathieu Leroux
Group President, Transit, Westinghouse Air Brake Technologies Corp. A

Thank you.

Operator: Our next question comes from Scott Group with Wolfe Research.

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp. A

Scott?

Scott H. Group
Analyst, Wolfe Research LLC Q

Hey. Thanks. Morning, guys.

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp. A

Hey, Scott. Good morning.

Scott H. Group
Analyst, Wolfe Research LLC Q

So, I want to start on the automation side. So, this $6 billion opportunity for the rails, what do you think they need to spend to get to that opportunity? I guess, I'm trying to figure out what's the opportunity for Wabtec and should we think about this as sort of a gradual ramp in this opportunity for you or is it more of a step function based on rails going on one-man crews. How do we think about size and timing here?

Peter Thomas
Chief Commercial Officer-Digital Solutions, GE Transportation, Westinghouse Air Brake Technologies Corp.

A

So, I think, as we talked about, we're taking a very incremental approach and focusing on these building blocks. So, while a step function would be nice, that's not what we're anticipating. We're seeing more of kind of a flow in terms of additional upgrades, incremental functionality and capability added on to existing systems and technologies. So, I guess, to answer your question, we're looking at more of a gradual build over time in line with our customers' investment priorities versus a drastic step function.

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

What happens, Scott, is, I mean, just take, let's say, I mean, customers go test it, prove it and then you'll have the step function change as they adopt out for their entire fleet or for a large portion of their fleet and, of course, some customers have a significant, a sizeable fleet and you might see a step function change of that – as a function of that.

Peter Thomas
Chief Commercial Officer-Digital Solutions, GE Transportation, Westinghouse Air Brake Technologies Corp.

A

Perfect.

Scott H. Group
Analyst, Wolfe Research LLC

Q

Okay. You talked about India going from $450 million a year to $1 billion a year. You led with Russia. Can you maybe put some similar numbers around the opportunity in Russia and then given the drop in oil, do you view Russia more as a near-term risk or still opportunity?

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

I think the comments I'll make in not just the Russia, CIS market overall. I think this is a market that we continue to be, I'll call, in a large extent under-penetrated. So, the opportunity there to add to reliability on the system is significant and I think that's something that we continue to have an opportunity to capitalize on. I mean, the elements of, I'll call, volatility associated with oil, could that have an impact, certainly. I think, again, I'll probably comment back on the fact that we've been under penetrated and we continue to have significant opportunity to grow through various countries, I think, we've given you a sense of that especially more recently with some of the winds in Ukraine and some other countries in the region.

In India, I think what we have there is a significant footprint and we have significant opportunity to really with further capabilities around engineering and the competiveness of the footprint is to make sure we're bringing more products into country and growing share in that regard. As we do that, we're not just winning on competiveness for India, but we're winning in terms of competitiveness for the global world. And I think that's certainly one of the areas that could add to the turnaround in Transit, and one that we'll certainly be very focused on.

Scott H. Group
Analyst, Wolfe Research LLC

Q

But just and any numbers on the Russia market, I mean, very helpful. India going from $450 million to $1 billion, but Russia-CIS broadly like, how big is that market today, where do you think it can go?

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

So, they're both around $450 million today in terms of revenues, of course, those might vary depending on, I'll call, projects and specific project-driven metrics. But in average, I'd probably qualify that the revenue around that and so we have an opportunity to grow double digits per year for the next five years.

Scott H. Group
Analyst, Wolfe Research LLC

Q

Okay. And then last question, so you gave us the content opportunity in railcar, can you give us a similar opportunity in loco and what's the content percentage today, where can it go? And then separately on the loco side within the guidance what you're assuming if anything on OE market share – I mean, where you are and what you're assuming happens to the market share on OE?

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

Okay. So let me start with for the content on locomotives. I'd say, if you look in average that content will probably be at around $80,000. If you look at historical rates, if you were to sell, I call the full content in the full suite, you could be getting to numbers that are probably in access of $180 million. So we certainly have that opportunity. We're working with various customers out there to increase that content, so that would be like the entitlements, and of course, that goes with some significant work on changing some of the systems and making sure that we add service capabilities in the various regions where we operate.

On locomotives, I'd say we continue to have opportunities with locomotives. We have a very competitive I think the product portfolio. I'd say when I look at the strength of that portfolio and the ability to serve customers with the latest and more reliable technologies. I think we're well-positioned to that. So I think there's an opportunity to grow share in that context not to forget specifically some markets that we have not necessarily had products in some cases to compete like the lightweight locomotive market, and it's certainly one that I think presents opportunities for us to further look into it. So I think we announced a little bit more than a year back an opportunity to be moving to the shunter market and that's certainly an area that it could mean growth for us as well.

Scott H. Group
Analyst, Wolfe Research LLC

Q

Rafael, just so I understand it, now at Wab and GE are vertically integrated, why isn't that loco content opportunity, call it, like low hanging fruit. Shouldn't it be easy to take that ETF closer to that $180 million now that you guys are together.

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

I'd say we are moving in that direction. I think some of the questions come down to fleets -- ages of fleets and ultimately the ability to change some of these on existing fleets, which will come down to fleets reaching the modernization stage we're certainly acting on it and whenever you talk about any elements of new locomotives as well. So those are maybe the two points in time that it can really I'll call act up on to change some of the dynamics and we're doing so.

Scott H. Group
Analyst, Wolfe Research LLC

Q

Thanks a lot for the time guys. I appreciate it.

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

Thanks, Scott.

Operator: Our next question comes from Ken Hoexter with Bank of America.

Ken Hoexter
Analyst, BofA Securities, Inc.

Q

Hey, good morning.

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

Hey, Ken.

Ken Hoexter
Analyst, BofA Securities, Inc.

Q

Maybe just a follow-up on Scott's question there on the move to automation and just taking a little further first before I get some others, but what needs to happen post the PTC investments to – if the rails do negotiate one main cruise. Is that something the locomotives can fully handle? And then I guess when you talk about stair step functions or the gradual improvement, what then needs to happen to go to fully autonomous. I guess I'm just asking where does the technology stand today given the PTC investments that have been made and what needs to happen on the loco side to get to that next phase?

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

I'll start and maybe I'll pass to Peter, I think one of the things that it's important to highlight is that path to either single man crew or automation might vary a little bit customer by customer. Some of them might point out to, I'm already there and I could be going to a single man crew. Some might point out to some specific systems that need to be, I'll call implemented. So just keep that in mind as we talk about going into single man crew. Peter?

Peter Thomas
Chief Commercial Officer-Digital Solutions, GE Transportation, Westinghouse Air Brake Technologies Corp.

A

Yeah, I think, what we're really working on and Bob talked a little bit about it our capabilities like Zero-to-Zero, like pacing, like working with customers around the ability to deliver mandatory directives electronically and these are all things that while they support automation, they really think [indiscernible] (03:31:28) modular or incremental capabilities that also help to decrease the amount of cost in the infrastructure that a railroad has to put in or have to support in order to support that single person crew.

So as Rafael said, it's going to depend, customer by customer, in some cases as they think through their automation strategy and what those specific priorities are, but the way we've kind of taken our approach, this is really in that more modular incremental fashion, so that we can adapt and support those somewhat individual strategies.

Ken Hoexter
Analyst, BofA Securities, Inc.

Q

Great. And then maybe jumping over to Pascal for a question, you talked about the battery potential on the locomotive. What is the time for commercial use and can freight railroads handle battery at this stage in their cycle, is that something that the weight and the torque needed to pull, can make that transition or their applications that some of the rails maybe adapt and maybe loco operations, can you maybe just talk about the opportunities out there.

Pascal Schweitzer
Group President, Freight Services, Westinghouse Air Brake Technologies Corp.

A

Yeah. Sure. First of all, as I explained during the presentation the prototype is currently on the deck, so in terms of timeline, it's we need to complete the prototype, validate the number, and after that commercialization we will follow probably in the range of three to five years, and the reason is that you have the battery, that's a technology that is still evolving in terms of cost decrease and was well as energy density improving year-over-year driven by industry like automotive and renewable, so and also you have willingness of government to provide incentive as well that will be also in the mix in terms of the – of having the full commercialization in place.

Now in terms of the capability, we currently are able to operate a complete freight concept of 5,000 tons of freight being pulled by an electric battery powered locomotive at the moment. So, and we can do it for the autonomy of about 45 miles in a 6,000 version. So, and this capability will increase over time but this technology is to be used in combination with a diesel electro locomotive to carry on the long distance the freight, so it's kind of an hybrid concept.

Ken Hoexter
Analyst, BofA Securities, Inc.

Q

That's really helpful. Thank you for that. Yeah. And Pat just a quick one for you, does the tax benefit from the GE, obviously, I want to understand, does it not start for four years until GE has been paid the total $440 million or are there benefits to WAB along the way or is it after the four years then for the next 11 Wabtec starts to benefit?

Patrick David Dugan
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

A

Yeah. It's – well, yeah, it's -- whatever benefit we're realizing, gets paid to GE until we hit the $470 million, which right now, we're thinking it's about $150 million a year and so that will get us basically paid up by, within the four years, and then we would enjoy all the benefits afterwards of the cash. Yeah.

Ken Hoexter
Analyst, BofA Securities, Inc.

Q

Okay. And then last one for Rafael from me, is just -- in this market, where you've talked about kind of things getting in a little tougher environment, how do you think about pricing right now as competitors look to gain a little share or increase their percentage, what's -- maybe just talk a little bit about the pricing environment?

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

I probably -- I think there's an element of value that we deliver, and where we have that value, I mean, we certainly make sure that we deliver on that value with customers where we lack differentiation, we might be more subject to that. But, that's why we have a very robust stack, in terms, we'll continue to differentiate our products.

So, we're not – or we're less subject to that, and that really means, I mean being what I'd call number one or two in many markets that we serve, and that's certainly one area we'll keep looking at it.

Ken Hoexter Q
Analyst, BofA Securities, Inc.

Hey, guys, appreciate the time and thoughts today. Thank you.

Rafael O. Santana A
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

Thank you.

Operator: Our next question comes from Saree Boroditsky with Jefferies.

Saree Boroditsky Q
Analyst, Jefferies LLC

Thanks for taking my call. So, within your five year plan, it seems like the outlook for Transit growth is lower than 7% that you previously talked about. How much of that is related to product selection or is there anything going on in the market that may [ph] adjust that (03:36:18) downward?

Patrick David Dugan A
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

Yeah. So, I think it's a little bit of just us resetting the growth goals for the group and the reality of how much you can grow year-over-year. We've – I think some of the prior growth goals had a little bit of a larger portfolio projects and some assumptions about market share capture. Now, it's a little more selective and little more aligned with kind of what the industry really can grow on. So, that said, it's a little bit of both.

Saree Boroditsky Q
Analyst, Jefferies LLC

Got it. And then just thinking about the recent market dynamics, can you talk about what's embedded in your 2020 outlook from industrial sales perspective and any color on how you expect that to change given lower oil prices?

Patrick David Dugan A
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

Well, we – there's a slide in the deck that talks about the market growths, but it's kind of hard to estimate right now what the – what oil means to that industrial market. We kind of let off the day talking about that uncertainty and our concern and how closely we're monitoring it. But we do have – in that industrial sales segment, we do have businesses and products that are affected by the price of oil.

Saree Boroditsky Q
Analyst, Jefferies LLC

Got it. And then just lastly, following up on the battery electric engine offering, you talked about fuel savings potential, [indiscernible] (03:37:56) could you provide any color on what the return on investment will be to your customers, and then just maybe any conversations you're having with them on the interest level for this technology?

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

So, I mean, we will not comment on the specific return on investments for the customer here on this. And as part of your question, it may just really varies based on application by application, but we strongly see a significant opportunity there. I think one thing to just be reminded as we engage ourselves in terms of any investments, we do have a rigorous process on making sure that we're getting the return on investments, [ph] we rank and stack that (03:38:36), not just in terms of the R&D, but any things that we're doing internally in terms of capital allocation, we'll go into that model. Dominique, you want to comment on?

Dominique Malenfant
Global Technology Officer, Westinghouse Air Brake Technologies Corp.

A

Yeah. Maybe the second part of your question about interest, I think there is clearly interest not only in North America, we also have customer from international that has been also reach out to us because they are quite interested in the technology as well.

Saree Boroditsky
Analyst, Jefferies LLC

Q

Great. Thanks for taking my questions today.

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

Thank you.

Dominique Malenfant
Global Technology Officer, Westinghouse Air Brake Technologies Corp.

A

Thank you.

Operator: Our next question comes from Gary Yablon with Impala Asset Management.

Gary Howard Yablon
Analyst, Impala Asset Management LLC

Q

Thanks. Hi, guys.

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

A

Hi.

Gary Howard Yablon
Analyst, Impala Asset Management LLC

Q

I wanted to go back and talk about synergies a little bit. There were some questions earlier about the synergies as it relates to the 300-basis-point margin improvement over the five-year period. I guess, what I'm confused about is, when we think about the synergy tailwind to that, Transit from the low margins you're at now improving over not just 2020, I'm guessing, but through the life of the planning period, and simply pretty strong sales growth you'd get some leverage from that as well. I'm kind of surprised that the number is 300 basis points. I would have – you get

a large part of the way there just from synergies and the Transit margins are quite low. Could you just help me understand a little bit more why that figure isn't a fair bit higher than what you outlined?

Patrick David Dugan A
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

Yeah. Well, Gary, what we – I think we talked about is to start 300 basis points, I mean, it could be greater than 300 basis points. That's the long-term financial goal. About two-thirds of it comes from synergies. The rest is coming from kind of a very typical way we've described it in the past for Wabtec is, we have continuous improvement quarter – year-over-year, margin expansion comes from sales growth, right, the contribution margin on the additional sales, sourcing savings, lean productivity savings. You do have a little bit of impact related to inflationary pressures every year, but that gives us a growth in the overall margin that gets us at the 300 basis points or perhaps even a little bit better.

Gary Howard Yablon Q
Analyst, Impala Asset Management LLC

Right. I know I heard that. It just seems quite confusing to me because all these things sound like pretty good things and your Transit margin is, I don't know, 300 basis points, 400 basis points lower than it should be over the life of the plan. Is that – you might not want to comment on that...

Patrick David Dugan A
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

Yeah, yeah.

Gary Howard Yablon Q
Analyst, Impala Asset Management LLC

...but when you add it all up, it doesn't get there.

Patrick David Dugan A
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

Yeah, you're getting back to – when you talk about Transit, I mean, the original – you're kind of going back to the base case for the combination with Faiveley. And we're definitely looking at that Transit margin as the opportunity to expand, to continue to improve the execution, get rid of some of the problems we've had in specific projects, but also, again get back to all the good things that could happen with the whole group in driving out layers of cost and better productivity.

Rafael O. Santana A
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

Gary, I will sum it up. Just, we are committed to margin expansion and we'll be executing to be better than 300 basis points.

Gary Howard Yablon Q
Analyst, Impala Asset Management LLC

Okay. Can you also talk to – you talked about mix maybe being a headwind. What's a good mix, what's a bad mix, just so we kind of have our hands around that?

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp. A

I think if you think about the elements of the business that have a lower margin than our average margin, if they happen to be growing faster, you'll have a headwind on mix. So that's why I had originally mentioned the elements of the OE business, and specifically the Transit.

Gary Howard Yablon
Analyst, Impala Asset Management LLC Q

Oh, okay. All right. Thanks a lot.

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp. A

Thank you.

Operator: Our next question comes from Britney Yakavonis (sic) [Courtney Yakavonis] (03:42:53) with Morgan Stanley.

Courtney Yakavonis
Analyst, Morgan Stanley & Co. LLC Q

Hi. Thanks for the question. Just back on the 300 bps, again, I think you guys framed out the synergies versus the core business, but can you just frame for us how much of that 300 bps is coming from Transit versus Freight?

Patrick David Dugan
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp. A

Yeah. I think we have the margin – well, it would be similar to like the margin profile we talked about in the 2020 guidance. I think you have – you see the – and we're – we typically aren't going to give segment margins in the – in out years beyond 2020. But I think you can kind of extrapolate the majority of the synergies are coming through in the Freight area and then the lean productivity areas and other cost actions in the Transit area reflect there.

Courtney Yakavonis
Analyst, Morgan Stanley & Co. LLC Q

Okay. Got you. Thanks. And I know it's been asked a couple of times, but just with the recent change in the oil markets, do you have a good sense of how much of the existing fleet does have exposure to oil or energy markets? And acknowledging that it's pretty fluid, but just if you can help us size what the exposure could potentially be?

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp. A

So the exposure of our customers to petroleum products is that what you're asking in terms of what they transport?

Courtney Yakavonis
Analyst, Morgan Stanley & Co. LLC Q

Yes.

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp. A

So I think that exposure, as you look at least in terms of North America, it's probably below 5% when you look at the revenues associated with that.

Courtney Yakavonis
Analyst, Morgan Stanley & Co. LLC Q

Okay. Got you. But any of the other global areas you're mentioning, Russia, this region?

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp. A

You would be – that's – we will need to get back to you on any elements of I'll call specifics, those change quite a bit from market to markets. So I'd stay away from giving you a number there.

Courtney Yakavonis
Analyst, Morgan Stanley & Co. LLC Q

Okay. Got you. And then, also just on the flex drive that you had mentioned – you mentioned it is going to be – your target for commercialization would be within three to five years. Is any of that baked into the mid-single digit organic growth that you're expecting, or if that comes to fruition, it will be kind of upside? And then, can you just talk about the service opportunities for that equipment?

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp. A

So, number one, it's not included, I'll just be straightforward there. I think one of the things that we're especially excited about is when you look at the applications, Dominique mentioned some of the work being done with international customers is just really an element of our hybridization of the system. So, start thinking about the future of electric. I think there's a lot of elements here that you could be doing just in a more I'll call cost-effective way, without necessarily having to invest on the amount of infrastructure that is needed. So, I think this can be open up significant opportunities for us.

Courtney Yakavonis
Analyst, Morgan Stanley & Co. LLC Q

Okay. Great. Thank you.

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp. A

Thank you.

Operator: Our next question comes from Bascome Majors with Susquehanna.

Bascome Majors
Analyst, Susquehanna Financial Group LLLP Q

Yeah. Thanks for taking my question. You've given us a lot of color on your opportunities you see in your product sets and across geographies in this newly combined business. Rafael, can you give us a high level look at the

board's compensation philosophy and what you guys are putting in place to drive management to achieve the outcomes you expect of yourself and you promised to your shareholders today?

Rafael O. Santana A
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

Sure. I'll start with – I mean, as you look at how we compensate our teams, I think you'll see in one of our slides, very much aligned to, well, the outcomes of the business. A piece of it is what I'll call more shorter term which is tied to specifically cash and EPS. But there is significant part tied to what I'll call longer-term value creation. I guess, you could refer back to something similar to EVA, and that's a significant part of the compensation. So, that's I'd say more than philosophy, it's how we measure our teams against that, so we have a very I think disciplined approach in terms of making sure that as we start the, year you roll those goals down through the organization, we're ultimately holding people accountable for it. In terms of compensation philosophy, we believe on being competitive on how we compensate our employees, the boards, and that's really the philosophy we have in practice.

Bascome Majors Q
Analyst, Susquehanna Financial Group LLLP

All right. So, it sounds like with the combined business, the historic targets tied to EPS, cash flow, and the short-term and an EVA type framework longer-term, those won't change?

Patrick David Dugan A
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

Yeah. Yeah. Exactly. The basic framework is consistent with history. The long-term incentive program is the economic profit or EVA-type approach and the short-term compensation is just tied to EPS goals and then cash from operations.

Bascome Majors Q
Analyst, Susquehanna Financial Group LLLP

Thank you.

Rafael O. Santana A
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

Thanks.

Operator: Our next question comes from Scott Group with Wolfe Research.

Scott H. Group Q
Analyst, Wolfe Research LLC

Hey, guys. Thanks for the follow-up. So just two things. On the comment about mix impacts, so I get OE could be bad for mix, but I thought you were saying that you're not assuming much of an OE recovery and it's more about growth in services and electronics, like, maybe I missed something, so if you could just help?

Patrick David Dugan A
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

Yeah. I mean, I think it's just a general comment that when you see where the growth is going to come from going forward, you just – when we push it through, when we look at it in terms of contribution margin, there definitely is

an impact that comes from a variety of things that – when I've been pressed on the 300 basis points, sales mix is one that you've got to consider and that where we're going to be with margins at the end of the five-year period. So we just looking at that as a term of what could be an impact.

Rafael O. Santana
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp. A

But, Scott, in trying not to go into the details of every single part of our business, I mean, we just see overall there's mix. I mean, even if you look at our services business as you grow Mods, I think there's an element of mix there, so you grow the business and you've got them in some elements of lower profitability into it. I think Transit growth, it's one that we can certainly – and will certainly be significant. There's parts of our I'll call it freights components business that we have in average a lower margin than potentially some other areas. So that all plays into equation.

Scott H. Group
Analyst, Wolfe Research LLC Q

Okay. That makes sense. And then, last thing. So Pat, just want to go through the cash conversion. So 90% is the guidance. It feels like if I'm doing the math right with $900 million of cash from ops this year, it feels like you're going to do 90% cash conversion this year with – even with some headwinds that you outlined for us. So does that – should – I was thinking that maybe there would be upside to the 90% as you go out to the out years and you get through some of these headwinds and thus cash flow could start growing faster than earnings, but I just don't want to – I want to make sure...

Patrick David Dugan
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp. A

Yeah.

Scott H. Group
Analyst, Wolfe Research LLC Q

...I'm not missing something.

Patrick David Dugan
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp. A

So we're certainly looking cash conversion as cash generation compared to net income plus D&A, and it just – it – you end up with – we did greater than 90% in – on – in 2019, even with the 100% a little bit below that in 2020, and then going forward. And the guidance is greater than 90%. The concern is – in that guidance is that depending on – as you know what the history of Wabtec and now with GET that we have customer down payments, projects, you have working capital build that will be offset by deposits. But then you have to work it off that, you can have in any individual year a cash conversion that would not be as high as other years. So greater than 90% is – I think is a prudent way to look at it, but we certainly expect that over time that you're going to have good years and better years, and that's a good way to look at it.

Scott H. Group
Analyst, Wolfe Research LLC Q

Okay. Maybe I think – I think maybe I heard the answer. You're saying it's cash from ops as a percentage of net income plus D&A, not...

Patrick David Dugan A
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

Yeah.

Scott H. Group Q
Analyst, Wolfe Research LLC

...net income.

Patrick David Dugan A
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

Right.

Scott H. Group Q
Analyst, Wolfe Research LLC

Okay. And that's the answer. Okay.

Patrick David Dugan A
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

Yeah.

Scott H. Group Q
Analyst, Wolfe Research LLC

Thank you.

Patrick David Dugan A
Chief Financial Officer & Executive Vice President, Westinghouse Air Brake Technologies Corp.

Thank you.

Rafael O. Santana A
President, Chief Executive Officer & Director, Westinghouse Air Brake Technologies Corp.

Thanks.

Operator: This concludes our question-and-answer session. I would like to turn the conference back over to Kristine Kubacki for any closing remarks.

Kristine Kubacki
Vice President-Investor Relations, Westinghouse Air Brake Technologies Corp.

Thank you, Elisa. To everyone, we appreciate your participation and your attention today. We look forward to speaking with you again very soon. Goodbye.

Operator: The conference is now concluded. Thank you for attending today's presentation. You may now disconnect.