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PRESENTATION

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(presentation)

Good morning, everybody. What a great way to start with that video. Welcome to our GE Healthcare Investor Meeting, and especially thank you to those who braved the weather coming in from the East Coast and elsewhere to make it here. I know on some of you, it was not easy. So we appreciate it.

I'm Steve Winoker, VP of IR for GE, and I'm delighted to be in Chicago with the team here. We're joined by our Healthcare CEO, Kieran Murphy, and members of his leadership team upfront.

Before we start, I'd like to remind you that the presentation for today is available on our investor website. In the presentation, GE Healthcare, excluding biopharma financials and figures, reflect today's view of the business as internally reported within GE and of our best estimates prior to completion of the deal closing. We'll be saying very little about the biopharma business and deal today. As many of you know, Danaher is in the lead on the regulatory approvals. What we can say is that we remain on track for closure in the first quarter of 2020, as we shared on our third quarter earnings call. And for most everything else biopharma-related, I'll be referring you to Danaher.

Please note that some of the statements we're making today are forward-looking and are based on our best view of the world and our businesses as we see them today. As described in our SEC filings and on our website, those elements can change as the world changes.

We have a strong lineup today, starting with an overview of the business, followed by a deeper dive into our product lines and select regions. We'll wrap up with operations and finance, including the financial model we see over time. We'll then open up the meeting to Q&A following the presentation, and then on to our digital showcase in the room next door before heading over to RSNA.

Now with that, I want to introduce Kieran, who has been in the industry for over 25 years and at GE for over 10. With that, Kieran. Thanks.

Kieran P. Murphy ***GE Healthcare Inc. - President & CEO***

I'll take [that drink]. Thank you. Well, good morning, everybody, and welcome to Chicago. I'm sure you're not used to coming to Chicago at this time of the year, but RSNA is the big showcase event for this industry. And so we have a lot to show our customers and partners around the world, and I'm hoping that you get the chance to see that as well during the day here. So thank you for being here.

Look, I want to talk you through the health care business. We're extremely proud of this business. It's a business with global scale, huge reach. And of course, we have been an innovator for years and we continue to lead with technology. Especially in our digital, you see that we're breaking new frontiers. You'll see that at the show and in the showcase later on here.

We love the health care market, it's huge and challenging, with big issues and big challenges like cost, access and improving outcomes for patients. And we feel that we have a unique angle on those challenges. Something we call Precision Health. We'll talk you through that today.

We're very proud of the way we've run this business over the years. But we also see great opportunities here to improve our margins, improve our growth rate and our cash flow, and we'll talk you through those plans as we go through the day here. This is all possible because of the quality of the team we have, and you'll get exposed to many of them today, a superb team which has been selected from the industry and from the best of breed within GE.

So moving on to just the market. And as Steve mentioned, I'm excluding biopharma on the right-hand side. If you look towards the left, you'll see the teams here. We'll talk you through each one of these sectors today. I've included PDx, which was part of the former Life Sciences business. And what you see in here is that we are -- have a great strength in a great market which is growing nicely, 3% to 4% a year. And as a rule of thumb, we typically see these markets grow at roughly 1.5x GDP with a few puts and takes here and there, depending on geography and time.

We see strong growth in many parts of this business, and we are a scale player. And so this is -- gives us the opportunity to really move forward here with the digital agenda. Digital is having a bigger impact on health care probably than any other industry I can think of. And it unlocks great growth potential and huge improvement for patient outcomes. It's a $47 billion market. So we're playing in a space that's really significant and important. And of course, we have a huge business here with almost $20 billion of revenue in 2018; very strong operating profit as you can see, $3.7 billion, 18.7% of sales; and great free cash flow conversion in 2018 of 124%.

Monish is going to talk you through in his section, the outlook for 2019 and 2020 and onwards. For now, I want to focus on the right-hand side here, which is the way we look at this business. First of all, this is a business with an amazing track record of innovation. And I'll talk you through some of the history here in a few minutes. We have a great IP position. We have a fantastic pipeline. And if you look at this -- the sheer scale of the install base we have on the ground, 4 million pieces of equipment which we service, it gives us huge access into the market. And in our contrast business, imagine this, 3 patients every second get injected with our contrast agent. So we have this scale and reach that's unrivaled, operating in 160 countries, 57,000 employees.

And then when we think about digital, we generate more data in this health care industry because of our position in imaging than anybody else. And so as we evolve into digital, there's nobody better placed to evolve into advanced analytics and artificial intelligence than we are.

If I dwell for a second on the history here, 120 years ago, we were the first company to bring x-ray to the market, we were the first with CT, the first with MRI. We're the first company to bring a handheld ultrasound. And of course, we're now the first to bring Command Center and technologies like that to the market as well, which we'll talk to in a few minutes. And you'll hear from Tom in his section that the innovation machine continues to work. We have award-winning products at -- on showcase at RSNA this week.

We have unrivaled scale. If you look at where we operate, it's everywhere around the world. 6,600 sales professionals, 2,400 channel partners, we can reach this market everywhere. We have 8,000 field service engineers. We have 7,400 engineers in development, 1/3 of whom are based in India and China. And we manufacture in 16 countries with 38 manufacturing sites, including 4 in China, 3 in India and so on.

So when it comes to the developing markets, especially in Asia, we're local globally, and we can access these markets with innovation that's tailored to that market need. And you'll hear some of the talking about affordable care portfolio, and that's how we can do this to address a burgeoning middle class in markets like Asia.

We have a tremendous service business. This is the foundation, a bedrock of our business. $8 billion of revenue that's recurring in nature. It integrates services. Jan is going to talk to -- Jan Makela is going to talk through this in a few minutes. It spans our -- all of our equipment and other people's equipment. It makes us a trusted partner in the industry, helped, I think, by the fact that we have these 8,000 engineers who basically live on our customer sites every day.

In our PDx business, we have this amazing security of supply. And it's been a real competitive advantage for us as we look about supplying vital PET tracers and contrast agents into the market. As I mentioned before, we have 4 million of an install base. So we have reached into this market. And in addition to that, very often, we service the entire fleet in some of these hospitals. So we see everything. It gives us visibility and access into the market that most other people don't have.

We have an $18 billion backlog, which gives us a tremendous foundation for our business going forward. And if you look at the portfolio of services we offer, it's not just break/fix, it's predictive services, it's education. And increasingly, as the hospital systems around the world really struggle with productivity, which is the single biggest challenge, we're helping them solve the productivity conundrum. And this is a really key differentiator for us, which of course led to the development of innovations like Command Center.

Now I'm going to talk a little bit about how we see the market evolving. The way that health care works today is unsustainable. Cost keeps going up, cost as a percent of GDP in the U.S. keeps going up, outcomes don't get better. It's estimated that there's $1 trillion of waste in the U.S. market alone. Why is that? Late diagnosis, misdiagnosis, treatment with the wrong medicine. And so as you look at that poor patient outcomes and effectively, a lot of waste, that's the opportunity we see with something like Precision Health. And it really starts with our core, which is more precise diagnosis.

So if we can diagnose earlier, better or faster using our machines and AI, we are far better positioned to have this precise diagnosis. But there's a kind of problem here. Every single health care system you talk to in the world says, "I am swimming in data. There is so much data. I have no insight." And so when you hear us talk about investing in AI and integrated data sets, this is the huge opportunity. Because if you look at the amount of data that's there from genomic and a whole lot of other blood chemistry tests, for example, these data sets today are all fragmented in the industry. And we see a huge opportunity to act as the integrator of those data sets. And that's why we work with companies like Roche and academics around the world and people like the NHS in the U.K. Because if we help to solve that conundrum, it is a game-changer for the industry and a game-changer for patient outcomes. And of course, it leads to more precise therapy.

And again, if you look at the amount of waste that's in the industry today. For example, in the pharmaceutical industry, who still test a lot of drugs on patients that are unlikely to respond, they still every day sell drugs to patients that are probably not optimized. This is a huge opportunity for this industry and imaging plays a key role here. And I'll tell you why.

If you take what we have in our PDx business, something like Vizamyl, which is a PET tracer for Alzheimer's, you combine that with our PET/MR equipment, you can identify exactly which patients are going to respond to the emerging Alzheimer's drugs, for example, the new product from Biogen. We work with the pharma companies like this to precisely target patients that are likely to respond. And this is a huge area for the future. And I'll talk a little bit more about that later.

And if you think about therapy delivery, whether it be delivery in oncology, for example, or even in surgery, where you really want to tailor the surgery to the patient's need, Tom is going to talk a little bit about that in his section. We are tackling that today.

And Anders will talk about precise monitoring. How do we get a situation where we're actually taking a patient that's only monitored today when they're in critical care and monitor them outside of that environment, and even in a social care setting? This is a huge opportunity for this industry, and we are right at the heart of the ecosystem that's striving for this level of precision because it will unlock and reduce the waste that exists there today.

Now whilst all of that may sound futuristic and unattainable, here's the reality: We're doing a lot of this today. If you look at what we have by way of smart devices, predictive services, subscription services, better workflow and a platform for delivering all of that in the ecosystem, that's what we do. And I'll bring this to life by showing you some specific examples. If you look at what we do with our imaging equipment, where we have AI on the equipment today, whether it be Voluson, Ultrasound or MRI, which has AI to reduce background artifacts and improve quality of image, effectively what you're doing is creating much higher-quality image and better output, faster throughput.

I was at dinner last night with some very eminent radiologists, and they said, "It's fantastic you're doing that. But guess what? That's causing a problem for me in my radiology department because now my backlog is bigger." But that's a problem we're also tackling by having AI attached to enhancing clinical decision support. And a great example of this is in our critical care suite, where we can actually prioritize the workflow for the radiologist. And honestly, improving workflow and then prioritizing, reducing stress on these radiologists. It's short term and it's a big win for all those hospital departments who struggle with productivity and actually stress in their system.

Now when it comes to improving workflow, we then -- as I mentioned on our consulting services earlier, we have a tremendous innovation called Command Center. We have 9 of these up and running today, and those 9 command centers control 45 hospitals. We're soon to have 11 that will control 49 hospitals. And they're now in Europe as well as the U.S. And effectively, it's called Wall of Analytics. It takes all of the data coming out of their system and actually portrays in a way which can improve workflow, reduce patient waiting times and it actually has a big impact on patient outcomes, and it frees up capacity. Everett is going to talk about an example in Canada where we greatly increased bed capacity. Every bed -- by the way, every bed is $1 million. So there is real economic benefit to putting these systems in place.

And then lastly, if you look at the way we run on our subscription services with things like CT Smart Subscription, we're able to extend the life of equipment and hardware through the use of software. We can update, reduce obsolescence. And actually, that has a big impact on the economics. So we're fast-evolving to -- in this service and subscription orientation that's going to be absolutely critical for the business in the future. It's all based on Edison. And if you think it's all sort of pie in the sky, we have over $1 billion in revenue today from those digital services.

And if you -- as you think about Edison, think about the apps on your smartphone. Apps need a host system. Developers who are developing their great ideas to bring efficiencies in the market, they need a host, and that's the purpose of Edison. And you'll see today, we've -- at RSNA, we're announcing new developer kits that get introduced to the market so that we can get the best of breed from around the world developing on our Edison platform. And so we're really excited about this, and I can tell you all of our customer base, and you'll see it in the showcase, it's really an exciting development.

So as I think about our strategy for growth here, we have a few key pillars. Always, innovation is at the top. We have grown our program spend by 2x revenue in the past. We expect to continue to drive efficiency in the business and we release margin so that we can continue to invest in innovation. Businesses like this have to have a great innovation engine, and that's why I'm so proud of the awards that we're showing this week.

Our solution set for the enterprise is a real differentiator for us. And if you look at what we're trying to do with workflow with cardiology and oncology, it's all based on getting better productivity and better efficiency and systems. We have the solution and mindset that's unique, and it's enabled by the way we think about digital and analytics. And so if you look at -- I mentioned Edison a lot already. But what we're doing in all of our digital thinking, and now learning here, we are working with the best of breed in academia and in the industry to ensure that what we bring to the market is cutting-edge, it's relevant and it's well-validated. And so that's a critical piece of this, that we get high quality so that we get better outcomes.

But a fundamental pillar of the success of this business going forward is better operating performance. And I think one of the things we are really benefiting from now -- right now with GE is we are really driving a lean agenda to improve operational performance. And Monish is going to talk about how we're doing that in his performance. But you'll see in every single presentation, the outcome of lean thinking to get margin expansion and better working capital.

In addition to all of that, it is essential of course that we execute commercially. And you'll see when we go through the presentations here today, we are investing in the front line. We're investing in channel partners. We're investing in tools that make us more productive to give us better visibility into the market so that we have a clearer value proposition on for our customers. And we have to lead with solutions because that's what our customers really like. So Yihao from China; Everett from U.S.-Can and Catherine from Europe, they're our 3 main regions, they will talk you through how they work. And I think you'll be really excited to see the evolution of the business here.

Before I close, I do want to deal quickly with the PDx business because we're not dealing with it elsewhere. I had the good fortune of this being part of my portfolio when I led Life Sciences. It's a fantastic business, $2 billion in revenue. We've been growing at 2x the market rate, and that's continuing. I said before about the scale of this business. We are the lowest-cost player because of the way we have invested it in our infrastructure over the years. And we have this fantastic portfolio of molecular imaging agents.

And in fact, as I think about the future growth, these molecular agents are incredibly important because the fastest-growing sector, for example in pharmaceuticals, is immuno-oncology. Immuno-oncology drugs are very expensive. They have to be carefully targeted. And this PDx business is working with the leading academics in the world to develop more effective PET tracers so that we can precisely target patients who are going to respond to those treatments. And you can see some of the partners on here, people like Vanderbilt, who have clear expertise in this space. And so we see a great opportunity to not just gain share as we have been doing, but also expand the market.

So as I look -- as I think about the overview here. This is a business with amazing scale, a great track record of innovation. We have this fantastic services business. We continue to push the agenda for: Being local globally; work with a solutions mindset; create capacity; enable productivity; and of course, drive the digital agenda, which we see as a real change in the speed of growth of this market over time.

And of course, this is only possible when you have a fantastic team. And I think if you look at the team here today and this page, there's 300 years of health care experience on this page alone and hundreds of years of GE experience. We picked the best people we could from GE, and you'll see people like Monish, Catherine, Anders today. And we've also managed to recruit some fantastic people from the outside, and you'll hear from Everett and Yihao here in a few minutes as an example. But that's -- I think we have a fantastic team at work. I'm delighted with the way they work. And we continue to evolve out the culture of how we work, incorporating some of the lean principles that we spoke about earlier.

And so look, with that, I now want to hand over to Tom McGuinness, who is going to talk about the imaging business. So we're going to kind of do 2 product sections now, as Steve mentioned before, and then we talk about commercial execution. Tom, in the meantime, over to you.

Thomas J. McGuinness ***General Electric Company - Chief Strategy & Commercial Officer of GE Healthcare and VP of GE Healthcare***

Great. Thank you, Kieran, and good morning. As Kieran mentioned, I'm Tom McGuinness. I lead the global imaging franchise. Our imaging franchise is a leading global business with more than $9 billion in equipment and service revenue around the globe. We participate in 100 countries. We have an installed base of 250,000 units. And each year, our customers scan or complete exams over 1 billion times each year on GE Healthcare-related imaging equipment. All of which is supported with an ever-increasing portfolio of digital solutions, imaging-related digital solutions.

Now if you focus on the bottom of the page, we have incredible depth and breadth of our imaging portfolio, really spans 7 modalities, 5 within diagnostic imaging and 2 within image-guided therapy. In diagnostic imaging: CT; MR; molecular imaging; X-ray; and women's health, women's health, including mammography. And 2 others in image-guided therapy, which include a full suite of surgical C-arms as well as interventional technologies. And as Kieran mentioned, all of this portfolio resides on the Edison platform. The Edison platform combines AI, advanced analytics, data aggregation capabilities into each and every one of our customer offerings.

Now if you look at the imaging global market, it's an attractive, more than $30 billion equipment and services global market today that is on a strong growth trajectory. The chart on the left focuses on a piece of that, the equipment portion, which is more easily tracked by third parties. To -- in 2018, the size of the equipment market revenue, $19.1 billion. That represents a 4% CAGR from 2016 to 2018. And when we think about the outlook going forward, we see a continued growth trajectory of between 3% to 4% in the near to midterm. We see that breaking out low single digits in developed markets and mid- to high single digits in developing markets.

So what I'd talk, a little bit on the right, just about a handful of the reasons why we're bullish about this continued growth. First, as Kieran mentioned, there's very attractive population and demographic dynamics. The aging population, the growth in the middle class, are also very important tailwinds to the imaging market growth. But what's interesting to point out here is that 2 out of 3 global population -- 2 out of 3 people globally still do not have access to imaging today. We see this as an incredibly important opportunity to increase that penetration and bring diagnostics to those who could benefit from them.

Number two, AI. Everybody knows that AI is impacting every industry. It has particular opportunity for impact within imaging, both because it's about the visual imaging that has to be analyzed, AI is particularly equipped to do that, as well as the large volume of data that has to be processed. We see already tangible improvement, step-level improvements, in some cases, of clinical and operational outcomes that are being improved by AI, really just driving increasing demand for our solutions.

Third, the growth In image-guided and minimally invasive surgical procedures. Many of you have heard about TAVR, transcatheter aortic valve replacement. It's a category today that's growing more than 50%. The success of these procedures depends on imaging, so we'll have a lot of tailwinds that come along with that. Robotic surgery, a similar story. High-growth category. We really provide the eyes for the robots in that process and see a lot of synergy as we move forward.

Number four, integrated digital diagnostics. This is really, as Kieran mentioned, about bringing the in vivo and in vitro, the imaging data with genetics and other in vitro diagnostics, together to create the full picture of the patient so that clinicians can reach step-level improvements and outcomes across care pathways, cardiology, oncology, neurology.

And then finally, the very exciting field of imaging-driven biomarkers. This is all about how do you more precisely target specific patient populations to enable the development of new therapies and also to track the success and responsiveness of the disease state to those therapies as well.

So in that growing market, we are positioned very strongly from a leadership standpoint in each of the segments we participate in. And we're ruthlessly focused on innovating in those areas that matter most to our customers, often bringing first-to-market innovation across the portfolio. I wanted to highlight a few of these that you'll see on the floor at RSNA this week as well.

Karen mentioned CT Smart Subscription. CT Smart Subscription is one of the industry's first digital software as a solution platforms. And the way to think about it simply is that it really brings today's technology, today's capabilities into our customers' existing IB. Customers love this. It helps increase loyalty, increase customer satisfaction.

Another CT example is Revolution Maxima. This is a CT focused on the performance segment. Its AI-enabled camera-based patient positioning system helps improve throughput dramatically and really effectively opens up capacity within many of our radiology customer departments.

MR. We're very excited to have just recently been awarded the Minnie. AuntMinnie is 1 of the leading radiology publications. We received the best product -- new radiology product in 2019 for our AIR Coils technology. AIR Coils is an industry-first innovation that really does help improve the clinician workflow as well as improving the comfort for the patient through the skin, all while improving imaging, the image quality itself, so that doctors can better and more clearly see what's going on with their patients. So it's a huge innovation, and we plan to continue to leverage that going through 2020.

And then finally, I'd mentioned, Sensographe Pristina with Dueta. This is a women's health product which, just this last week, won Time Magazine's top 100 best inventions for 2019. Again, a first technology to market, Pristina Dueta is really focused and 1 of the only and first products that brings together patient-assisted compression. And it has just terrific results. 80% of patients describe a much more comfortable procedure, exam; and 51% describe much less anxiety moving into the exam. Both of these critically important to women's health care and to screening as we move forward.

Now innovation is a pillar, and as Kieran mentioned, one of our most important pillars and will remain so. But we bring to bear a lot of other strengths that really support our leadership position in imaging as well. Not only to be the core innovation, but the leader in the digital solutions, those things that we've talked about to help improve clinical and operational outcomes. We've got the leading commercial organization with deep clinical and technical expertise. And we also bring an at-scale global supply chain network, combined with an unrivaled global service network and reputation. All of these combine to create real advantage for us with our customers.

Now like our peers, we pay a lot of attention to customer feedback. And we look at Net Promoter Score, or NPS. Just this year, we conducted a survey of about 900 customers around the world. It included 14 countries. It was structured as a double-blind survey. And the NPS score that we receive from our customers was 31. When we look at how that compares us to the rest of the industry, 13 is the NPS for all other imaging firms. So we feel good about that, but we are not planning to rest on our laurels. We are continuing to invest in those things that matter most to our customers: The outcomes they need, the quality, the reliability of the overall customer experience.

Now as we really look at how do we maximize the growth and value of the imaging franchise, we're ruthlessly focused on 5 key topics. The first, as we mentioned, is continuing to drive our innovation leadership. This is not just about increasing our R&D spend each year, which we are doing, but also driving improved productivity from that spend. And as an example, in 2020, we also are targeting north of 20 new products to bring to market as well.

Second, expand digital solutions. We talked about Edison platform, but really beyond that, we're really focused on how do we continue to drive AI-enabled smart devices? You'll see several of them on the floor at RSNA this afternoon. Revolution CT Apex is a great example. But in addition, we're really bringing clinical and decision support apps to the market as well. Kieran mentioned the Critical Care suite on the X-ray platform, you'll see that as well.

Third, accelerate service growth. Service is critical to the success of our franchise. Jan Makela will describe more of this, but we're really focused on how do we enhance service offerings? How do we make them customer segment-driven? How do we make them digitally enabled? And how do we bring that to bear with options and upgrades over the lifetime of a customer, when and where our customers need them?

Fourth, differentiate quality and customer experience. We know very clearly that this is the most important thing to our customers, and we continue to invest behind this in all ways to continue to extend our leadership position both on product quality and reliability as well as the overall customer experience.

And then finally and importantly, we're very focused on enhancing margin and free cash flow. I'll talk more about this in a minute, but it really does include both product mix focus as well as pricing discipline and rigor as well as the cost productivity. We have a very strong proven track record of cost productivity that we plan to only continue as we move forward. So I'll talk about that.

Now when we think about our customers, we think ruthlessly about how do we maximize the outcomes we create for our customers? Our Edison AI digital platform is really focused -- we're really focused on leveraging that to provide the right digital tool for -- at the right time for each of our customers, our stakeholders within the imaging department. That may include the technologist who operates the device. It may include the radiologist who reads the scan. It may also include the administrator who's overseeing the operational efficiency of the fleet of imaging devices.

I'm going to highlight a couple of examples here. So scanning. This is for the technologist. Here, it's all about how do we automate tasks? How do we help the technologist set the right clinical parameters for success? MR ViosWorks is a terrific example here. It's AI-enabled, AI-powered; it's cloud-based; and it's focused on enabling a MR cardiac procedure in about 1/3 of the time that's been possible before. So less than 10 minutes free breathing scans. That's versus what has historically been about 35 minutes. So it's a terrific increase in throughput.

Diagnostics, radiologists. It's all about, here, automating the nonvalue-add part of the process. And also just help improve the precision and accuracy of the diagnostics. We have Bone VCAR or bone volume reading. Here, we're able to identify and label all parts of the spine in less than 5 seconds, something that actually is quite manual for radiologists to complete.

And then therapy. Therapy is often the most costly portion of the care process. So we're very focused on how do we improve the radiologist -- excuse me, the interventionalist productivity both to improve the throughput but also to help support improved outcomes for the patient. We're very excited about our AI-enabled interventional liver assist. Think of it as a GPS to liver tumors. We help interventionalists identify the vasculature that they need to focus on. And we've got just terrific outcomes here with 68% complete tumor response versus only 36% using the conventional method. So terrific health care outcomes improved for the patient. At the same time, 11% faster procedure time. So both operational efficiency as well as improved clinical outcomes.

On operations. Again, for the administrators managing the effectiveness and efficiency of the fleet, we've been able to achieve with Imaging Insights, a 36% increase in exams per week and a reduction of almost 4 weeks in wait time for patients.

Now I talked about margin enhancement, and I wanted to bring it to life a little bit more. We really go after, and are continuing to go after, margin enhancement in 3 primary areas. The first is really from a mix standpoint. We are ruthlessly focused with a rigorous capital allocation process of putting our capital to really drive the most high-margin segments -- product, region, segments that we have in the business.

Number two, we're really focused on improving the pricing performance, both through innovation and through rigor. Always starts with innovation, new products that are valued by the customers, having clear and compelling value propositions that are supported with proof points and evidence through the experience. And also just the tool set around pricing, whether it's price setting, price getting, price netting, how do we provide world-class tools to ensure that our pricing support is as strong as it needs to be? We've had terrific progress in this space, but we see a lot more opportunity and we'll continue to drive that as we go.

And on the right side, we're really focused also on how do we continue our proven track record of cost productivity? In 2018 alone, we had more than $200 million in service and equipment service productivity. And we deliver more than 1,000 productivity projects each year, 80 cost-out events, 200-plus should-cost events. This is a muscle that is quite strong at GE Healthcare and a muscle that continues to get stronger each year, not only for the new products that we drive, but also for forward production of our current portfolio as well as our installed base and services.

So to take a step back, our global GE Healthcare imaging franchise is a strong, growing franchise with continued opportunities for continued leadership in the market, expansion of our share and leadership position as well as an increase in our margin. In 2018, as I mentioned, the revenue was $8.8 billion total, both equipment and services. Again, that represented about 4% CAGR from 2016 to 2018. And our outlook going forward is really focused on low single-digit to mid-single-digit in the near to midterm. And that will all be achieved by executing against the 5 priorities on the right, as I described earlier.

So thank you for your time. I'd like to invite up my colleague, Anders Wold.

Anders Wold ***General Electric Company - CEO & President of GE Ultrasound***

Thanks, Tom. Good morning. I am Anders Wold, I run the Clinical Care Solutions business, which consists of 2 different businesses: Ultrasound and life care solutions. And I'll take a moment here and give you a brief update on both.

Before that, just to give you an insight, I've been 30 years in ultrasound business, so basically my entire career. I came from a startup which later become a part of GE Healthcare, and it's today the foundation of the GE Healthcare ultrasound business, both by technology and by people. So that's going to be critical in how you're going to see that business.

So let me start with ultrasound. And some of you are familiar from our previous presentations. But I think it's important to understand that ultrasound came into the space as a poor man's scanning device. It was really nothing in the beginning. Today, it's integral part of the entire care pathway. And hopefully, we're going to see that during the next few minutes. It starts with screening, triaging, deep diagnostics, is part of therapy guidance and also monitoring.

So that whole spectrum has brought us to a very strong leading position, what GE Healthcare has done. We have about 0.5 million active users today. The biggest and the large -- the installed base. Of course $3 billion revenue in sales for both equipment and services. And it's a technology-driven business. So in other words, you have to have our IP sorted out there. So we have a lot of global patents in this space.

Now if you think about ultrasound, maybe a baby scan or something like that, it's much more than that. It started in radiology way, way back then as 1 single unit. Today, it's broadened much out of that. It's obstetric, gynecology, labor and delivery; in cardiac, cardiovascular. Point-of-care is a new area which is very, very interesting because the market has expanded in different applications, up to 20 different applications going to the patients at point. You have primary care, think about the emerging markets that are underserved today. Ultrasound is making a huge inroad in that area. And then we have specialities like breast imaging, which is truly around the Precision Health discussion, where GE Healthcare has a huge portfolio in the total diagnostics for breast.

So that is the introduction of ultrasound, GE Healthcare is a strong leader. We're basically #1 in almost -- 1 or 2 in all of these different fields. And it's been a leading business for us for a very long time. And why? Because its defined as a very attractive market about $8 billion in equipment and service and it's moving at a good pace.

And why is ultrasound so interesting compared with other? It actually complements what Tom was talking about in the way that it's real time, so you make decisions on the spot, very efficient for a health care system under cost pressure. It's portable, you go to patients versus having to bring the patients to the bed. Low-cost and nonionizing radiation. That brings ultrasound to be a very interesting modality in today's clinical care settings.

Another trend here is new NPIs, new technology all the time. It's very electronics-based. You see improvements all along. So the new product introductions, the vitality is critical and drive the market with specialization.

And finally, everything in digital, making solutions for customers more efficient, less variability, more precise. In terms of AI, you will see that in the booth later on today. We have a dozen of these applications already on equipment, it's driving the market. And given that we have a replacement situation with 0.5 million users already. It's an ideal position for GE Healthcare.

Yes. One thing I should mention here, the outlook here of the market is looking back, maybe we are at the 4% level of growth. And I think low to mid-single-digit is the projection of the market as it stands today.

Now what brought GE Healthcare to this position is the focus on the clinical specialization. And clinical specialization drives how we drive -- build technologies, new innovations and products. And here's an example on the right-hand side, for those that have seen images of babies and baby faces before. This is actually much earlier. This is an image of a fetus, it's 2 inches. 2 inches, not a lot. And that's the state of the art right today. So early -- very early first trimester is very helpful. And we're putting AI on those images today, and we do that because we are so specialized, deeply working and developing this with customers, and they get what they want to drive efficient care.

In that, you could multiply it to all these different specializations, but to the huge portfolio. 40 products today, all applications, all price points. We drive sensors of probes, 125 by specialization. And that's a very tall bar for anyone to come after.

To do all of that, we have a platform-based strategy. So we launched products on the same platform. The digital part, AI is increasing productivity for customers. And then since it's a specialized, the sale is also specialized. So our commercial teams, you will hear more about later from our commercial teams, are also specialized in the way they have dedicated teams in the field. So per range, that brought us to a leading position.

Priorities going forward will be to keep developing in the core, expanding commercially many, many, many NPIs. We have a track record now, with more than 50, 50, new product introductions every single year. And really focusing on the core business, like cardiology and women's health and general imaging.

The interesting part of the next part of the growth and priority would be expanding the market. And those are new users, the point-of-care users. And that's an interesting part that's been a legacy ultrasound, to build out the market by itself. And we have more than 25 applications in this area. The primary care emerging markets is another one. It occasionally is part -- is very important part here. We have a lot of partnerships that drives that.

The third element is services. And services maybe is a broader term, because, first of all, we have 0.5 million users. They then protect their assets and help them keep an uptime all the time. We provide education. We have different services that build accreditation and so forth. And they have built clubs around it. So here's an example of the Voluson Club, which is our health care scanners, and they have a user club that brings the customer on board with that.

And finally, the digital component of AI is really where the productivity drives for care and also for variability for operators. And here are some examples. And you can think about the fetal image I showed you. And we started to do AI and understand how we could do patient management, brain, heart, for that little fetus at that point. So that's the level of specialization we're talking about here.

One important part of ultrasound business and why it's so, so successful for GE Healthcare has been 2 -- 3 critical elements. And it's something you want to replicate throughout the business.

First of all, is the NPI vitality. We are at 35% vitality today. This means in 2 to 3 years, we'll turn around the entire portfolio, reviewed. That's a tall, tall order for anyone to copy. So refreshment brings us massive competitiveness. It also enables us to launch new things very quickly. So it amounts to about 15 new NPIs every year. This is latest technology and latest technology curve.

And it could be the next part, which is taking cost out. And we have a track record for the last 15 years to do 8% to 10% cost out every year across the board. That drives margin expansion, but it also gives us the opportunity to look into new price points, drive price at the right level and expand the portfolio in that way. So this is -- that's a very important ingredient and a foundation for what we do here.

Last, to summarize ultrasound. We have an outlook care, looking first back, we've seen our growth record [to the end.] Now depending a little bit on the market, if the market is 4%, like you saw in the -- on the page, we think will be mid-single-digit in the near to mid-term here, depending on the market. And we do that by the recipe we know by now, innovation at the leadership level and expand margins and continue to evolve and bring new users on board, expanding that market. And then build the clinical partnerships to expand with commercial expansion everywhere and build out our service offerings. And lastly, and you will see that later today, we have plans for these AI tools already. And we want to put them on the installed base and replacing installed base with a faster pace.

So that's the ultrasound part. Now let's move on to life care solutions, and that's a very different type of business. And I've seen some of the communication prior to this meeting, it's not fully understood. So if I can take your attention for a little bit, I'll try my luck here.

And just to put myself in your shoes. You're looking at monitors every day, right? [It really lines and grids.] You may even look at it right now for what I know. So it's the same thing. Think about the patient. We are monitoring vital signs of a patient, where you have a heart rate, respiratory rate, anything you can think of, that's 20 different parameters we call them today, and we look at that. There are alarms, it's red and green all along. That's the core of this business, life care solutions. Those monitors are put on everything else we do, and we'll come to that in a moment. But those parameters also leads to another part of the business where we have accessories, those are attachments that you put on the patient, cable up. And that's an accessory, it's a consumable. So that's also another business.

So if you think about this monitoring solutions business today, you have something called Maternal-Infant Care, which are incubators, warmers, fetal monitoring. That's one section. That's a part. You have anesthesia and respiratory. Anesthesia during [surgical calls], Respiratory to aid during surgery as well. That's one piece.

Diagnostic cardiology will be electrocardiograms in different settings. And then the parameters and accessories, it's an expanding field, building out of this. And you have seen other companies in this field are dedicated on that, but we have the whole ecosystem which is the most important part of that discussion, and I wanted to make certain you understand that because we are #1 or 2 in just the Monitoring Solutions. So we're leading here, a very strong base in the U.S. And this -- and we build it out of that as a platform.

3 million users, active users today, a massive installed base. $2.2 billion revenue and a lot of IP in this whole business to protect it. The market here is growing at 2% to 3% rate right now and more in developed -- developing markets than developed markets. It's -- the drivers are all centered around productivity, productivity for users and also building more security around the accuracy of -- accuracy

around diagnostics, for instance. So digital and enterprise solutions, improved care, and I'll give you a few examples. And later on here, when we have care delivery efficiencies, so meaning we could put analytics on the systems to help diagnostics.

And then the other interesting part is that today, we actually monitor, like Kieran was saying, only the acute part. High acuity is where all the focus is today. But we are now starting to look at the subacute because we want to check what happens before you get to the acute level, which is very late in the game, almost too late very often. So we have shifted our focus to look at that. If we are successful, we will untap a new set of the market. 70% of the hospital beds could be monitored at some point. So that's a huge opportunity in driving the market today.

Technology-wise, it's mobility, thinking or taking wireless, cableless, that's mobility part in itself. And then we see that the developing market is increasing. So emerging market is obviously an opportunity here outside the U.S., specifically for GE. And then the accessories business, and that, in itself, is its own market. And I have not put that as the $6 billion market. You can add another $3 billion into that if you wanted to discuss that specifically.

Now a few examples of what's going on with LCS portfolio. We have had a period where we have invested heavily to refresh our portfolio, and the purpose of that obviously leads to do replacement on our installed base. Here is the first one, CARESCAPE ONE. It's a portable monitor. We don't play in that space today. So that's a whole new one. It's launched in Europe, already start to see a significant uptake.

The central monitoring unit. It's a scalable telemetry unit in the hospital where you can take a lot of input from different beds today. You go around, and each bed, there are alarms on each bed today. Nurses are at all of these beds, and you do that centrally instead of little just at the bedside, drives massive productivity, strong governance, less variability, et cetera, et cetera. So that's launched in the U.S., already a huge uptake here in the last 12 months.

We have new product in Diagnostic Cardiology, the MAC VU360 that enables margin expansions. In China, we launched some value products in monitoring, another significant uptake in that space.

And finally, the anesthesia space, where the Aisys CNS², the first product with analytics on board. So you can do analytics on the patient while doing surgery and so forth. So that's a few examples of the outcome, what we have done and to refresh our portfolio and so on, and we keep pushing here.

But before I kind of get to that level, I'll give you 2 examples of our digital transformations into new business models. And you will see this central surveillance in central monitoring unit, and you can basically see a picture here with somebody monitoring multiple beds or multiple moving patients with telemetry equipment on them. So that drives a lot of opportunities here. And we do that with different partners like AirStrip, Mobile Heartbeat and Ascom, for instance.

Now if you want to scale that, we'll talk about mural. Not only cardiac telemetry, you can expand that to any kind of -- beyond the cardiac. Any kind of bedside, any kind of vital signs monitoring. That's the next step. And we are working with 3 institutions in the U.S. today to build this out, and we will see a launch of that product in the U.S. early next year.

Now one thing, without the LCS, which is really why it's packaged a little bit together with the ultrasound business, we have a great story in ultrasound, to NPI vitality and cost-out. This is what we want to replicate here in LCS. And we have started a few years back to build it. And we see already an uptake. So examples of new NPI is coming. We will have 10 coming out now. And you see the uptake in cost-out from 3% to 7% at this level. So we're kind of rebuilding and building a culture of NPI vitality and cost culture in LCS as well.

To summarize Life Care Solutions. And looking back, we see a healthy growth, looking forward, low to mid-single digits in the near and midterm. And what brings this? It's a platform for refreshing our portfolio. It's global growth, so more outside than inside the U.S. New care areas is clearly one area. Digital innovation is going to replace our installed base. So that's a very important component. The cost productivity is clearly something we can expand margins and also get the new price points and new offerings. And finally, we have services of this 3 million active users with accessories offering. That's the next step of the growth there.

Now to summarize both these 2 businesses. They are all very healthy today. They have runway. They have good margins, and we see expansion of the market itself in those areas. And that's a good setup for how this is posed for growth going forward.

So with that, I would like to add one more point to this if you think about these 2 installed base. If you add and grow the service here, you will find a next growth engine for the business. And with service, it's going to be critical with this huge installed base.

So with that, I'll introduce the next speaker, which -- going to talk about services, Jan Makela.

Jan Makela

Thank you, Anders. You've sat patiently for an hour. We're on Page 45, so it's perfect for service. So my name is Jan Makela. I'm the leader of the Global Service function, which supports HCS -- sorry, support imaging, ultrasound and LCS, which you heard before, which collectively we call HCS Service.

So HCS service is about north of a $5 billion revenue business. Out of the ATC on this page, which Kieran talked about before, one of those recurring elements. And our service revenue really is very strong, recurring, stable, but also with lots of scope to grow beyond that as well. So I'm going to just take you through some of the things that make us excited about growing service revenue. I know about the recurring nature. So the front line of our service sales growth is really, we have more than 700 dedicated service sales specialists around the world. And really, what they do and how they leverage their service offer is the incremental growth.

The first thing is, we have a lot of focus in the recent past in the future, in catching service contracts, at the point-of-sale for the high volume, low-value products like LCS and ultrasound, but going back to the installed base for the more high-end imaging systems to recapture contracts at the midpoint. And automating that process and making it easier to target specific customers with the right values is a great upside for us.

The actual contract offers themselves. So you've probably all sat there thinking service is a break-fix business. But especially in our contract offers, we find more and more demand from customers for digital tools and insights. So if you're a contract customer with us, you have access to a suite of mobile tools, desktop tools, which give you insight to your system performance, your service performance, your performance against your contract terms, but also the patient flow and things like that. This is a great point of stickiness for us.

Our service sales teams can also talk about our applications training, extended hours and so on. So using these points, we can really extend contract renewals and drive capture rate. And then the third one really is, these assets live in the field a long time. And for us as a company to be able to go to our customers with our equipment trends and talk about upgrading the equipment, be it hardware or be it software, and buying back the assets really gives sense to a discussion about managing the capital installed base of our customers. How they manage the multi-hundred million dollar investment they have in these devices. So those are the sorts of things which our service sales team can do to drive incremental growth.

If you think about it, for us in service, our addressable market is the installed base of machines, more than 10 years' worth of sales of equipment. And so we can obviously grow quite easily with the installed base. But beyond that, we can grow by addressing the installed base again. We're going back to the installed base, recapturing more contracts, selling more parts, driving more upgrades, ensuring replacement of older machines with new ones. We see the growth in this service business in the low single digits over the medium term.

The next page, we're going to talk a little bit more about the recurring nature as opposed to the upside opportunity. So we do have this very large, north of $5 billion business today. And there's really 4 main pillars behind that. The first one is the contracts. Now we have a range of contracts around the world for different products. There are different customers, different countries. But by their nature, contract means an ongoing commitment. Customers commit between 1 and 5 years to stay with us as an ongoing commitment to their performance. And usually at the newer systems, that comes with things like an uptime guarantee. So we underwrite the performance of our systems and really to deliver that, and you see here we resolved 79% of issues on the first attempt, and to deliver that is a massive infrastructure. You see reference across the top of the page.

Many customers don't take contracts. Now the first big category in here is customers who have in-house biomed teams. So the in-house biomed teams typically maintain a whole range of assets. But this is a good market for us because these teams, they need training, they need parts, they need manuals. So we've actually invested in a range of top e-commerce tools to target these customers directly, with the objective of making the choice of GE equipment for them as a biomed team the biggest chance for them to succeed in-house. So they can show to , their hospital they can well maintain and are well supported in GE equipment through these tools we give them.

The next category here is multi-vendor and biomed services. Now this started many years ago for us at our facility in Milwaukee. We bought on the secondhand market, the open market, and we've installed more than 50 competitors' systems across the range of HCS. And with those systems, we've created in-house service manuals and training courses. So we train our field engineers how to maintain these third-party devices. We've invested a lot of money in creating software tools to make it as efficient for us to service third-party systems as our own big investment for us there.

So in itself, that's attractive to sell service contracts on third-party machines but there's something more important this brings forth. In the U.S., as I'm sure you all know, there've been a massive wave of consolidation of the IDNs, right? There's been a big trend of hospital networks purchasing each other, consolidating. And that's driven a wave of outsourcing of biomed services. So [the biomeds] (added by company after the call) I talked about in Column 2, in Column 3, many of our customers are outsourcing that through bid processes, along with things like facilities management and those sorts of things.

So we've had a very good run at bidding for those contracts. We call it HTM, health care technology management, and really the key skills we bring to that, are the fact that we can apply lean, rigor to the operations of these teams, we can bring the competence to do direct service ourselves because of all the work we've done with the direct service. Plus, we've invested in more IT tools for that, too. So just to give you two [examples] (added by company after the call) we have a tool called Nuvolo, which is an asset management tool. Often these HTM contracts come with hundreds of thousands of bits of small equipment.

So how do you manage the calibration and maintenance, and also encompasses a tool to track and manage RFID tags. We tag everything and we can use that to find where the assets are. It's a proof that we're meeting our SLA commitments to our customer. So HTM and biomed have been a great growth engine for us.

Another thing it brings for us is it brings us insight into our performance as an OEM, so we can compare our own performance to what we see from other parties, to feed back into our service design and our product design as well. Very sticky, long-term contracts from these IDNs.

The fourth point in this page is upgrades and refurbishments. I touched on this before. You heard about some examples from my colleagues before. As the machines become midlife, isn't it great that we can go to customers and talk about improving their clinical coverage, improving the operational throughput, improving the financial return on our investments? Some of that might be hardware, some of them might be software, smart subscription we talked about before.

But again, moving just that, we also buy back older systems from our customers. And when we buy back those older systems, we apply those upgrades to those systems. We as the medical device OEM can upgrade those systems. And then we can resell those systems to new customers, offered in other parts of the world. So the ability to buy back systems, upgrade them and sell them, again is a great part of our ongoing business stream within service.

So I've talked a lot about revenue. One more page for me, which is about productivity for us and our customers. The great news here is that our customers like systems not to fail, and when they fail, to be fixed quickly. And if you think about it, for us to do those same things is great: productivity and cost out for our service business as well.

So just a few words on the service process, when the system breaks, often, it will tell us itself online, or the customer will call our service center. The service center checks contract entitlement and then passes the call to an online engineer. And we have nearly 700 online engineers who will then connect to the system, look at the diagnostics, look at the fault, fix it if they can. And if they can't fix it, they create what we call a "game plan", which is what parts do you need? What skills do you need? You give the game plan back to the service center who will then tell the customer, order the parts, or to the on-site field team. So long story short, there's lots we can do to improve our process with lean rigor and standard work and drive also metrics incrementally every year.

Down the right side of this page, there are some big steps in the next few years, which we started around really designing the reliability into the system, design the connectivity to collect that data and having the infrastructure to support the game plan.

So 2 quick examples. From [fixing] (corrected by company after the call) failures, we have lots and lots of insight into the failure, the cause of the failure, the parameters and the corrective action. We use that data to feed back into the design teams for the next iteration of the product.

Second example for you is condition monitoring. Again, you've heard probably for more than 10 years that people like us, watch the helium pressure and the helium temperature. We've gone way beyond that. So we take the parameters from the machine, and we use AI to look at the predicted failure of complex parts. CTG [tubes] is a good example. The benefit for the customer is we can then change these parts proactively and minimize the disruption to their patient list. Because if our hospitals lose about 4 hours of downtime, typically, the patient list has had to be sent home and brought back the next day.

So we've talked about digital quite a lot. I think the key thing on this page really is, a lot of investments into the product, the product capability, the digital tools in the product. But in parallel, the service systems behind that. So between the service and the product, we can better drive the uptime of the machine and give the customer outcomes they want and sell them service offers, digital tools. And of course, everything you hear about cloud-based solutions and third-party apps also depends on the fact there's reliable a connection to the devices across the world.

So with that, I will give it back to Kieran.

Kieran P. Murphy ***GE Healthcare Inc. - President & CEO***

Yes. Thanks, Jan. Look, I just want to quickly make the comment that you finish the products and services piece here. I hope that you see that the innovation engine is working well. We have terrific technology, a great flow of NPIs and the margin expansion opportunities are real. You've seen that in every presentation. You've also seen a huge opportunity to grow, first of all, through digital. And we have real momentum in how we're adding value to these -- each of these devices through digital.

And then lastly, this services opportunity is a huge opportunity for both productivity for our customers and to gain share for ourselves. So thanks to the product teams. And now, we're going to change track and hand over to Everett Cunningham, who has just joined us recently. I'll let Everett introduce himself and we're going to do three regional commercial presentations. Everett, over to you.

Everett Cunningham

Thank you, Kieran. Good morning, everyone. As Kieran said, my name is Everett Cunningham. I lead the US/Canada region. I've been with GE Healthcare now for over five months. I'm not a newbie in healthcare, though. I've been in healthcare for 28 years, 22 years at Pfizer pharmaceutical in various leadership positions, and seven years at Quest Diagnostics, leading their commercial organization. Prior to healthcare, I actually spent a few years playing professional baseball for the Texas Rangers. I was actually on the other side of a lot of this equipment that you talked about today.

Just a really good time to join GE Healthcare, especially in the U.S./Canada region, the people that have and support this region. Our installed base is second to none. And the scale that GE has to really support customers is just a great time to join.

Let me highlight the health care equipment market. Right now, the market in the U.S./Canada region is about $10 billion. It's growing at 3% annually. We're not expecting any major swings in the market in 2020, expecting it to grow in that 3% range. The market itself is a very dynamic market. The market has hospital health system consolidation that's happening rapidly. And that presents an opportunity for GE, and I'll talk about that in a second. Also the move to outpatient health care -- thank you for changing the slide. The move to outpatient health care is absolutely amazing. Like I said, we feel that we're well positioned to take advantage of these trends moving forward.

In addition to that, our footprint, our GE U.S./Canada footprint is second to none. We have 14 manufacturing sites across the U.S. and Canada region. We have 2 service repair centers. That just allows us -- regardless of where patients and customers are, it really allows us to serve those patients no matter where they are in the United States.

We have a very strong equipment and service franchise. We're actually market leaders in equipment and service. And the great thing about this is the scale. We're in imaging, ultrasound, life care solutions, service that Jan just articulated and also digital.

We -- the way in which we segment our customers is actually very impressive. And if you look at the evolution of customers in the U.S. and Canada region, it goes all the way from national customers. So large hospital health systems, like I said, consolidating, all the way down to regional traditional customers, more regional in nature, academic centers, nonacademic centers. We have to be able to segment in a very organized way. We segment those customers in 3 major ways.

Number one, we look at the size and scale of that customer. And we deploy accordingly. We also look at the way in which they do purchasing decisions. Are they centralized or decentralized? And again, we deploy accordingly.

And lastly, customers not only care about equipment and service, but they care about outcomes. So we look at how do we really partner to increase outcomes that increases their productivity.

The growth drivers in the U.S. are interesting. So health care spend overall is growing by about 6% in 2019. We expect health care spend to grow by about 6.2% in 2020.

One headwind is around reimbursement. There continues to be reimbursement pressures in the U.S. and Canada marketplace. We look at that as, hey, it's just a way in which we need to talk to our customers differently. Why? Because they care about improving patient outcomes and lowering costs.

I talked about the consolidation. One phenomenon around the consolidation of health systems is around slower decision-making, not slower from a standpoint of, hey, the clinicians are just slower to make decisions. The decisions are actually at a higher level. We're finding more decisions because of higher capital spend at the C-suite level of these health systems. CEOs, COOs, CIOs are now involved in the decision. I feel that our business is well suited to that. We have a lot of infrastructure, really designed to impact and create value and articulate our value proposition at that C-suite level.

The fact that it's Cyber Monday, I think it's appropriate to say that cybersecurity is critically important, too. Our customers are looking at GE, GE Healthcare, to say how can we really solve for their cybersecurity issues? And we have a lot of tools to support that.

I've talked about unique partnerships. Let me highlight one and Kieran said it upfront, and it's around a hospital in Northwest Toronto called Humber River. In the early 2000s, they were actually charged to build a state-of-the art hospital, to improve patient quality and to also improve provider workflow. They actually worked with GE before they even put a brick in the ground in terms of how could we help them in their greenfield planning?

So we actually presented our strategy to Humber River in terms of what would be the vision of the state-of-the-art hospital. And they took our advice and obviously built a hospital, opened its doors in 2015.

At the time it's opened -- they opened their doors, we actually competed and won a really unique partnership that we call the managed equipment services. GE Healthcare is responsible for the procurement, the installation, the servicing, the training and refresh of all their equipment in the hospital, again, a 15-year relationship.

In addition to that, we're actually -- and Kieran talked about it. The Command Centre is part of Humber Rivers portfolio. And the Command Centre does -- I liken it to an air traffic control system of the entire hospital. It does 3 major things: It manages patient outflow, access and flow; patient safety and also quality; and it manages that community outreach.

Now with Humber and when Kieran said this, this morning, this is real money. One bed equals about $1 million. And since Humber River opened its door to 2017, it actually generated equivalent -- capacity equivalent to 35 beds without increasing infrastructure or adding staff. So 35 beds of capacity, which has been fantastic.

Anders talked about the CMU, the central monitoring unit. What a fantastic way instead of doing that monitoring individual beds, it actually centralizes that. We're actually doing this at a huge health system, an 8-hospital system. We're monitoring more than 1,200 cardiac telemetry patients in one offsite state-of-the-art facility. That's just one example how the U.S./Canada region is taking advantage of solutions in addition to equipment and service.

Let me highlight our revenue outlook. So in 2018, the U.S./Canada region did about $7 billion in sales. We are expecting low to mid single-digit growth in years to come. How are we -- the U.S./Canada region going to get better in years to come? And we're all focused on growing our business, and we're going to do that in 5 major priority areas. First of all, we're going to add feet on the street. We're not going to just do it randomly, but we're going to look at where those feet on the street are aligned to high return segments.

Number two, we're going to better align our field teams to evolving customer needs. This is a very fluid market and the needs of the customers change on a daily basis. We're going to make sure that we're equipping our team to take advantage of that.

How do we compete against the competition? Offering differentiated outcomes-based solutions. And then once we offer that, we'll help our customers with financing. We're going to enhance the lifetime value for our customers, and Jan talked about this not just at the end of life, but earlier. And when we do that, we know that we can add value. And we will continue to invest in tools, analytics and insights for precision selling. We're going to sell the right tool to the right customer at the right time, and that's what our business is all about. So thank you. I appreciate the time you've given me to highlight the U.S./Canada region.

And with that said, I'll invite my peer, Catherine.

Catherine Estrampes ***GE Healthcare Limited - President & CEO of GE Healthcare Europe***

Thank you. Good morning, everybody. Changing continent and accent. So my name is Catherine Estrampes and I lead GE Healthcare Europe. I have about 20-plus years of health care experience, both on the product side and on the commercial side, on the region side. And today, we are going to talk about Europe.

So just drawing the landscape a little bit of our region. Our region is comprised of 40 countries, which include Eastern Europe, Western Europe, but also Russia and the Baltics. It is a $6 billion market with a 5% CAGR. And what is interesting is that the mix of emerging markets and mature markets has really allowed us to deal with the bubbles and the slowdown if you would like to actually guarantee a good average growth.

We have a significant presence in the region with 13,000 employees, 12 plants and multiple in-region repair centers. Our business in 2018 delivered $3 billion revenue, with the full portfolio of equipment and services, as you can tell. And interestingly enough, we are #1 on market or market leader with imaging, ultrasound and LCS in the region.

From a customer perspective in the middle, we basically segment them into 3 groups, and we deploy our commercial organization accordingly. Our strategic customers represent about 25% of the total market opportunity, and they are critical partners for the development and deployment of our base -- of outcome-based solutions. With approximately 40% of the market opportunities, our market movers are more interested in scalable solutions, which are going to allow them to provide better care at lower cost.

And then there is a final segment, which we call our local leaders and they go from players who are more interested in competitive cost solutions, typically small hospitals to players who are interested in more technology advanced solutions, private clinics. And all of that, depending on their positioning in their own market.

There are multiple growth drivers in Europe. And I want to just highlight a few. First of all, it's the increase in demand for care. Number two, the market in the east wants to leapfrog the west, obviously. And they are launching very large national programs in oncology and in cardiology, specifically, which are big needs in those regions.

In Western Europe, our customers and the government are launching big, large installed base replacement programs to tackle the challenges linked to a very aging install base. And then, finally, we see customers and governments really funding programs to digitize and to develop IT solutions to address really better capacity management and access, efficiencies, which you heard Kieran talk about and better quality of care, which I will illustrate in the coming slides.

Here, I wanted to really highlight with you 3 strong -- 3 examples of strong partnership with customers that go way beyond the procurement of equipment and services and are aimed at improving outcomes today and in the future. Starting with Affidea on my left of the screen. Affidea is a Pan-European leading provider of imaging services, outpatient services and cancer care services. They operate in 16 countries and in more than 260 centers. We have a long legacy of partnership with them. And at RSNA this week, we are announcing a $100 million multi-year enterprise-wide partnership around technology and services with them, which is exciting.

And what it is going to allow us to do beyond technology and services is to, basically, we are going to be able to connect a network, their entire imaging fleet. And more importantly, in this data-driven world and focused on efficiencies, we are going to be able to provide them with data-driven analytics in order to allow their clinicians to improve operations, standardizations in their 260 centers and improve the care delivery in near real time.

A second example is NCIMI, National Consortium of Intelligent Medical Imaging in the U.K. This is a consortium led by the University of Oxford. It also includes 15 NHS trusts; commercial companies, such as start-ups; industry leaders like GE Healthcare; patient groups, which we deeply care about; and charities.

In this consortium, GE Healthcare is the biggest industry contributor, thanks to our digital central -- centricity clinical archive system, which is a core system in that consortium to actually allow for the collection, the storage and the monitoring of protected data coming from the different entities and the different trust. And the goal is to really improve over the next 3 years the efficacy of clinical imaging. There are several projects underway. One of them is in oncology with PET/CT images, classification and reconstruction with AI algorithm. And the second one is in acute care, and Kieran mentioned our critical suite care new offerings in the acute care to really prioritize urgent patients around pneumothorax.

This final example is with Saint-Joseph Paris Hospital Foundation. They are a very long-standing collaborator of GE in MR and CT advanced functionalities. And what we have decided with them is to invest in the development of a data lab. And the 2 priorities of that data lab is to focus, number one, on optimization of the operating rooms around patient pathway and workflow, extremely important; and the second one is the creation of an observatory to assess the impact of contrast media dose on patients, also extremely important in a regulated context.

So looking forward and looking ahead, growth remains our top priority. And we expect a single to mid-digit growth, including 2019. There are 4 key pillars which we are going to focus to driving that growth. Number one, it's increasing our expert commercial resources in high-growth market while protecting our more mature -- our position in the more mature market. It's also about increasing our specialized resources presence in order to create that differentiated value proposition that Tom talked about earlier, in turn helping us expand our margin.

Number two, we will continue our investment in Europe in digital and outcome-based solutions. I gave you a few examples. Kieran, you heard him talk about the first Command Center in Bradford in the U.K. that is already showing significant operational improvement after 3 months of functioning.

Number three, we want to remain and continue to be a very strong full partner with flexible financing solutions, which we are deploying in Europe, whether it is management equipment services, as an example, or people use as another example.

And then finally, you heard Tom mention it, the criticality of managing the lifetime value with our customers. And what we are doing there is offering with my colleague, Jan, a lot of flexible service offerings and digital tools, which are going to allow our customer to do a data-driven management of their installed base, including affordable options and upgrades critical in a lower reimbursement world. So that's the picture for Europe.

Thank you. And with that, I'd like to pass it to my colleague in China, Yihao.

Yihao Zhang

Thank you. I've been in China health care for more than 10 years. During that time, I had the opportunity really to study the GE Healthcare China's success and best practice. So it just is a great -- very excited to be part of this great team.

China is the second largest health care market in the world right after United States. Our equipment market about over $7 billion, it's a great market. And then if you look at our customer bases, Chinese government classify hospital level 3, level 2, level 1, depending on the size, a bit capability and the number of beds. And then over the last 10 years, the private business has been growing significantly, encouraged by the government.

GE Healthcare China is a great business. As you can see on the left side, we have over $2 billion businesses. And then it's very well balanced and a diverse portfolio. And if you look at the middle side, we actually position ourselves very well on every single segment, the public segment and the private segment, we are the #1 position in here.

In addition, in particular, we actually led a lot of go-to-market innovation in China, not only just for the imaging industry but really for the -- actually, our entire medical device industry. For example, we were the first one who led the primary care business -- dedicated business for primary care. We are first one who have a dedicated business for the private as well.

And if you look at China health care spending as part of GDP, we're much very low compared to the United States. So we see the future, this market has continued to grow at a middle single-digit rate and will help by the 165 million people over 65 years old, and then the curing of the disease-related aging population such as cardiac issues, stroke, cancer. And government have done a great job to provide the basic health care insurance. And with the rising of middle income, we think the market will continue to grow.

And then GE Healthcare had a great strategy to grow in China. In fact, the GE localization example has been -- probably has been the best models for the multinational in China. We have over 1,000 R&D engineers in China. It's not just about the quantity, also about the quality. We have 4 chief engineers, 11 principal engineers. They're using the exactly same standard as our U.S. counterpart.

And then we also have about 4 manufacturing plant and 300 strategic partner vendors in China to provide us locally. As a result of that, we have launched about 66 China NPIs since 2010.

For the private segment, we talked about it growing very fast. We were the pioneer there to have a dedicated commercial team and strategy to go for the private market. And in there, our team, we have sales, marketing, product specialists, application, et cetera, service. And our goal is not only to sell the equipment but really providing the financing, training, operation management, digital technology to help our customers run it better.

Most recently, we have won the tender from the [actual] business from the New Hongqiao International Medical Center as part of a solution provider and [Haobang] Imaging Center, part of a solution provider. So our goal is not to be the equipment supplier, but it's really to be the long-term strategic partner with them, grow with them.

On the public side, and we work with -- very closely with National Health Commission and with the Medical Association to really help train and utilize and improve the disease treatment and diagnosis. For example, in 2009, Chinese government made ultrasound -- breast cancer screening a national priority. And our ultrasound team immediately, over the last 10 years, working with the National Health Commission to train the county-level doctor how to use ultrasound to diagnose this breast cancer.

About a month ago, I was in Jiangsu Province. I witnessed firsthand how our team worked with the county hospital alliances and then to help L1 hospital to improve to the L2 hospitals through the stroke centers, through the chest pain center, et cetera. So really, I think we have -- we want to become a part of the overall Chinese health care industry and help them to treat the patient better.

And if you look into the future, we believe we will continue to grow at the middle single-digit to the high single-digit rate in China, and China will continue to be a strategic market for GE Healthcare. How do we do that? We want to expand the sales -- continue to expand sales and the channel coverage in China. And we want to continue to deepen our localization from start to finish capability. And then we want to launching more China new product. For example, as Tom talked about, the Maxima we have at the show, and we leverage AI and also positioning to help us de-skill the imaging technicians and also improve the productivity of the patient [skin] because China have high patient volume [in there]. And we also want to accelerate the localization in China so that we better manage the global trade tension and also increase our customer responses.

And then also in the -- finally, we want to talk about is we want to launch our digital platform. We actually launched our digital platform in September, Edison digital platform. Based on this digital platform, we want to combine both the global app, [Calm], and Anders had talked about (inaudible) app, but also the China local apps we have developed for the Chinese customer. For example, the Chinese radiology command center and the cloud imaging to really help the Chinese government to do -- really every department to do their work better. And what do we want to do is we want to continue to focus on the transformation -- cultural transformation in China to leverage and utilize the lean methodology.

Last month, in our Tianjin MRI factory and in our Wuxi ultrasound factory, we have a week-long lean action workout to improve our quality, delivery and cost. 2 weeks ago, our entire commercial leadership team, sales and marketing leadership team, we leveraged the Hoshin Kanri tool to really deploy our strategy for 2020. Then in China, I've been there for a long time, in order to grow in China, really, 2 things, the most -- very important part. One of them is talent, another one is engagement. We believe those 2 together really equal to growth. So we want to combine the best of the talent internally and externally. We want to engage our associate in China and reduce attrition and then really to drive our overall growth.

And with that, I give to Monish to talk about finance and operations.

Kieran P. Murphy ***GE Healthcare Inc. - President & CEO***

So I just want to do a quick summary before Monish starts on the financial piece. I think one of the common themes you've heard from the regional leaders here is that we are investing in the frontline resources and clinically specialized people who are in a great position to take -- to translate our value proposition for clinicians. And of course, the other thing I hope you noticed is this top solution mindset and going all the way from finance to productivity solutions. And of course, the alignment with the product teams means that we get the translation of that value directly to the frontline.

So thank you for that. Monish, I'll hand over to you.

Monish Patolawala ***General Electric Company - VP, CFO & Chief Digital Officer of GE Healthcare***

Thank you, Kieran. Good morning. GE Healthcare is a large global medical device company, $17 billion in revenue, mid-teen margins with strong free cash flow conversion, with good opportunity to continue organic growth and margin expansion while still delivering good free cash flow conversion.

We are in over 160 countries. And we have not only a strong backlog of $18 billion, but nearly half of our revenue is recurring in nature. To recap, our recurring revenue comes from our services we provide for maintaining our customer equipment, licenses for our software business, selling of blood pressure cuffs and also pharma diagnostics agents.

Talking about 2019. We expect to deliver, and these numbers include Biopharma, $21 billion in orders, $20 billion in revenue, both up approximately 3% organically, with a segment profit of $3.8 billion to $3.9 billion, which translates to a profit rate of 19.3% to 19.6%.

In 2019, we have continued our journey of providing operating leverage where you will see our operating profit or segment profit up 6% to 8% organically with the rate of 40 to 70 basis points organically.

For the fourth quarter, our revenues are expected to be flat to slightly down driven by some of the themes that we have mentioned before: softness in China and the Middle East and a non-repeat of our strength in Japan in 3Q and a very tough comp for the Biopharma business from the fourth quarter of last year.

For free cash flow, we expect to deliver $2.3 billion to $2.5 billion, which translates to approximately 80% to 90% free cash flow conversion. But if you adjust for some of the items that Larry and Jamie have mentioned before, which is a reduction in monetization, the exit of our supply chain financing program, transaction costs related to the previously announced separation and some other items, we would have delivered another great year of 100%-plus free cash flow conversion. The details of that reconciliation are available in our appendix.

Both Kieran and Jan have talked about the global growth and global strength. But I thought before I talk about a margin expansion opportunity, I would digress by a minute and show you our global supply chain network. The global supply chain network is the bedrock of our delivery to our customers and extremely important to the financial situation or position of this company. We are in 38 -- we have 30 -- 38 manufacturing plants in 16 countries and over 130 warehouses that we ship our products from. Our supply chain is built on 4 pillars: one, sourcing best-cost and quality material while still going after deal sourcing and supply rationalization; two, having protecting our IP by manufacturing our crown jewels at scale. So for example, in our imaging supply chain, we make nearly 7,000 detector systems a year; providing a fully integrated supply chain and value chain in emerging markets like India and China; and lastly, flawlessly working at chemical processes to ensure that there is security of suppliers -- security of supply because our customers demand that. Just as a reference, we ship 85 million doses a year of our pharma diagnostics files.

The team has done a good job of driving costs out over the last few years. But in my view, there's much more to go. We still have 76% single/sole source material. We have 8% of scrap in our facilities. We spend $0.5 billion in freight to deliver to our customers, and still 40% of our manufacturing hours are in high-cost countries. The adoption of lean is going to help us accelerate this journey.

Talking about operating rigor before I go into margin expansion. The business has done a good job for the last few years driving operating margin expansion and free cash flow by measuring the Xs to deliver the Ys. Thanks to Larry's leadership, we have now adopted a much more holistic view of lean. And I frankly believe that lean is a far better tool to run this business.

So the way we run, the way we visualize our KPIs, is we use a lean tool called a Bowler chart. This consists of metrics that are common now across all of GE segments, and we try to push that down to many of our subsegments in health care, too. There are 14 standard metrics and are grouped in 4 categories. One is safety. Two is customer experience. Three is growth and margin expansion. And fourth is free cash flow conversion. These metrics are all coded red or green, depending on its trend versus target. But just like all of you, we love green, too. But unfortunately, there are red at times on the scorecard, and we actually embrace the red even more. The reason we do, it helps us focus. It helps us do a root cause, and it helps us fix that issue even faster.

A simple example in Latin America. We have struggled for the last few months to get our installs done on time. The team got together, good root cause analysis, quick root cause analysis and figured out that the availability of power was our biggest issue why we couldn't get these products installed on time. As we looked at our manual, we never asked the question of the customer, is the power available. We have now fixed that. We do not deploy any equipment without ensuring the right quality of power is available. Solves customer headache because there's no downtime waiting for an install and also helps us save costs. And thanks to all the digitization efforts that we have done in this company, we can now pulse many of these metrics on a daily basis.

Talking about operating margin and segment margin expansion. We have delivered 300 basis points of margin improvement over the last few years. The margin expansion has been achieved through getting operating leverage due to revenue growth, higher NPI, delivering product and service costs and driving G&A efficiency. At the same time, we have invested more in R&D or innovation. Just in our HCS business, we have invested $100 million more in innovation over the same time period.

Talking about R&D, and you have heard from Tom and Anders, we have launched 61 NPIs in 2018. We are on track to launch something similar in 2019. We have consistently delivered $300 million of product and service cost-out each year for the last few years. As Kieran mentioned, we now have done the appropriate amount of spending to have a digital platform and create a strong digital franchise. We have spent approximately $60 million in that in 2018, and the platform will not only give us good revenue growth but also margin expansion through the digital offerings.

Lastly, we have driven G&A efficiency. We have automated a lot of our support functions. We have increased spans, reduced layers and eliminated bureaucracy. In the post-Biopharma world, I feel the same 5 pillars are going to continue to give us margin expansion of approximately 25 to 75 basis points each year.

To recap what are the pillars: continued operating leverage through organic growth; NPI vitality of greater than 20%; driving product and service cost-out of $300 million per year and will accelerate even more as lean takes hold; driving G&A reduction of 100 to 150 basis points. At current, as a reference, our G&A is 8.7% of sales. And then lastly, driving margin accretion through digital offerings.

We're going to take some of those gains and reinvest back in innovation, and our plan in this framework is to invest approximately $150 million more in innovation over those years. However, as Kieran mentioned before and Tom and Anders, we are also going to let the marketplace determine what the speed of that innovation investment should be.

So now talking about innovation investment. When Kieran and I think about capital allocation, we are not only looking at the traditional R&D bucket, but we are looking at all our cash investments that are required to make this business good in the short run and great in the long run. We spend approximately $1.5 billion in cash investments to drive NPIs, better launches, new products in emerging markets, product and service costs, creating global COEs, engineering COEs in best-cost countries and many other digital tools that help us not only get customer delight but also employ productivity. And Jan mentioned a couple of those, especially the e-commerce portal that we have spent approximately $40 million on.

However, we make -- we are very, very careful about how much we invest. All these projects go through a rigorous vetting process, and our funnel is usually 2x of what we end up funding. These projects are all measured on ROI and cash payback before they are funded.

To give you an example on the right side of the page, we have consistently funded dual sourcing and supplier rationalization, and we have achieved 3% deflation through those efforts. We have done G&A, and we have driven G&A efficiency by reducing strategic ERPs from 49 to 3. We have funded a touchless order system that has helped unlock inventory by around $20 million.

So going on to R&D, which is a big piece of our innovation engine and you've heard already from Tom and Anders. On [innovation] or R&D, we have spent $800 million in 2018, which kind of translates to 5% of total revenue. But because of the size of our service business, internally, we actually look at all our engineering efforts as a percent of our equipment revenue, which nearly translates to 9% to 10% is our investment on equipment revenue.

Tom and Anders have already talked about the NPI engine and innovation, but I also want to let you know that spend includes our money on our digital offerings like AI and our analytical offerings. It includes our platform. It also includes new and emerging technologies like next-generation detectors and mobility because we genuinely strive to balance the short and the long term.

Included in this also is money that we spend on improving reliability. Every NPI that we launch, we try to get better reliability. The reason is it not only delights our customers, but it allows us to save costs. And as I've mentioned before, our plan is to be a global local player, and we will fund the appropriate amount of money to make sure we have the right resources in emerging markets.

So now let's talk about product and service costs because in my view, this is the largest margin expansion opportunity. We have historically delivered $300 million of product and service cost-out each year for the last few years. We have achieved material cost reduction by driving redesigning of our product, dual sourcing and supplier rationalization. As I mentioned earlier, we spend nearly $500 million of freight costs through our new global lane management system, a logistics management system, redesigning our products, we feel there's a lot of money that you can unlock in this area. We still ship 30% of our HCS products by air. If we can bring that down by just 5%, that will unlock $25 million of cost savings.

Our factories have consistently delivered approximately a net cost-out of 5%. But as we start localizing in emerging markets like India and China, we are not only going to get the benefit of the lower labor costs but more importantly, with the landed costs. Lean will help us continue this journey of driving more productivity.

Services is another piece, and Jan talked about it already so I'm not going to repeat what Jan said. But just to recap, better reliability of our products, better connectivity of our products and more remote fixes will help Jan continue to drive cost-out in services.

Our installs are still pretty painful, but our platforming efforts are definitely going to help us there. Our goal is to have a plug-and-play install as much as we can. And thanks to a lean action workout that was done just last week in one of our monitoring businesses, we have found a way to reduce cycle time of installed from 4 weeks to 1 weeks -- 1 week, sorry. The way it is done is the following: In the past, these -- the boxes would arrive in different times to the customer site, 20 to 25 boxes. You open the box, it could be a part missing. You're waiting for that install to happen. Going forward, it's going to be a prep cart, one prep cart that will end up at the customer site for the field engineer to install.

So when you put all of this together, that's where the whole -- the opportunity on product and service costs comes together. But I thought I would give you an example of how when we put all this together, you can accelerate these efforts in one place versus working them in multiple silos. Many of you will agree with me that the MR is a true engineering marvel. The production of the same is equally complex, and it happens in our facility in Florence, South Carolina. For the last few years, we have struggled a little bit on trying to solve some of the issues as regard cycle, cost to serve and inventory. We have tried different approaches, limited success. So this year, we decided that we are going to implement lean holistically in our Florence facility. And in October of this year, we had a week-long Kaizen event where all of Kieran's staff, key members of the MR value chain, which were aided by the lean -- by the world's best lean resources, we came together to go and map the current process and design the future while still keeping the customer at the center of our thought process. It was a 5-day Kaizen event, and the output of the same even blew our own expectations. We have found a way or a path to reduce cycle by 30%, improve employee safety by reducing 16 EHS risks, $70 million of inventory opportunity and $50 million of cost opportunities.

If you now visit that facility, just 6 weeks post that Kaizen, you're already going to find that in our test base, our cycle times have gone up, and our warehouses now have Kanban. I'm using Florence as an example, but we are truly jazzed by what this can do for us when we deploy it across all of GE Healthcare.

But now I want you to sit back, close your eyes and imagine what lean can do when you deploy this across all of GE's facilities. I know a lot of us would think that lean is a manufacturing tool, but the reality is that lean lives beyond our factories. Just in my area of finance, we've had 15 action workouts to improve billing quality. And we have improved billing quality -- or reduced disputes, sorry, by 20%. As we start deploying this to different parts of the support functions, whether it's monthly closing, HR onboarding, et cetera, it will unlock a lot of efficiency that will help us get to a reduction of G&A.

I have taken the liberty through this page to talk about health care and how lean can impact health care. But frankly, these problems are common across all of GE. And as the culture of lean gets hold, we will find that our efficiencies get unlocked even faster. I also will admit that lean is best learned with hands-on experience. And we are planning to have 2,000 employees in health care participate in action workout over the next few months. And we've also launched a lot of virtual training courses that continue to improve the education of lean for our employees.

Coming to my last page, which is free cash flow. The business has generated strong free cash flow of 124% in 2018. In 2019, we expect to deliver $2.3 billion to $2.5 billion, which is approximately 80% to 90% free cash flow conversion. If I exclude the Biopharma business, the business is expected to have a free cash flow of 60% to 70%. If I adjust for some of the items or normalize for some of the items that I've mentioned before, which is the reduction of monetization, the exit of our supply chain financing program, transaction costs related to the prior announced separation and some other costs, our free cash flow -- core free cash flow is in the 90% to 100%. Again, the appendix has a reconciliation of the same.

In my view, as I look at the free cash flow statement, working capital is a big piece of how we drive free cash flow in this business other than the operating profit and the leverage you get from there. But before I go to working capital, I just thought I'd clear the left side of the page with the unbilled receivables of $200 million. The driver for that was as we moved in the new accounting standard from 605 to 606, we can now recognize revenue on delivery versus earlier on acceptance. However, we don't see this to be a material number in the future.

So now talking about working capital on the right side of the page. The team has driven days to pay from 69 to 81 from 2017 to '18, and we are around that 81 days in 2019. As I reflect on days to pay, I would say, good forward progress on days to pay with our direct suppliers. There's much more to do, and we need much more focus on our indirect cost suppliers.

Talking about DSO. Thanks to all the work that we have done to improve billing quality, the team has done a good job of driving DSO down from 64 to 59 days, and these numbers do not include the effect of any monetization. The 59 days is approximately what it is in 2019. And as I think about the future, I think about that there will be a limb creep in the DSO as we grow in emerging markets, but it will be partially offset by all the work that we are doing with billing quality improvement, automated invoicing and collections and some of the other process fixes that we are doing.

And lastly, the most important opportunity in working capital is inventory. Our turns have dropped from '17 to '18 and have further dropped from '18 to '19. If you reflect on the drivers and the drivers of those are we've added more inventory into our services distribution chain for better customer uptime and response. We have had higher volume in our Biopharma business, so we had to build inventory. But most importantly, we have had some self-inflicted wounds in our manufacturing and distribution chain. But many of our capacity issues are behind us. The teams have worked really hard to fix the processes, and inventory turns will improve in 2020 and beyond.

As I've mentioned earlier, just in MR, there's $70 million of opportunity that can help our turns go from 3.7 turns to 5.2 turns. And similarly, as we deploy lean across all our equipment businesses, we see a path to get to inventory turns of 4 in the near to midterm.

So with that, I just wanted to end that this business has delivered good free cash flow conversion over the last few years, and we believe that we will continue to deliver good free cash flow in the upcoming years because of all the opportunities that I've just mentioned.

So with that, thank you so much for coming here. I hope you find this a valuable use of your time. And with that, I'll hand it back to Kieran.

Kieran P. Murphy ***GE Healthcare Inc. - President & CEO***

Thank you very much, Monish. Look, I realize that you've done sat here for over 2 hours, so I will keep this very brief. I think what you've seen this morning is a fantastic team for staff, and I also want to congratulate everybody on the presentation. But fundamentally, a very strong franchise comprised of products, service and great regional infrastructure who are driving solution thinking with our customers.

A great growth agenda where we are investing, and you can see that the innovation engine is working. You see the opportunity presented by Monish and others are lean and how that can unlock some margin expansion and how we can use that to invest for the future in further product innovation and, of course, very importantly, springboard this business through the use of digital.

In terms of our outlook for the future, we see low single-digit to mid-single-digit revenue growth. As Monish mentioned, 25 to 75 basis points of margin expansion per year and 85% to 95% of free cash flow conversion. We are very proud of this business. We see a huge opportunity here to create value as we go forward, and we think we have the right team, we have the right products, we have the right infrastructure and the right investment behind it to take us forward.

So thank you very much for your attention. And now I'd like to pass to questions, and Steve is going to tee that up.

QUESTIONS AND ANSWERS

Steven Eric Winoker ***General Electric Company - VP of Investor Communications***

Great. Great. Thanks very much, Kieran and Monish, if you could come up as well. So before we get started on Q&A, a couple of thoughts. Given the number of people in the room, before you ask your question, you could just state your name, firm. I think that will help everybody try to keep it to a question follow-up. And then second, we'll pass the microphone to you to ask your questions. Please wait for the microphone. Other than that, we did go a little long, but we want to get as much as this in as we can before we head over to the digital showcase. So we'll try to do that. Julian?

Julian C.H. Mitchell ***Barclays Bank PLC, Research Division - Research Analyst***

Julian Mitchell at Barclays. Maybe a first question around the margin expansion goal, the 25 to 75 basis points ambition. Maybe just help us understand some of the moving parts inside that. What is your assumption, for example, for pricing? I think pricing has been typically minus 1% to minus 1.5% every year, so you're starting off kind of in that hole. Maybe just start there, please.

Monish Patolawala ***General Electric Company - VP, CFO & Chief Digital Officer of GE Healthcare***

Sure. So pricing -- price loss is a reality in this business, and it's been in that range that you mentioned, between the 1% to 1.5%. Tom already talked about that we're going to do -- we have done a lot of work on trying to control pricing, reducing our price. So we're counting a little bit on that but not a lot on it. The biggest drivers, as I mentioned, are continuing product and service cost-out of approximately $300 million a year; G&A reduction of 100 to 150 bps, current G&A is 8.7% of sales; margin expansion as -- accretion, sorry, as we get our digital offerings up and running and some of the ones Kieran already talked about; and then NPI vitality of greater than 20%.

So when you put all that together, that's the oxygen that will allow us to go reinvest back the money that we need to spend on innovation, which is approximately what we said. We are thinking around $150 million is what we would invest. But again, the market's going to pace that. If we need to go faster, we'll be happy to go faster. But that's how the whole equation comes together.

Julian C.H. Mitchell ***Barclays Bank PLC, Research Division - Research Analyst***

And then just one quick follow-up. If you look at your major peers, Philips and Siemens, they're spending about double what GE Healthcare does on R&D and capital spending as a share of sales. So maybe just help us understand your comfort level that no big step-up in investment is needed.

Kieran P. Murphy ***GE Healthcare Inc. - President & CEO***

So I'll start, and I'll let Monish continue. I think you see from the level of innovation that's existing in the business the momentum we have, not just in product innovation, prize winning being announced this week, but also the investment we're making in digital. We feel very good about the investments we're making. And I think, certainly, we see those keeps us very competitive. As Monish mentioned, we have more than enough ideas that we can invest in. We are disciplined in the way we invest, but maybe you want to continue.

Monish Patolawala ***General Electric Company - VP, CFO & Chief Digital Officer of GE Healthcare***

Yes. Sure. So we -- I talked about $1.5 billion that we spent in total. But if you'd break that up and say, just talk about innovation and R&D, I look at these investment buckets in 2 or 3. There is investments that go into our Imaging, Ultrasound and LCS business, one. There's this digital business that we have and the digital platform, that's number two. And then our PDx business and what we can invest there.

Then when I look -- then when -- I referenced a number on a page, on the Imaging, Ultrasound and LCS business, because of the size of our services versus equipment, we internally look at our engineering efforts, which is the expense plus the cap software, and that number is approximately 9% to 10% of revenue -- of equipment revenue. And so when you look at it at total, you're going to say it's 5%, but you really can't compare every business because each one has its own unique need and R&D investment need.

So as of today, we feel good. But as I said, we are going to be spending $100 million more from 2015 to 2018. We are going to continue investing in that business, and we're going to plan another $150 million of innovation. So right now, we feel good that we are investing at the level we need to invest.

Steven Eric Winoker ***General Electric Company - VP of Investor Communications***

Andy?

Andrew Alec Kaplowitz ***Citigroup Inc, Research Division - MD and U.S. Industrial Sector Head***

Andy Kaplowitz with Citigroup. Two, Monish. Maybe you can reconcile sort of the growth you're seeing today versus the sort of near- to medium-term growth that you're projecting. And what I mean by that is if you look at China, Larry talked about on the call, the private markets have slowed down a bit. You're making some changes in the China business. So I know you -- it's not up there, but maybe you can talk about sort of what you're doing there and how you expect to grow. I think you said mid- to high single-digit growth over the near to medium term. Is that 2020? Or is that kind of over time?

Kieran P. Murphy ***GE Healthcare Inc. - President & CEO***

Yes. Sure. And I'll start here and I'll let Yihao chip in. Look, I would say, if you look at 2019, certainly, China was a tough situation for us. I think some of the trade tensions have made the situation difficult. That was a headwind. I think going forward, we're seeing some degree of stability reemerging here. And we feel with the team we have in China and the product lineup we have in China, especially as you start to think about going local for local, some of the points that Yihao made in his presentation and the improvements he's making in team and execution and expansion of our services business, we see a great opportunity to rapidly increase the growth rate in markets like China. But Yihao, I'll let you tell the story here.

Yihao Zhang

Sure. Maybe just add a couple of points to this. First one is that we are accelerating significantly on new product launches in China. We'll probably have double-digit new product launches between now and the next year. And secondly is we want to actively manage the global trade tension to reduce the impact on that. And third one relate to what you mentioned about private, we're doing quite a thinking there. We've actually elevated the visibility with the private team, and we get to dig our hands much more closely with that as well.

Andrew Alec Kaplowitz ***Citigroup Inc, Research Division - MD and U.S. Industrial Sector Head***

And for a follow-up. Obviously, big focus on digital. You've guided your services up over time. If you look at GE legacy, you're always the lower end of services. And so I think for health care systems, you're at 35%, right? But digital itself is still under 10%. And I look at the growth that you're giving us, and services is still expected to grow slower than equipment. So how do you get services to really continue to expand? Can you get to sort of 50%, which is what GE is overall for the rest of the same? How do we think about that?

Kieran P. Murphy ***GE Healthcare Inc. - President & CEO***

Yes. Look, I can let Jan add to what I'm going to say here. I think if you look at the agenda that Jan had in his planning here of expanding the services portfolio, really providing much better connectivity between equipment, and that's out in the field and back at HQ so that we can do predictive services, be more proactive and the application of some of AI and digital, we see subscriptions and a whole host of these services as being a way in which we can increase the growth rate.

He also had mentioned the expansion in biomedical services and some of the GoldSeal-type offering. And we see all of these things as we are continuing to expand as customers have pointed out to me at dinner last night. They are still looking to get more from the plant and equipment they have on the ground. And if -- the more we can revitalize that with upgrades and options and so on, that's a great return for them and it's good for our services business as well. Jan, maybe you want to comment?

Jan Makela

Yes. I think your question is about one of our competitors' percentage of service compared to equipment. The first thing I'd say is we have a different mix of equipment revenues, right? So we have a much bigger LCS business and we have a much bigger Ultrasound business, and those are typically lower service revenue businesses. So I think if you try to adjust for the sort of core imaging, you would see a different number.

Having said that, as I said, we are drawing capture rate on that installed base. So over the next few years, we are targeting to drive a mid-single-digit increase in capture rate on that installed base.

Unidentified Analyst

Just on the guidance for the fourth quarter, you said that sales were going to be flat to down. Just doing the math on that suggests kind of of towards the lower end of the annual range. Is that the right math on sales?

Kieran P. Murphy ***GE Healthcare Inc. - President & CEO***

So you want to comment...

Monish Patolawala ***General Electric Company - VP, CFO & Chief Digital Officer of GE Healthcare***

So it is at around 3% is what we'll end up on an organic basis in total.

Unidentified Analyst

Yes. So okay. And then on the working capital side -- sorry, the free cash flow side for 2018, what was the $400 million of positive from taxes and other? And how do you see that -- and you said there's some unusual tax item this year that's going to be a headwind.

And then one more question on free cash flow. You guys, in 2018, had said the conversion for 2017 was greater than 100%. You're now saying it was 90%. Is that just a change in definition? Or was there something that kind of moves around in the accounts?

Monish Patolawala ***General Electric Company - VP, CFO & Chief Digital Officer of GE Healthcare***

So I'll answer the first one and then I'll try the second one, but we'll get back to more detail. So on the first one, on the $400 million, $200 million of it is -- approximately half of it is Biopharma, which is where we end up getting some tax benefits on our structure that we have there, and the balance comes from the HCS business. Piece of it was unusuals in 2018 that we paid back in 2019. That's the big change in that number. The Biopharma will remain at approximately $200 million.

Unidentified Analyst

Okay. And then just the conversion ratio?

Monish Patolawala ***General Electric Company - VP, CFO & Chief Digital Officer of GE Healthcare***

So I'll have to go back, but I think it's the 606 change and how that whole math has worked out. I will just go back and recheck that for you.

Veronika Dubajova ***Goldman Sachs Group Inc., Research Division - Equity Analyst***

Great. Veronika Dubajova from Goldman Sachs. I had 2 questions. One is for Monish on the financials. Just curious, if you look at the various parts of the business, where do you think the biggest margin opportunity lies today? As you think about that 25 to 75, is there a particular segment that's underpinning it more than others? And then my second question is more on the overall end market environment in the U.S. I think there's been various conflicting comments from some of your medtech peers over the past quarter or so about what's happening to U.S. hospital CapEx spending. Given that we're at RSNA, I know it's early into the show, but curious what you're hearing from customers so far on that environment. Kieran, if you could comment on that.

Kieran P. Murphy ***GE Healthcare Inc. - President & CEO***

Yes. So I'll stop there first if you don't mind. Look, I think we -- it's difficult to predict, first of all, because we are facing into an election year. What we see generally across the piece is that, and somebody in the presentations mentioned consolidation, so that trend is continuing. We do see a continuing trend for renewal of the installed base. So that's -- and we see no reason for that to slow down. So I would say, look, we see it as being reasonably steady, and Everett reflected that in his comments. So we're not expecting any major shocks. In fact, we see a nice steady growth environment. Everett, have you anything to add to that?

Everett Cunningham

Great. I would just echo that what I've seen just in my 5 months, I've spent a ton of time with customers. And I said in my presentation, we're seeing decisions slow down a little bit just because of the nature of the decision is going up a little bit higher in the chain. But as Kieran said, steady, steady marketplace in that piece.

Kieran P. Murphy ***GE Healthcare Inc. - President & CEO***

And then your second one was on margin expansion.

Monish Patolawala ***General Electric Company - VP, CFO & Chief Digital Officer of GE Healthcare***

So margin expansion, I'd break this up, and Tom and Anders a bit on it. I would say the Imaging and LCS businesses have the biggest opportunity on cost improvement. Whether it is supplier rationalization, dual sourcing, driving better NPI vitality is where, I would say, margin growth.

For Anders and team, they have done this for a long time on the Ultrasound business. So for them, the growth that they'll get will give you the operating leverage. And the last piece, as digital, these offerings start taking place, you may get margin expansion -- accretion, sorry, because the rate is going to be far higher. So that's how I would break it out.

And the PDx business, I would say, continues to do a nice job on driving revenue growth and operating margin expansion. And I don't see any major change in that trend. And I -- they do a good job managing their business, and I see that going forward, too.

Edward Nicholas Ridley-Day ***Redburn (Europe) Limited, Research Division - Research Analyst***

Ed Ridley-Day at Redburn. First question, again, this year, there's a plethora of new machine learning companies that you're partnering with, and we've discussed that today. What are your preferred financial model for working with these companies? Is it a click fee-based? Can you talk a little bit more about how you introduce that? That would be my first question. The second question, this morning, you've acknowledged your investment in CMR Surgical, the U.K. robotics start-up. Can you talk about your plans in that space and how you might be taking that relationship forward?

Kieran P. Murphy ***GE Healthcare Inc. - President & CEO***

So let me start with the CMR investment force, and I'll let Tom comment on this as well as appropriate. First of all, with something like CMR, this is in attractive adjacency. And within our strategy, we've identified adjacencies where we'd like to play. And certainly, robotics is one of those. We are very impressed with CMR as a company. This is great technology, great management. And so quite frankly, it was our way of dipping our toe in the water and having a better look at that business. And of course, we may have the opportunity in the future to do -- to actually take some of these products to the market. And as I mentioned in the presentation, there isn't a single company out there, and I'll come to this point in relation to digital as well in a second. They all want us to effectively put these things on our platform, whether it be distribution or digital or Edison or whatever, because -- just because of our reach into the market.

And I mentioned the 8,000 service engineers. Again, if you are a smaller company trying to put quite advanced equipment out there, having a service backup is absolutely critical. So there's a win-win situation here for a company like CMR. They see this amazing, which we have into the market and the -- just the sheer intelligence we have in the market. But also for us, we get to learn about what they're doing, get to learn about that adjacency. And we think it's a pretty interesting space, and we think it's a great company.

I would say then, just back to your question on the business model generally. So you saw this week that we launched, first of all, this developer kit for these people out in the market. And so effectively, I mean, that's how this should work at its best. They take that kit. They develop an algorithm. We validate that algorithm or we certainly look closely at the quality, especially the variety of data that algorithm is based on, what sort of volume it's based on, is it sufficiently diverse for the algorithm to be well trained. And if we're satisfied on those fronts, we introduce that onto our platform. And then these things will be a fee per click further down the line.

So naturally, it varies because with some of these, we have to go very deep with academic collaborators to ensure that we really fully understand the clinical use of some of these algorithms because the big trap here is that we develop algorithms that have no real impact on productivity or patient outcome. And sorry for giving such a long answer, but there was a key point in this, which is short term, we're really very focused on workflow, and you saw that in some of the presentations because workflow as a shorter part has an immediate impact. And of course, it's easier to show progress through the algorithm.

Anders or Tom, do you have any comment to make on any of those points?

Thomas J. McGuinness ***General Electric Company - Chief Strategy & Commercial Officer of GE Healthcare and VP of GE Healthcare***

I would just maybe add to the CMR Surgical point, Kieran. I think you covered it well. I think there's, as I discussed in my presentation, a natural synergy between imaging and between robotics. So we think both on the technology side, the eyes of the robot as well as from a commercial standpoint, covering the call point in the OR is a pretty important piece as well. So we're excited to make this investment. We do see a real learning curve for us here and ways of kind of extending that partnership as we go.

Kieran P. Murphy ***GE Healthcare Inc. - President & CEO***

We also made an investment in farm labs. We announced that and a company called the (inaudible), which is involved in Anders' business on remote monitoring.

Steven Eric Winoker ***General Electric Company - VP of Investor Communications***

Nigel?

Unidentified Analyst

Two questions. There's been a huge kind of move towards these in China as a sourcing location, especially in CT. So how has the trade conflict changed that sourcing strategy? That's the first question. And the second is can you just give us a recap or state the union in terms of competition? We know Siemens, Philips, major competitors can (inaudible). But what about Mindray in China and Samsung as well?

Kieran P. Murphy ***GE Healthcare Inc. - President & CEO***

Yes. So for some of the competitors like Mindray and Samsung, I'm going to ask Anders Wold here to comment because he's very familiar. They're very much in his space. I would say for companies like Siemens, we -- clearly, we look closely at how they're performing. And I would say in any 1 year, we trade blows. They win some share from us. We win some share from them. And certainly, the mix of business they have is slightly different. As Monish mentioned before, we have a bigger services business, which kind of dampens our growth rate a little bit. But I would say it's -- we're -- overall, we're kind of encouraged with the state of the market, quite frankly.

I think you might ask me a separate question besides the Mindray one. I can't remember what that was.

Unidentified Analyst

Sourcing.

Kieran P. Murphy ***GE Healthcare Inc. - President & CEO***

Sourcing, sorry. So for sourcing, look, we source everywhere we can to try and ensure that we get best cost. I don't think we've made any dramatic changes, but what you've seen quite clearly is that we are expanding. For the China market, our products we place locally with 4 really high-quality plants in China. And so naturally, we're sourcing in China to support those plants, but we have a diverse space.

You mentioned that in terms of (inaudible), do you want to say anything?

Monish Patolawala ***General Electric Company - VP, CFO & Chief Digital Officer of GE Healthcare***

Yes. I would just say, as we start getting local capabilities in each of these markets, you're automatically opening up a supply chain that doesn't get impacted by tariffs or trade wars in any way. But in the short run, we have got impacted by the trade war and the tariffs that we are paying. So what we have tried to do is we still look at landed cost to make sure that it's still the cheapest when we buy. But secondly, in the case of China -- mainly China, we are moving a lot of our production there. We already have 3 or 4 sites. We're getting more localized production in there. That's another way you can come back, and we have already moved.

But the supply chains don't move overnight, right? It can't just move these things because they're highly qualified product. They're FDA approved. And I just -- we can't just move them. But we are moving down that path. At the end of the day, trade wars can be where they're going to be, but we are going to be as local as we can and be global players, so then that just takes away that whole issue or minimize it to the extent.

Anders Wold ***General Electric Company - CEO & President of GE Ultrasound***

Just a follow-up on the competition question here. So for Ultrasound, for instance, there's plenty of competition, and the #1 will be Philips. Siemens is not really a competitor, very small. And there's plenty other small ones, but I mentioned a couple that are sizable, Canon, for instance, ex Toshiba, would be there. Hitachi is another one. And you mentioned Mindray, definitely a competitor, and we see them coming out of China and becoming global to some level and a little bit of Samsung as well. So the bigger companies are starting to invest in a different way in ultrasound.

In LCS, it's different. So you'll find different competitors in different specialties. So Dräger, I'll add them into the mix, but Philips is there, too, and Mindray. Those are the players. And if I want to -- you have to mention a little bit of China because China is interesting, definitely coming into the market. And Mindray will be definitely one key competitor. Maybe you want to add a few more.

Yihao Zhang

Sure. I think a couple of things we talked about before. In China, we have started to finish capability from design, product planning, manufacturing. We have a very strong lean implementation in our ultrasound factory. And then in addition to that, we have -- every year, we have new product launches. We have very high NPI vitality index. So by design, the products for the Chinese customer and have the full capability in China, and they have great new product launches. And really, finally, being back to what Kieran said, being local globally, and we want to be local. We are the -- to compete locally.

Steven Eric Winoker ***General Electric Company - VP of Investor Communications***

All right. Maybe we can get one more.

David Emerson Ridley-Lane ***BofA Merrill Lynch, Research Division - VP***

Sure. David Ridley-Lane from Bank of America. On the $1.1 billion in digital revenue, is that profitable today in 2019? And what kind of incremental margins should we be thinking about for that business? Sort of software-like gross margins or more of a mix of original equipment-type margin?

Monish Patolawala ***General Electric Company - VP, CFO & Chief Digital Officer of GE Healthcare***

So the business -- the pieces of that $1.1 billion -- and I would say, in general, we make more money in some of our software than the pack business. But I would say, in general, we are profitable. But if you include all the investments that we are making on digital right now, the business is closer to a breakeven from that perspective.

As you see the future come through, you are still going to see growth in packs. You've seen growth in some of our advanced digitalization. But some of the other items that Tom and Anders have talked about will have significant margin expansion -- or accretion as they start picking up. So I would say, again, a lot of these things are just out in the market. We are learning through it. But I would easily say it's far more accretive than even our services business. So plus -- 50% plus, but that has to take hold, and we'll have to see what the market ends up doing. But we are confident that's what we can get there.

David Emerson Ridley-Lane ***BofA Merrill Lynch, Research Division - VP***

And then just really quickly. In the U.S., there's a big trend towards ambulatory surgery centers versus hospitals. What is GE doing to try and take advantage of that trend? And how significant of an impact do you see it in your particular mix of equipment?

Kieran P. Murphy ***GE Healthcare Inc. - President & CEO***

Well, certainly, the trend is there. And we are a key partner to a lot of the players that are expanding along those lines. I think we'll -- when we talk about digital and what we are doing by way of deploying digital and using telemetry and so on and remote reading of scans and also using things like Command Center, as I mentioned before, with 9 Command Centers out there that are controlling 45 hospitals, that sort of infrastructure we have sets us apart as people start to think about expanding naturally into ambulatory care. But you're absolutely right, and of course, it makes absolute sense that we go that route. Certainly, everything we're doing in our digital strategy is directed towards that sort of operation and with that sort of trend in mind.

Steven Eric Winoker ***General Electric Company - VP of Investor Communications***

So it's just past the top of the hour. With that, we're going to end the webcast, and I'm going to ask everybody in the room if you could make your way quickly over to the digital showcase. We're going to fly to that pretty quickly. And then after about 20 to 30 minutes of that, we're going to have the buses ready outside. Okay? Great. Thanks, everybody.

Kieran P. Murphy ***GE Healthcare Inc. - President & CEO***

Thank you.

Monish Patolawala ***General Electric Company - VP, CFO & Chief Digital Officer of GE Healthcare***

Thank you.