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# EDITED TRANSCRIPT

GE - General Electric Co Oil & Gas Investor Meeting

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#### Forward-Looking Statements:

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“In this document, “GE” refers to the Industrial businesses of the Company including GECC on an equity basis. “GE (ex-GECC)” and/or “Industrial” refer to GE excluding Financial Services.”

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## PRESENTATION

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### **Matt Cribbins - General Electric - VP, Corporate Investor Communications**

All right, good morning and welcome, everyone. We are excited to host our first Investor Day on GE Oil & Gas. A couple of quick announcements before I hand over to Lorenzo and the team. This is a webcast and the materials are available on our website. The team will come up and they will do a presentation for about an hour and a half. We will then open it up for questions and the team will be around after that here in the room if you would like to meet with them. As a reminder, the presentation does contain forward-looking statements. It is our view of the world as we see it today. As you know, things can change. Please look at them in that light. I would like to introduce our CEO of Oil & Gas, Lorenzo Simonelli.

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### **Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

Thank you very much, Matt and welcome to what is going to be a great morning and we are looking forward to showing you what we have completed over the course of what is 20 years of being in the oil and gas industry. And I've been in this role for the last year and what we've been focused on is really how we continue to grow this platform that has been a great franchise for GE. We are going to give you an update on what we see in the industry, but also how we are addressing it from a perspective of the products and also the solutions that we are pulling together for the industry. So let's get started.

20 years ago, we acquired NuovoPignone. Where are we today, what have we pulled together? At the end of 2013, we have a portfolio that is \$17 billion, 45,000 employees. We have a business that spans the oil and gas space. It goes from extraction, to transportation, to end-use. You can see that we focus on the Subsea, Drilling & Surface, Turbomachinery compression and down into the Downstream. We will walk you through all of these areas and we will walk you through what is important from an aspect of the customers and how we are matching up with the customer needs.



Let's start off with the industry view though, what's important from an industry perspective and how do we see the industry. I know there's a lot of questions out there with regards to what is happening in the industry. We see the fundamentals of this industry as being solid and robust over the long term. Energy needs continue to be out there. As we have increasing populations over the long term, there is going to be a need for energy. And that needs to be fueled; it needs to be fueled through oil and also through gas. And we see the annual growth rate over the course of the next few years at being at 6% from a spend perspective.

We see that from our customer base and we see that on an industry perspective. And we look at it in particular areas of focus as well. When we look at the Subsea space, we know there's volatility out there. There are going to be cycles, but over the course of the next few years, the spend is going to be there from a 9% annual growth perspective. We've got a focus in the Subsea and we will walk you through that.

On the unconventional oil and gas, you've seen what's happened in North America. We see opportunities in other areas of the globe. That also will grow at 9% on an annual growth rate and then on the gas infrastructure side, LNG, the spend again 8%. We've built a great franchise on the gas infrastructure and we will walk you through how we've built that and put it together for our customers.

So what's important to our customers, what are our customers looking for? How are we matching up? Their needs are around capital efficiency. They are looking to make sure that they have projects that are capital-efficient, they are focusing on their bottom line. We are there to make sure that we are providing them those solutions through standardized products, also productivity, productivity through the lifecycle.

We also are making sure that we are there from a technology perspective. When you look at the resources and you look at what's happening in the industry, these resources are coming from more complex, more complicated areas. We are out there with technology that we are able to bring to the oil and gas industry and to our customers to make sure that we can meet the complex needs of this industry. So we are matching up and making sure we are partnering with our customers as they go through the industry and as their needs evolve, we are evolving with them and we will make sure that we touch on each of these as we go through the presentation.

So how does it come together? How do we make sure that we align with the evolving needs? Over the course of the 20 years, we've built a franchise that is formidable from a perspective of products and services. These are acquisitions, as I mentioned. 20 years, it started with NuovoPignone and have continued and these acquisitions have exceeded pro forma on aggregate. And you can see we've built a franchise on the Subsea space, on the Drilling & Surface side, as you look at the Turbomachinery space and also on the Downstream and that allows us to play along the value chain for our customers. And the customers being the IOCs, the NOCs and the independents, matching up what's needed for them.

I wanted to share with you how we put this together. It is not just the product portfolio we have, but let's take a look at a specific project. How does it all come together and then how do we differentiate at GE Oil & Gas. This is an example of a project that you would see on a Subsea arena. What we are able to do is, as we start out with our drilling capability, we've got the blowout preventers, the risers. We are there at the onset with the exploration side.

We are then there partnering with the IOCs, the NOCs from the aspect of the Subsea space with the trees, the manifolds. We are then there from the aspects of the LNG and the Turbomachinery equipment that we provide and we are also there forever in the Downstream. We are there from a refinery petrochemical perspective with the pumps, the valves that we are able to provide and the underpinnings are there from a measurement and control perspective, providing analytics and also information and gathering productive information on all of the equipment we have in these projects. So we are able to provide a total view to our customers.

These are simple regular projects that we execute and this is an example of what's taking place in Africa, what's taking place in Australia, but at GE we add more. We've got the GE advantage of what we bring from being part of GE and that means the capabilities that we bring in from GE Aviation, we bring in from the Global Research Centers. 50,000 engineers are out there to provide benefits to our customers, provide them technology and capabilities from the rest of GE. That is unique within this industry. We've got 1,000 software engineers in San Ramon that are able to help our customers from a software perspective working on productivity and capabilities. We've got the GE toolkit of simplification and FastWorks initiative that again enables us to focus on supply chain and making sure operational excellence is in the field and there for the customers.

So I think as you put it in aggregate, we are getting a lot more than just the products and the equipment that GE Oil & Gas has. Within a project landscape, we are able to bring in the whole aspects of the GE DNA, which is formidable for our customers. This is what they value and this is a differentiation as we go out there on the globe. And we match it up with a commercial front end of also the global growth organization, which helps us make sure we are close to our customers in each area of the globe.

Our focus at GE Oil & Gas is on four specific areas. It starts with operational excellence, making sure that we are on time, at the right cost, with the right quality. Our customers demand that of us. They want to make sure that operational excellence is in the field all of the time. We want to ensure that also for the returns to our shareholders. Secondly, differentiated products and services, making sure that we've got the right technology and the right capabilities to match up the complex resources, the projects that they are going after, and the needs that they have in the field.



Thirdly, the capability and scale of a global footprint, making sure we've got the local facilities, the local people and also we are there at the right time when they need us. We've built that capability. And fourthly, making sure that we've got the best people and a simple structure. You know GE has got a simplification initiative. We've also got that at GE Oil & Gas, a focus on making sure that we stay lean, we stay fast-moving and we are there always for our customers. And we've got the best capable individuals and a great team that we've pulled together.

So this is our focus and I am going to walk you through each of these elements as we go through it one by one. When we think about operational excellence, it starts with safety. Safety is paramount in the oil and gas industry. I think for all of you that have seen the oil and gas industry, you know safety is paramount for our customers. We start every meeting with a safety focus. We are in the industry, 3 times better than the industry. We've got a focus on safety. It's important to our customers; it's important to us. It's important that our employees return home safely. EHS is critical in this industry and we place it at the forefront.

We also make sure that we are there from an operational excellence of supply chain, making sure the on-time delivery and the right cost focus. I mentioned to you the aspect of being on time and having a cost focus is important for our customers. We've been able to bring down the cycle time of our product deliveries. You can see our blowout preventers. We've reduced the cycle time by 40%. On the flow of our parts, we've been able to bring down from weeks to days the delivery of our parts out to our customers. This is key. When we look at expanding facilities, we've expanded capacity. Again, a focus on where our customers need us and you can see the North America capacity that has been increased, as well as their new facilities that we'll walk through in Brazil, in Angola that have been investments that we've made.

And improving capabilities. This again is the GE DNA. It is the aspect of FastWorks. It is the aspects of the material knowledge that we are able to bring it. We actually received an award from APICS, which is an innovation award on the material capabilities that we are able to bring in from a GE perspective. There is a focus on lean; there is a focus on cycle time. This helps address the needs of our customer from a capital efficiency perspective. It also helps to ensure from a shareholder perspective we improve our returns as well.

As you look at execution on projects, you've heard about the oil and gas industry being plagued by project delays. We've got a focus on making sure that we have the best project execution, making sure that we've got skilled individuals with the right project domain and know how to execute a project. If you look at a Subsea project, there'll be different steps that have numerous articles and definitions. A particular project may have 28,000 articles that have to be assembled and have to be defined. We have created tools; we have digitized them so that you go from weeks to minutes in being able to assess them in the field. That is a capability that we are bringing to the industry and we've been able to improve our first-time yield by 2X in Subsea over the course of the last few years. Again, improving the capability that is out there for our customers and also making sure that we meet their needs. Better project execution out there in the field is critical.

As we look at capital efficiency, it's also important that we focus on standardization. What you have pictured here is an example of a DVXT tree. This is a Subsea tree that we launched a couple of weeks ago at ONS in Stavanger. This is a standardized tree that now enables us to reduce the cycle time. 18 months used to be the cycle time, 30% faster than industry norm. We are able to bring down the working capital. We are able to provide to our customers in the field a standardized product that now they have on hand. They are able to take from well to well. Huge advantages for them and later on, we will walk you through some other examples of what we are doing on the Subsea space. Again, standardization helping to drive the capital efficiency both for our customers and ourselves.

And as we go forward, we've got a big focus on technology, differentiated products and services and at GE, we like to look at the GE store. We've got the capabilities within GE Oil & Gas to provide the products and the equipment that I spoke about before, but we can provide so much more because we've got the capabilities from GE. And this is a chart that shows what we can provide within the Subsea space. You can look at the capabilities from the manifolds, the trees that we have in our portfolio, but you can also look at the aspects that we gain from our Energy Management business, the motors, from our Power & Water business. You can look at the capabilities we have from our Aviation business with regards to the material capabilities and also advanced monitoring capabilities. Our Healthcare business from a diagnostic perspective.

This is the benefit that we have from a GE perspective. This is the advantage that we provide to our customers from a standpoint of being in the industry and being able to provide the technology. Here is an example as you look at differentiated technology. This is the first offshore floating LNG. This is in partnership with Shell. It is a project that is being executed and this brings together three capabilities from GE. We have the capabilities of our Turbomachinery business with the compressors. We have the capabilities from our Subsea business with the flexible risers. We have the capability from our Measurement & Controls business with the valves. Again, this is the power of being part of GE and this is meeting the technological requirements that are out there.

We've got 7,000 engineers in GE Oil & Gas, but we've also got the 50,000 engineers across GE. We've got the research centers that are able to assist us. So there's this huge capability as we go forward. This is an example with Shell and this is an example of being able to match the needs of our customers as they go to new frontiers. I mentioned the aspect of complex resources. Complex resources of going to new depths, new parameters of psi's requirements. This is a blowout preventer that goes to 20K psi. We are in collaboration with Maersk and with BP on the development of this product. It's not just a blowout preventer that goes to new requirements; it is also a smart blowout preventer. It has the analytics, it has the data, it has the control systems that we've taken the Mark VI that actually enabled it to also be predictive.



Looking at the lifecycle productivity, looking at the capability of diagnostics on a blowout preventer, this helps our customers. It also provides more information; helps to reduce unplanned downtime. That is the focus of the industry and that's where we are focused with the new products that we are launching. Huge capability that we are bringing into the marketplace as we go forward. And also matching up with the new projects that are out there from a deepwater perspective. We see this as a great area for growth going forward.

And we've got the capability across the globe to match where the growth is. The empowerment and the people. We've assembled a great franchise. You've seen the products, you've seen the businesses we've integrated. When you look at the capabilities, the global footprint is second to none. And we've made the investment in the places where growth is taking place and we continue to also make investments where growth is taking place. You can see in Brazil capabilities we've added from a Subsea perspective, a Turbomachinery and a Measurement & Controls perspective. Over 2,000 employees that are dedicated to making sure we satisfy the customer needs in Brazil. Big growth opportunity with the spend that is taking place there.

Angola and Nigeria, a number of new projects that are going to be taking place in the future. Investments that we've added from a capability of matching up with the needs there. And Indonesia, Southeast Asia, another area of growth for us. We are matching where our customers need us, making sure that we've got the right people in the right places with the right capabilities.

As you look at it, we are matching that up with making sure that we've got a focus on cost. We've got a focus on simplification. That is a GE initiative and we've made sure that we are translating the GE initiatives into GE Oil & Gas, taking the best. We've brought down our SG&A and we are targeting to have brought down our SG&A 250 basis points by the end of this year in the last couple of years, making sure that we focus on what is value-added. It's not just on the SG&A; it's also on the product cost arena.

You've got examples here of where we've been able to bring down the actual product cost. You've got a compressor example here where we've improved the performance for our customer, we've actually reduced the weight, the size and we've brought down the cost, a benefit to our customer and also a benefit to us from our return on our shareholders. We've got an example on the drilling risers and also on the beam pumps. As we've acquired the capabilities and we've integrated them into GE, we've had a focus on making sure that product costs are coming down and that again is the way in which we are reaching out to our customers and we are making the Oil & Gas business better and more efficient.

So all of this translates into a financial performance that we are proud of. And we see it being in line with the expectations and we've got a focus on making sure that we deliver to our shareholders. We are bringing in a focus on going after the new opportunities, the new areas of growth within the industry. We are focused on the improving returns and we are going to continue outpacing the industry growth and returning to the shareholders with double-digit returns.

And when we look at returns, we've got a focus on improving margins. As you can see through the first half, we've improved margins by 60 basis points. That is in addition to the improvement that you saw in 2013 of 20 basis points. And as we continue to mature the integrations, as we continue to have the focus on driving product standardization, the cost-out on the products, as we continue to simplify our systems, we see those margins continuing to improve and we've got a future to continue to lead GE portfolio on returns and deliver to our shareholders.

And it all comes together by having a great team, a team that's focused, a team that's dedicated and passionate, industry experts. We've got 45,000 employees out there and we've got some industry-leading experts that we've brought into the business and we've got a number of them here today that are going to walk you through the various business segments. And to kick it off, I will pass it over to Rafael Santana to talk to us about gas infrastructure. Rafael.

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**Rafael Santana - General Electric Oil & Gas - VP, Turbomachinery Solutions**

Thank you, Lorenzo. Hey, hello, everyone. It's great to be here with you today. On Turbomachinery Solutions, we took that business into \$5 billion in revenues last year. This is a business that really marks, I would say, our first big step into oil and gas. That goes back to 1994 when we had the acquisition of NuovoPignone. 20 years later, we have grown this business organically by more than 6 times. We have here a portfolio of solutions that really expands across the value chain of gas infrastructure. When I look at it, we are especially focused in Turbomachinery in the Upstream and the Midstream. Later on, you are going to be hearing from Hasan Dandashly on the Downstream piece of it.

Some of these solutions really speak for what we would call power gen, but also compressor packages that go on both onshore, but they go into offshore applications. You've got to be thinking here of products such as drivers, such as gas turbines, electric motors and compressors. We apply those into onshore into places like LNG, into pipelines, but we go all the way to offshore, into FPSOs, floating LNG and various other floating devices out there. It's a portfolio that we've got a large installed base, over 24,000 machines that really allow us to have a good way to partner with customers on maintaining and getting most of the availability and reliability of those.



With that in mind, I thought about spending some time with you here on some spaces that are meaningful to us and that will still push a lot of momentum as we look forward. Let me start first with LNG. I want you to think really about multi-billion dollar projects. Here again we provide the turbines and the compressors that will actually compress the gas, liquefy it so it gets transported. In order to win on this space, you've got to really have good products that have been proven and that have been referenced in this kind of application and here we pride ourselves with a portfolio that really no other company has.

The other aspect here of the winning in this space is having a track record of executing through complex projects. Think here, you are sometimes dealing with multiple EPCs, remote locations. You are connecting here thousands of suppliers to bring these projects alive on time. So here, we've positioned ourselves well and we've continued to change the space over and over.

A couple things I want to mention to you here today. We are the first ones to bring turbines from the Aviation space into this space right here. Again, when I talk to you about having proven products and reference products and as we are doing that, I've got to tell you we are increasing uptime and we are increasing efficiency for customers in this space. This is coming real and we have a showcase. As you think of the first exports LNG terminal in the US, that's going to carry that kind of technology. So bringing Aviation technology into this space.

Some of the other things that are important in this space here when I speak about the project capabilities. It has been over more than 20 years that we've really invested on not just getting the expertise, but getting the tools to be able to manage through complexity. Here to attend Oracle's annual meeting, you will hear there about us as being the first ones to really partner with them back as early as 2002 on developing an ERP system that allows us to connect back with thousands of suppliers, EPCs, shipyards and being able to deliver here on time. This is an industry that again now we've positioned ourselves well and we are proud and as we look into the growth expense ahead of us, I think we are well-positioned to grow.

Our business goes beyond LNG offshore itself, so an important piece of the business. In fact, if I was to add offshore and LNG, that calls for about 50% of our business. As we look into offshore through this segment that we especially made a lot of progress in the last couple of years. We have to go back and really sit down with customers, reengineer some of our packages for both here power generation and compression to really make sure we could remove footprint and we could remove weight to make sure those were competitive. This has allowed us last year alone to go back into the North Sea with companies like Total, with companies like Statoil and after seven years not selling into the North Sea, we are back selling in the North Sea. This is a space that we continue to invest. We have been differentiating ourselves.

When I look into the last 24 months, we are growing faster than the industry is here and the way we are removing again cost on both footprint and weights, one piece is partnering with the customers; the other piece is injecting technology. Think here on again bringing Aviation technology with lighter materials, but materials that are able to stand harsh conditions. The other piece of it is how do you remove gearboxes? You establish oil-free systems that allow customers to have lower CapEx, lower OpEx and lower manning at those platforms.

We haven't stopped here. In this space, we've built from the expertise we have on LNG and we are partnering with customers on developing the first floating LNG solutions out there. We've partnered with both Petronas and Shell and this is really coming altogether with great differentiation. I spoke to you a lot about here equipment, but Services is a big piece of our business. It is an area that we've had a lot of focus. If I go back to 2002, this was maybe 20% of our business. Services is today close to 50% of our business with over 24,000 units out there, of which we have at least 5,000 gas turbines. This has allowed us unique ways to partner with customers on injecting technology and upgrading those assets as we look forward.

One of the things we are doing it different here in LNG per se is the fact that we are injecting technology with more sensors, with more analytics. We are allowing ourselves to partner with customers in a complete different way. So we allow customers now to potentially run equipment harder during certain periods of times so they are able to get more output out of those, but you do that in a way that is still able to read on how the equipment is running and you are able to guarantee both availability and reliability of those assets. It generates more value for the customer, but also generates more value for us.

As I walk you through LNG, offshore and services, this is a good chunk of our business. It is a space that is roughly between \$10 billion to \$12 billion overall a year and we've always really looked deep into it how could we grow beyond that. And what I am about to talk to you here, it's something we are going to be announcing formally at the end of this month. One of the opportunities we've had was to really look into having drivers that were below 20 megawatts. This is a space that in Oil & Gas and gas alone would open up to us \$5 billion. So think that if we could basically grow by 50% the space we could play in today.

So we've made that decision two years ago. We've partnered with customers on co-creating this productline. We have orders for it. We are delivering the first turbines in third quarter next year. This is going to be presented at the Turbomachinery Symposium in the latter part of this month. One great thing here is how we've done this too. Traditionally, you would have taken anywhere from five to seven years to be developing a product like this. By applying FastWorks' concepts, we've allowed ourselves to really use tools like 3D printing on getting faster to prototyping so we could test and have a product being developed. So we are very proud of what we are accomplishing here and really opens up a lot of opportunities for us to grow.



Talking about partnering with customers, I've got to bring it up to you a press release we are doing today. This is the first world scale electric LNG plant being done and it is being done in North America in Texas. So we have a press release on this today. It really speaks for all the value we can bring from GE, not just the expertise that we bring again from the LNG side. We are bringing here equipment and we are bringing technology from both Energy Management with power conversion, with Power & Water. We are bringing financing to make this project come live.

With that being said, we feel good about the spaces, good growth. We feel we are well-positioned with the products and with the solutions to beat the growth expectations ahead. We've invested in additional products to really open up more opportunities for us to grow. With that, we've really had a lot of focus on eliminating costs, bringing more productivity and that is paying off. We feel we are well-positioned to deliver value now and in the near future. With that, I want to introduce you to Hasan Dandashly. Thank You.

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**Hasan Dandashly - General Electric Oil & Gas - VP, Downstream Technology Solutions**

Thank you, Rafael. My name is Hasan Dandashly, as Rafael said and I lead our Downstream Technology Solutions business. This business was about \$1.5 billion last year. We provide products and aftermarket services for the refining, petrochemical and the evolving distributed gas or downstream gas business. The solutions that we provide include similar to what Rafael described, compression solutions. So we have compressors and then we have drivers. The drivers could be gas turbines, steam turbines, motors. We also have pumps and valves and all the services that go with these. So this is kind of the business overall.

Today, what I'd like to talk to you about is the evolving role of gas as a downstream fuel. When Rafael in his first page talked to you, he showed you a continuum of gas infrastructure that goes all the way from upstream to downstream. Gas has always been used in downstream, but what we see now is that there is an increasing role for gas in downstream. We see that LNG and CNG are becoming a downstream fuel. LNG used to be an upstream/midstream fuel just to get the gas transported. Now we see LNG being used in applications.

In order for this to happen, three things have to come together and we will describe them here. First, from a gas source, there are many new gas sources that are coming online. The unconventional finds starting in the United States and then going into many other parts of the world are increasing the gas availability. There are many new finds, the East Med, Mozambique and many other places where gas is being discovered in the world. There is a lot of flared gas that is being flared out there. 4% of the gas generated in the world is flared today and 30% of the gas that is generated in the Bakken is flared today and that gas could be used. And there are many stranded gas fields that historically have been out of reach and could not be utilized.

If you get to the second factor is the new applications or the new ways of using this gas. Transportation, that's locomotives, heavy duty trucks, marine. It's estimated that if we are able to convert only 5% of the worldwide use of diesel for transportation, that will generate \$16 billion of savings for our industry. The other application is Distributed Power generation. There are many places in the world that don't have electricity. They don't have it because the grid cannot get there and the fuel cannot get there. With our Distributed Power capability from our Power & Water business, we will be able to bring power to these places of the world.

But to bring the power, you need fuel and again, it's estimated here if you convert 20% of that power from diesel to LNG, you will be able to save \$5 billion for the industry and the list goes on and on. So all of these new applications of gas are possible, but you need to get the gas to them. So a critical element that connects this network is what we call the virtual pipeline. In order to get gas in the past from source to destination, you required major investment in pipelines or you required many big LNG tankers that moved it across the seas. Today, with the virtual pipeline, we are able to build incremental solutions. So we are able to liquefy or compress very close to the source and are able to move the gas in small ships or in trucks in LNG or in CNG form to the point of destination. By doing that, it costs a lot less to build it and you can build it incrementally and it is a flexible solution. And in many parts of the world, it is a lot more secure than building a pipeline because as trucks and ships are moving, you could reroute them against hotspots and get the gas to its destination. So all these three elements coming together will increase the use of gas and bring it closer to the age of gas.

One critical element of developing or providing the solution is what we call small-scale LNG. As I said before, LNG is moving from being purely an upstream/midstream phenomena to an end fuel. In order to do that, you have to be able to liquefy it close to the source and deliver it to the customers. With small-scale LNG, we're able to provide turnkey LNG plants. So this is a complete LNG plant that is modularized, fully integrated, fully tested in our factories and delivered to our customers. Once delivered, it could come up in as short as two weeks and it is fairly simple to operate. And it is modular in nature, so after the gas field is no more producing, you could actually pick this thing up and move it to another location. These plants go anywhere from 25,000 gallons per day to 600,000 gallons per day. We have combined our expertise in LNG that we have gained over the long years that we've been in this space with the expertise that we gain from the sale of acquisitions in order to provide these solutions to our customers. We have established installations of 11 plants and 13 plants that are under development today.

One place where we are applying this technology very well is in Indonesia. In Indonesia, we bring our technical expertise, we bring our local know-how, the GE people that have been in Indonesia for a long time and we bring our expertise from our Distributed Power business to work together with our customers in order to provide solutions. Indonesia, as you know, has thousands of islands that will never be connected by a grid. So we are looking at -- we have an MOU with the customer to where



we hopefully will build 2,000 CNG stations by 2025 in order to utilize their gas for transportation. Additionally, there are plans to utilize 20 plus stranded gas fields to generate 2.5 gigawatts of power and that would require the construction of up to 20 plus small-scale LNG plants. So great examples of how we are bringing different parties together and how we are bringing our local know-how in order to deliver solutions to our customers.

So further on partnering that it takes in order to deliver this, this morning, Statoil made an announcement on the work that we are doing with them and Ferus in the Bakken. We started the pilot a while ago. Some of you might have seen the advertisements or the news clips that were done on TV around this. As I said before, the Bakken today flares 30% of the gas that is produced. It generates more light than New York City at night when you look at it from space. It's a significant issue for the industry and for our customers. So we partnered with Ferus. Ferus is a company that specializes in moving molecules in hard terrain.

We brought our technology for CNG compression. We're able to capture the gas at the point of flare, treat the gas, compress it, move it to the rigs, power the rigs with it and save on the diesel fuel. So you are saving on pollution, you are saving on the gas you are flaring and not utilizing and you are actually saving on the rigs. So Statoil announced today that they will be moving from the pilot to full implementation, powering their six rigs and their one frac unit. And we are in discussions with many other customers in the Bakken and in the Permian Basin in order to advance this solution with them.

On the transportation side, we have again an agreement between GE Capital Fleet Services and VNG.co. VNG.co is a company that specializes in developing an infrastructure for fueling. And together, we are working to say how do we speed up the adoption of CNG and light duty NGV vehicles. So together, again, we are bringing our expertise in order to help develop this market.

And in wrap-up, I would say it is estimated that gas will increase its role in global energy production. It will go from 20% in 1990 to 26% in 2025. A significant part of that is the increased use of gas as a downstream fuel and in order to get that to happen, it will require technology, it will require local know-how, it will require partnerships and GE is working together to bring all these elements together in order to continue to create this market and advance it. And with that, I will pass it over to Andrew.

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**Andrew Way - General Electric Oil & Gas - VP, Drilling & Surface**

Great, thank you, Hasan. And good morning, everyone. My name is Andrew Way. I lead the Drilling & Surface business within Oil & Gas, a \$3.8 billion portfolio. And as Lorenzo said, I am going to take you through a little bit today on what we are doing onshore on the unconventional space and also as Lorenzo pointed out, this is a portfolio of companies that we've acquired over the last few years and we're building a terrific portfolio to advance our technology in the oilfield space.

First of all, we love this space. It is an industry that's growing. We estimate about a 6% growth over the next few years. With the portfolio that we have today, we are operating in about a \$100 billion segment. So a terrific space that is growing and an opportunity for us to grow in a market that is spending money and we've seen terrific growth in North America and Canada. So our focus has been in the unconventional space. We are also seeing terrific opportunities in the Middle East region and Latin America and more opportunity to come over the next few years.

If you look at our portfolio as we think about the space that we are in, firstly, from an exploration, we have drilling equipment that helps our customers at the forefront. We have drilling measurement equipment that we acquired when we purchased the Sondex portfolio. We've put those products together as we move into the development phase. We obviously have the surface wellhead business and the land-based business that we acquired first with VetcoGray with the products that we acquired and then also with the well support business from Wood Group, we were able to bring that portfolio together and we now have one pressure control business that is offering surface wellheads both internationally and globally around the world.

And then we have a wireline and a logging portfolio that also came from the Wood Group acquisition and that is helping us also in the development phase. I am going to talk a little more today about what we are doing in the production phase and the artificial lift was clearly a portfolio that we acquired and we moved into. As well as that, we also bring oilfield power and compression, the power to lift in the oilfield. We leverage a lot of the technologies that we have in other parts of the business to bring power to the oilfield. And so as we are increasing our scope and we have opportunities to scale this business, we are continuing to bring value to the offerings to our customers.

As I think about our onshore strategy, we've really been pursuing an interest to build out the industry in the area of well performance and we've now developed a platform by acquiring the artificial lift portfolio in 2011. We are integrating that into the GE system. We've been bringing a lot of the toolkit that you are going to hear later from Eric on technology from R&D and from our analytics capability. We then acquired Lufkin, which has been just over a year. We've been bringing that into the portfolio. The integration activities are through and we are now bringing those two businesses together and we've been actively working on this performance enhancement portfolio that we've called Well Performance Services.





And really it's a terrific opportunity because we now have the full spectrum of the artificial lift. We have the broadest portfolio of downhole products and capabilities. We are increasing our customer penetration. We've had terrific cost synergies, as Lorenzo talked about and not just the cost side. We've also been able to bring customer synergies to the industry in this area. If you think about the ESP and the lifecycle, I'll talk about in a second, we've been able to introduce the Lufkin product to many of our ESP customers and vice versa. And so by applying the GE technology from an R&D, we've been able to bring technologies on coatings and bearings and really make the products more reliable.

We have also been working hard at integrating the automation and the production optimization software. This really is the critical element of the future of a full lifecycle well. And by bringing the technology together that we have that was talked about a little earlier from San Ramon, by bringing the optimization and product software capabilities that we acquired through Lufkin with Zenith and also the activities that we have in Brian's business with SmartSignal, we've really been able to provide this common platform in order for us to build this technology globally.

And then as we are thinking about the model, many of us came from different parts where we think about lifecycle and service mindset and as we think about the oilfield model, we are moving from more of a product sale to more of an outcome-based and so we are aligning models to more of an outcome-based and we are seeing terrific service for that. So as we think about this portfolio, I believe it's a great foundation and a platform for us to continue to grow in this space.

And focusing on customer outcomes is key. And as I talked about earlier, as we think about the full lifecycle of the well, this is no different than how we think about the lifecycle in Aviation or in a gas turbine and if you think about the products at the well degrades over time moving from ESPs to rod lift. Now we have the capability for our customers to plan interventions, to plan the various aspects of the technology that's required downhole, we are able to bring over the top and also downhole sensing and control and automation from the various parts of the business. So we've built that platform. We are able to provide oilfield power and compression and we've got some great success where we take some of the bygas and put it into products where we can provide electricity at the oilfield at the site. And then asset well and optimization, we've got some terrific story and success around that.

And the case study I have here is an example. As a customer in the Middle East, we've been operating for a little while. We've been working through with the customers some of the challenges where the well has been changing formation and as we think about the products and the services that we can bring, we are now able to bring equipment that both talks through the visualization of what is happening in the well, being able to optimize and model through sensing and more importantly through our SmartSignal, our products, we are able to predict maintenance and activities for intervention.

For a 10,000 barrel of oil a day, 5% production is over \$15 million of additional production. So it is real value that we are bringing to our customers. So we are excited about this space. We are excited about where we are with the acquisition and the integration process right now. We are increasing our presence in the upstream value chain. We now have the broadest lift portfolio and lifecycle offering and more importantly, we are utilizing decades of GE reliability experience of bringing our knowledge into the industry of how we take the reliability, safety and knowledge of our products to the oilfield. So with that, I'd like to introduce Rod Christie.

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**Rod Christie - General Electric Oil & Gas - VP, Subsea Systems**

Thanks, Andrew. So my name is Rod Christie and I am responsible for the Subsea systems business inside Oil & Gas, which is roughly a \$3 billion business rolling up inside the portfolio. Earlier on, Lorenzo mentioned that there was some volatility in the Subsea space, but we really see the future growth in this space being very good and very strong at around 9%. Just to ground you on why we see that, if you go back over the last 10 years, more than 50%, more than 60% of the main finds have been offshore. Go back and look at the trend in a little bit more detail. For the last five years, more than 50% of all of the major finds globally have been in deepwater. Today, roughly 50% of the IOC production comes from deepwater reserves and going out to 2020, global production, the new reserves that are going to be brought online, the expectation is 40% of that will come from deepwater reserves. So we see this space as being incredibly attractive and a growing space that goes beyond 2020 out to 2030 and onwards as we evolve the industry.

The other thing you have to think about is this is an area where customers deploy this technology with a view of 25 years and in some cases, like Statoil, 40 years plus of operation. So it requires world-class, high-end technology. It requires tremendous ability to execute complex projects at scale globally and it requires the ability to support the customer through the lifecycle of the field and the operation for the services capability. All things that really play to GE's DNA.

Now, today, we really think of the challenges that customers have around capital efficiency, but also this is a relatively new space. Even though there is a lot of activity, today, there is about 4000 wells that are in operation and have been in operation for more than five years, there are still new technologies, there are still new services models, there is still new capabilities that have got to be developed and brought to market. So it is a very exciting space. And what I am going to take you through in the next couple slides is a couple of areas where we see opportunities to grow our business and a couple of areas where we are very much focused around how do we drive the issues that customers are facing today with capital efficiency.



Lorenzo talked about our project execution capability and that is really at the core of being able to be reliable and drive a very, very complex project through a three, four, five-year cycle. The other thing that is behind it is driving out customization and complexity in an ever-growing technology requirement for Subsea production systems.

So DVXT is the latest addition to our structured family of trees and other products that we have and today, we can provide deepwater, shallow, medium water trees, horizontal, vertical all through a structured program. To give you an example, on the shallow water vertical Xmas tree, which is the other end from our deepwater vertical, it's a differentiated product, it's 30% lighter, we can deliver it in 12 months from order to installation. Because it is lighter, it can be installed by a much wider range of vessels, giving a lot more flexibility to our customers. It has differentiated installation capabilities. It doesn't require a diver, so again derisks the operation and allows the weather window to open up for a customer to be able to deploy that in shallow waters.

For us, structured product allows us to line out our supply chain, less wait, reduce our costs. So it's a win-win on both sides. The control pod, which is the orange block that you see on the top right-hand side, is probably today our most structured product. We've removed 80% of the engineering that's required to produce that and bring it into a customer's application. Likewise, it's very modular, it's customizable. We can build redundancy into a system if a customer requires it and remove it very, very simply. It allows us to build configurators, so in the ITO process in the commercial cycle, we can derisk what we are actually costing. We can get a proposal out with much less man hours in a much shorter period of time. So again, we are being much more responsive to what the customer requires.

Another product that's not on here, which is out in the market and at the other end of our scale from a complexity point of view, is our wellhead systems. Our MS-700 wellhead has been out for a number of years, but over those years, the complexity and the part numbering has grown and morphed as customers require different components and different configurations. We've used the same process and collapsed that from -- so to give you an example, the casing hanger structure for our wellhead, we had 63 different designs. We've collapse that to six. It allows us again work with the supply chain, drive cost out of the product, drive cycle out of the product. We've taken our bid cycle from six weeks to six hours. We've taken our delivery cycle proven already from 52 weeks to 35 weeks and we are on a path to get down to 23 weeks. In Asia, this is a tremendous winner for us and we've seen great success for the first half of the year.

Moving to a new area and I have to say subsea power and processing as a concept isn't new. We were the first people to deploy a subsea separator 15 years ago into a commercial application, but I think today what we really feel with the dynamics of the industry, the longer offset, the deeper water, this is a technology space that's really coming of age and finding its place and time. Today, if you think back to the slide that Lorenzo talked about at the GE Shop, I'm the net beneficiary of the GE Shop. The picture here a Blue-C subsea compressor. It is the largest, most powerful compressor in this space. I get that from Rafael. I don't have to partner, I don't have to buy it from a competitor, I don't have to buy it from the market. I can partner, I can pace the development between the two of us. Likewise, with Brian, I can get sensing diagnostics software. I don't go outside, I don't have to have the core DNA. I work with a specialist who does that for me.

Under the umbrella of the engineering teams, Eric can pace that across the whole organization. We can also step outside of that and think of GE with respect to our Power & Water business and have the capability with Heiner Markoff to work on water technologies and also with Joe Mastrangelo around the Power Conversion area, looking at Subsea distribution, Subsea power and motors. Those are all things that I bring under the GE banner. It is the huge advantage that I think we bring in this space that differentiates us substantially from all of our competitors. I don't need to partner to do this. 70% of technology that most of our customers will need is already in this space.

The thing that will make this and enable us going forward is the structuring program. You look at the modules along there -- compression, cooling, power, pumping -- there is also separation, other ones we couldn't fit on the page, we can bring that in individual components or bundle it up into a very complex solution and system engineer that within one family and get it out derisked with some very complex technologies embedded subsea.

The other thing that I think happens is we can derisk the marinization and the deployment of this technology subsea both in the interim stage and also through its life of operation. If you think on our Aviation business, our Power Generation business, Healthcare, Transportation, they all have very, very sophisticated and very well-developed monitoring and diagnostics capabilities. Some of those capabilities were also developed through Brian's business and through our software COE in San Ramon.

All of that I can bring straight into this space and helps customers realize the performance enhancements and optimize these kind of systems as they go subsea and opens up arenas for new services activity, which leads me really into the Services area. Our Services business grew up predominantly focused on installation, some inspection, repair and spare parts. So today, if I compare my percentage of revenue from Services with a typical GE business, it's not where I want it to be, it is not really where we should be. We have looked at the model, we've looked at what's happening in the marketplace and really we think that entitlement for a subsea well set is roughly dollar for dollar for a well set between the installation and capital phase and the OpEx phase through its life of operation.

The areas where we focus around are subsea intervention, monitoring, diagnostics and optimization production recovery. So the picture on the right-hand side of the page is a product that we launched last year, at the end of last year, which is a completion workover system, which enables a customer to go in, intervene on both the tree set and the well and recover some of the lost production capability that's happened over the life of the operation. We can do that time and time again. And also if



you think on the control system and the sensing and diagnostics we have, it allows us to bring a huge amount of data back into the business both to reinject into new products and also to look at different ways to manage the intervention activities and further enhance the recovery rates.

We've not just looked at new areas. We have also looked at the traditional areas. So we've taken gated processes from our Aviation business into our core activities of repair. So we've managed to drive cycle time down. I'll give you an example. Two customers we are working with in the North Sea, we've taken the refurbishment time for their trees from 10 months to 5 weeks. Now that means that they can take the tree off and run a vessel in the field, do the intervention. Before they take the vessel out in the field, they are given the tree back and it goes back into operation. Less capital cost for them, better efficiency, lower operational cost from running two vessels over a couple of campaigns.

We've taken that same concept and applied it in Norway. We applied it in Brazil. We've applied it in Nigeria. In the latter case, it actually negated the need for a customer to go out and buy 10 new trees and actually moved them into a repair area, which reduced their cost and is actually a higher revenue or a higher margin activity for us. So we think this is a great space for us going forward and something we expect to get far more into an alignment with other parts of GE with a representative share being somewhere over 30% of our revenues in Subsea coming from Services.

Over the presentation, I hope I've given you a bit of a flavor for why we think the Subsea space is a great space to be in and also why we think this space plays to GE's strengths. Over the next few years, we really think this is going to be an area where there is a lot of innovation, a lot of new technology to come in and an exciting space to be. So with that, I am going to pass it over to Eric.

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**Eric Gebhardt - General Electric Oil & Gas - CTO & VP, Engineering**

Thank you, Rod. Pushing the boundaries of technology is at the core of what we do in GE Oil & Gas and we are very proud of the capabilities of our 7,000 engineers that we have within our team. But it is also a good thing to be able to lean into the 50,000 engineers across the rest of the General Electric Company. And Lorenzo and Rod and the other speakers have done a great job really laying out how we leverage the technologies from Aviation, Power & Water, the other parts of the businesses, but we also have the ability to lean into our research centers, which helps us work the fundamental level across the General Electric Company and distribute that technology across the businesses.

We have seven Global Research Centers across the globe and one of these in Oklahoma City is dedicated to oil and gas and it is great to have this center to work with these first principle technologies, pull it in, help us co-develop with our customers into real-life applications. We also have an advanced manufacturing center, which helps us leverage the technologies across the whole Company to advance the state-of-the-art of manufacturing.

Now we have a process in order to deliver these technologies. So we look at the enabling technology, the new technology introductions and with that, we understand the technologies, we're looking out kind of scouting out the new technologies. We pull those in and we understand those. We look for critical applications for where we can apply these across the business. From there, we pull it into a new product introduction process where we take this technology and then put it into a product and go through the paces, do the validation, make sure we understand it and we have the reliability, the performance, the safety that we really need to put it out in the industry.

Following that, we look to bring it out in a large project with a customer and this is where we looked at system-level effects, how do we drive the system for higher performance and putting this new technology in there and then bring it out with our customers making sure we had the right reliability, the right safety as we roll this out. And so this is really the key to trying to deliver at scale because when we roll out technologies, they are going to be at scale because of what we do in the oil and gas industry.

Now a couple of technologies that are very exciting to us are on the page. Materials is something that's been core to General Electric since we started and it's something that when we look at the specialties in the oil and gas space around corrosion, around abrasion, around erosion, high pressures, these are things that we are very good at and it's something where we can bring technology quickly to the industry. A couple of examples, when we first acquired the Wood Group's ESP, electric submersible pump division, one of the concerns was around erosion/abrasion. We were able to take technology that we had, coating material technology, put it into the pumps and this allowed us to get a 10X improvement in erosion and abrasion capabilities. This is especially important when we look at these electric submersible pumps in unconventional spaces where there is more sand production taking place there and so this really gave us a technical advantage with this area.

The other was in the Subsea trees. The valves in these trees are under very high pressure and more customers are moving towards non-lubricated greaseless valves. By using some of our coating, what we call diamond liquid coatings, we were able to go greaseless, get these valves qualified through thousands of cycles rather than hundreds of cycles and really bring down a size, bringing down the weight of these and bringing down the cost and increase the reliability of these valves in the Subsea space.



With system modeling and simulation, many of the technologies we worked on we have to model and the more models we can run, the better our tests can run, the faster we can advance the technology and with modeling and simulation, we lean into the high power computing capabilities across GE and we are able to run the simulations faster, get more done. And when we look at things like finite element modeling, computational fluid dynamics, other types of modeling, it really helps us move forward.

A couple of examples, when we look at the compression technology, a couple of technologies here, one in supersonic where we can use higher speeds in our compressors and use supersonic technology, allows us to bring the weight down, bring the cost down of the compressors, bring the size down in the compressors by using these techniques. We also use it for wet gas compression, to understand the flow of the water liquid molecules that are going through there, understanding how to set up the compressors properly so we get less erosion in there. Big advancements in this area.

The Industrial Internet is something that plays well across all of Oil & Gas. We are able to invent the sensors and the signal processing to collect the data, leveraging Brian's business in M&C and by doing that, we get access to more information. This more information we then create the analytics and the algorithms around this based on our domain knowledge. And the domain knowledge is both in the equipment side where we understand the physics of the equipment, but also understanding the process and how our customers use this equipment. And then with that, we can also utilize the software center of excellence out in San Ramon, 1,000 software engineers, which create the platform that we can plug into. This improves the user experience for our customers, the usability for our customers and also allows us to scale this up. So we do it once and then leverage it across the entire organization.

And the last one around advanced manufacturing is an area that is very exciting and many times when we talk about advanced manufacturing, it jumps right to additive manufacturing, but there is a lot more to it than that in our point of view. We go back to some of the processes we've been doing for hundreds of years around coating and cladding and other areas there. Many of the processes today are thermal processes where you melt the metal, you put it on there and it has thermal effects that can cause distortion, it can cause heat-affected zones where there is post-processing or post-machining that will take place. We are driving efficiencies through new coating processes, catalytic coating processes like electroless where you can dip it into the fluid, it coats itself, you have great properties there afterwards, no remachining, cuts down cycle time. Or things like cold spray where we actually spray the material on there instead of having to do a melting process. So it is really driving the quality, driving the cycle time.

Virtual manufacturing is also very exciting. With the advanced three models we have of our equipment, we can simulate the manufacturing process, how all the pieces fit, what's the most optimal way to do this, how do you have the right tools and machines inside your shops to do this quickly to cut down cycle time. Now we are also now moving this out into the field, so our field engineers will have better tooling, have better processes, have better understanding so that we can drive the quality and cycle time for our customers. The additive manufacturing is really exciting as an engineer because it removes design constraints. When we think about the way we have been taught to do engineering and the way our processes have worked around engineering, there have been constraints around understanding can the internal passages be machined, can the tooling work properly and it's been a mindset that we've had. Now we can relieve that where we can go ahead and have the internal passages that we wanted, the curvatures that we wanted on these parts and it has allowed us to really get more out of our products.

And it's also changed the way we've thought about how to design. With an additive versus subtractive process, we only add the material that matters rather than we only take away the material until it is no longer cost-effective. So we are thinking more lattice structures, different shapes, different ways of approaching things will further enhance and advance the way we do engineering. So a whole new thinking process taking place and being able to lean into the advanced manufacturing center of excellence really helps us advance as a company in this area.

So a lot of great technologies coming along here that will help our customers by driving down cycle times, reducing weight, reducing cost, improving quality. So a lot of great things to come out of these technologies that we are absorbing within to Oil & Gas. With that, I'd like to go ahead and turn over to Brian Palmer who will talk further about the Measurement & Control business, but also about the Industrial Internet.

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**Brian Palmer - General Electric Oil & Gas - VP, Measurement & Control**

Thanks, Eric. Okay, good morning. I'm Brian Palmer. I lead GE's Measurement & Control business, which is a roughly \$4 billion business unit within the Oil & Gas portfolio. And when I think about the opportunities that we have in this business, Measurement & Control serves a number of different industries. We serve oil and gas, which is by far our largest industry. We also serve the power generation industry we serve aerospace, metals and mining and other light industrials.

When I think about oil and gas, I think about it not only as our largest space, but the biggest opportunity for growth. And when you think about the customers' challenges in their operation today, you think about more remote and more complex operations, tighter regulations, tighter reporting requirements and what we see as a skills gap in the industry and frankly an aging technical workforce. You couple that with the capability of the equipment that you've all heard about here in the last hour that is built and wired to both receive and transmit data and the evolution of that data-ready equipment, we think the opportunity is taking that data from the machine



and process and using it to drive reliability, using it to drive efficiency, using it to drive production optimization with really the goal, Measurement & Control goal of eliminating downtime, eliminating unplanned or forced downtime in the industry.

A little bit about Measurement & Control. In addition to being sort of an operating business unit within Oil & Gas, I see and you've heard the speakers here this morning talk about Measurement & Control really as a technology enabler for all aspects of the Oil & Gas cycle. And you can see from this page, we've got technology and solutions that span all phases of Oil & Gas, from initial production capability of monitoring and controlling and providing diagnostics right through to Hasan's business of downstream refining and petrochemicals.

This is done with advanced sensor technology. It's done with advanced and harsh environment electronics technology. It's done with industrial data acquisitions, storage and analysis. All technologies we've either acquired, developed ourselves organically and probably most importantly are able to reach across the span of GE to get both elemental technology into our sensing software and data analytics or be able to share technology developed by other divisions of the Company.

And I want to use a couple of examples, but one example of that is our production optimization solution. This is a solution we brought to the land-based oil production industry that combines our GE Predix software platform with a Safire multiphase flow meter solution that is a FastWorks collaboration effort between us, Chevron and Los Alamos Labs. And the example of reaching across GE is this Safire meter is a combination of conventional ultrasonic flow measurement, which we've been able to extract from our healthcare business and our ultrasound business, combining that with MRI technology and enhanced imaging technology we think provides an industry-leading solution to be able to measure multiple phases coming out of a land-based production well.

Being able to measure continuously oil, water, gas, sand mix and here is why it is important to the industry. The old way of measuring production wells and their mix or water cut or gas cut is monthly take a tank around and do an analysis on a batch basis of how that well is performing. So the tack time, the rhythm of the data to make adjustments in your oilfield is monthly. What this system and the meter and the Predix platform allow our customers to do is have a continuous accurate reliable online measurement so that they can make hourly adjustments versus monthly adjustments.

We are partnering with Chevron and the first pilot is in Bakersfield, San Joaquin Valley production operation, 20,000 land-based wells. We've already installed/delivered 500 meters in their operation. They're targeting -- we believe it's possible, but their target is a 3% production improvement on an annual basis because of the ability to balance and optimize those wells. And if you took sort of a midsized 1,000 well production operation, a 3% improvement is \$50 million, \$55 million of increased production in a year. So we think this is an industry-changing solution that leverages the power across GE.

Another example, and this is one we are very excited about. In fact, we made an announcement earlier this week and launched our Intelligent Pipeline Management System. And this is another Predix platform, so we are leveraging our team in San Ramon that you have heard about and North American pipeline customers, our midstream pipeline customers faced with aging infrastructure, faced with safety and regulatory concerns, really faced with the challenges that that pipeline industry has around reliability, around exceedances, around events asked us to help them integrate current historical pipeline and pipeline equipment condition data with their active demand, forecasting and operating data to allow them to try to predict when they need to take a shutdown to drive normally scheduled maintenance, how they avoid a rupture, how they avoid and exceedance.

And we are able to do that using the data that we've got from our pipeline inspection services business who does annual inspections on their pipeline anyway and gathers corrosion, erosion, defect data on the pipeline and integrate it into their operating system, their ERP and their standard operating system to allow operators across 15,000 miles of piping with this particular system to look on a consistent basis of condition of the pipeline, how they optimize in high load situations and how they eliminate failures. So we've been able to reach into our Software COE that you've heard so much about in San Ramon and we were able to move at the speed of a software company.

So leverage the domain knowledge we have on the pipeline and the equipment in it, reach into our 1,000-force Software COE, develop a solution in a matter of months. We've got our first contract, a five-year agreement with Columbia Pipeline Group that we think will be not only a terrific contract in and of itself, will become an industry standard on how you monitor and optimize -- safely optimize pipeline operations. And I'll tell you the San Ramon software team can't be understated -- sorry -- can't be overstated because I've seen firsthand the value of bringing our customers out to a 1,000 person Silicon Valley software operation and our eyes are open that not only do we have the mechanical, physical and data from our knowledge of the equipment and the operation and the process, but we've got software development capability that is world-class. And I think that really differentiated us in this space and in this transaction.

So hopefully, you've seen a little bit of the technology portfolio that we've got that I think operates with sensors, electronics systems, software data and analytics as a business unit within Lorenzo's portfolio. But I think the real value and just as importantly is that it's an enabler and a differentiator for each one of the business units you've heard out here today that truly I think sets them apart from their competition and allows them their own in-house Measurement & Control capabilities to differentiate their products. And it's an exciting place to be in the Oil & Gas space today and we think we can continue to differentiate products with data, with data analytics and with domain knowledge. So with that, let me turn it back over to Lorenzo to wrap.



**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

Thank you, Brian. So first of all, I think a thanks is in order because there seems to be only one setting on this thermostat and that is very cold, but during the course of the last hour and so, you've had a formidable story on the portfolio that we've put together. You've seen the products that we've aggregated, you've seen the technologies and I hope you agree we have a franchise that is second to none in the industry. We feel good about where the industry is headed in the long term. We feel good about the product portfolio, the technology differentiation and through the gas infrastructure that you saw with Rafael and Hasan, you saw how that is playing out through the unconventional and the shale that Andrew presented. You saw how we are delivering new solutions and really added value with the technology that we are aggregating, the Subsea space that you saw from Rod and then with Brian and Eric, as you just saw again, the added value of technology, productivity and solutions to customers, customer outcomes. And when we look at what the customers needed, it was capital efficiency focused on making sure projects are delivered on time, that we are delivering them products that are standardized that we are delivering them execution.

Lifecycle productivity, being able to reduce unplanned events. You've seen the solutions there. And being able to go after complex resources, projects in harsher more difficult terrains. We've got the technologies that matter because we are also part of GE and we are able to harness the value of GE.

So as you look at the total equation and you look at the summary, we feel good about the long-term aspects of the industry. You've seen the projections; you saw our indicators. We feel good about the spaces where we've put the investments and we've put the focus. We feel good about GE Oil & Gas continuing to grow at higher than the industry rate and continuing to focus on the productivity and the margin accretion through standardization, simplification and continuing to have a technology differentiation, through the GRC, through the benefit that we have by being part of the GE portfolio. Put it all together and we are able to continue to grow in line with expectations, continue to enhance the margin and continuing to grow this platform at an accelerated rate.

And at GE Oil & Gas, we have a purpose statement that you see around you. That purpose statement unites us, all 45,000 employees, with a common mission out there for our customers and also for the shareholders. We fuel the future. We push the boundaries of technology to bring energy to the world. I thank you very much for the opportunity to share with you the story this morning. We feel we've got a formidable platform that addresses what the industry needs are and also what the customers need going forward. It has been pulled together over the course of a number of years and it's focused in the right areas. So with that, I'd like to open up to Q&A. Thank you.

**Matt Cribbins - General Electric - VP, Corporate Investor Communications**

Great. So for Q&A, given the size of the room that we have here and we've got a number of folks on the Web, we will ask that once you are recognized, we will bring you a microphone. If you could use that before asking your question. Thank you.

**QUESTION AND ANSWER**

**Steve Winoker - Sanford Bernstein - Analyst**

Thanks, Lorenzo. Steve Winoker from Bernstein Research. First question is just give us perspective. You've now invested I think about \$15 billion since 2002 in building up this portfolio. And there are some questions about where you invested and the return on that investment over time. Maybe give us a little perspective on how you are doing from a return perspective on the amount that GE has invested over that time period and then where are you in terms of moving this business from a collection of independent brands and businesses to something that's more integrated and going to market on an integrated basis and how much is left for you on that front?

**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

Okay. Steve, thank you for the question and hopefully, through the presentation, you saw some of the way in which we are really aggregating the acquisitions that we've made into a portfolio of solutions really centered on what the customer outcomes and customer needs are.

With respect to the acquisitions, on aggregate, you look at the financial performance and we are actually exceeding pro forma on those acquisitions. We feel good about the acquisitions we made and a large focus has been on integrating those acquisitions into the portfolio, benefiting from the capabilities they have, but also adding the GE DNA. And being able to go out there, as what Andrew presented, in the unconventional space a full lineup of solutions for our customers. We have the complete portfolio of artificial lift pumping solutions for our customers. Now through the acquisitions of the ESPs, Lufkin and we've been doing that also on the Subsea space,



aggregating the acquisitions as a complete solution. And I think we've got a compelling portfolio and again, the financial returns are there and are actually accretive at the moment.

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**Jeff Sprague - Vertical Research Partners - Analyst**

Thank you, Lorenzo. Jeff Sprague from Vertical Research. I was wondering if you could maybe touch on the evolving risk profile of the business. And I don't mean that so much from the project volatility that you mentioned a little bit, but there was some commentary about project management. And we think about what's happened in power going from selling a product to going to a balance of plant, which has got engineering and the like. It seems like you are probably going the same way and that maybe is where the industry will want to take you. I'm just wondering if you could give us some idea of how much of your business is tied up in actual project management and E&C type endeavors and to what extent do you see that changing as you integrate these products.

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

So Jeff, I think, first of all, we've been doing projects for a long time and when you look at the history of Nuovo Pignone and also the Turbomachinery business, it's been part of our DNA from the beginning. So projects is part and parcel of what Oil & Gas has grown up with. As you say, as we continue to evolve, we continue to go into larger projects. And as you saw from Rod's examples on the Subsea space, we've got larger projects that we are involved in. And so we've got expertise that we are embedding into the business and we are managing the execution risk by having the expertise in the business. So I don't know if, Rod, you want to add anything relative to the Subsea space or Rafael on the Turbomachinery.

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**Rod Christie - General Electric Oil & Gas - VP, Subsea Systems**

I think the slide that Lorenzo talked about, we've spent a huge amount of time both on systems and processes, digital tools that put a huge amount of power into the Subsea business, about 7,000 people. I can pull up what the projects are and get it off my iPad on a real-time basis. So we've integrated the ERPs, the project management tools, the risk tools, risk management tools and pushing on into our supply base. So real-time, we can actually pace our projects and get a much better handle on something that moves today has an impact maybe in two years' time, recognizing it early and addressing it early, which allows us to really derisk the operation.

Also, for this space, as the customer learns more about their field and the development in their field, they have requirements. We can help them understand and how they manage that and how we would pace that both from a technology point of view and from a schedule and risk point of view. So do they want to change a technology program or do they want to continue down a certain path. It's really about how do you take the business from three, four years ago running one or two major projects, today running 10 major projects consecutively and also building a career path that recognizes tremendous project management capability and gives a project manager a clearer path, project analysts, commercial contracts managers a proper career path that allow them to really develop deep domain expertise in that space. So we feel I think very good about the platform we've got today and the ability to expand that going forward.

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**Rafael Santana - General Electric Oil & Gas - VP, Turbomachinery Solutions**

The only thing I would add is just I mean if you think about the tools that we have delivered and that we have improved over time, those allow us to share them across the business. And when I look at TMS, I mean it actually allows us opportunity for productivity we see in the projects that we have. So a great opportunity to be shared across the portfolio.

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**Steve Tusa - JPMorgan - Analyst**

Thanks. I'm just trying to put the global CapEx budgets into perspective as to what every single oil and gas capital equipment company is saying about being able to outgrow the budgets. And I just want to focus on Australia for a second because it looks like there are a couple of major projects that are rolling down there over the next couple years, \$10 billion or so in spending that is going almost away. Can you talk about -- I know you guys are involved in those projects. Can you maybe talk about what is the tail after the CapEx rolls down that helps you guys blunt that revenue decline or maybe the phasing of the projects that makes you guys a little more smooth around that and just use Australia as an example? And then I have a follow-up on that.

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**



Yes, no, I think it's a great question and I'll also let some of the team address it because it really is an aspect of the way in which we have a business that's both project-related on the equipment side, but also service related as well. And so you look at these big projects relative to Australia for example, we will go in there and we will provide the modular approach on the equipment side. We will also then engage on the service side as well and so you've got an OpEx element related to each of these projects that actually is very fruitful and lasts a number of years going forward. So in particular, the projects that we are involved in in Australia, in a number of those, we've got ongoing activities that continue after the initiation from a service perspective and an OpEx that continues. And Rafael, maybe you can talk to that.

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**Rafael Santana - General Electric Oil & Gas - VP, Turbomachinery Solutions**

One thing I would add is keep in mind I mean LNG is a big chunk of that. It's fair to think that the orders we are getting here today we are really executing over the course of the next two or three years and to that point, I'd say we've had really North America picking up quite strong from that perspective on the LNG front. Keep also in mind OpEx fronts as some of those projects come up live running, so it really builds up nicely.

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**Steve Tusa - JPMorgan - Analyst**

So can you grow Australia as these projects roll off over the next couple years? And then how big is this business as a percentage of your segment, Australia?

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

We'll get you the actual segments. We look at it from a Southeast Asia/Australia in total. The Australian projects, as they come off, we are moving into the OpEx side of service and also we do see a continuation opportunity with further LNG trains going forward with respect to the Australia projects as well.

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**Steve Tusa - JPMorgan - Analyst**

And then just a question on the margin. You guys put out a slide that shows SG&A down 250 basis points over the last couple years. Your margins were up I think 20 to 30 last year. There was an acquisition in there obviously and they are going to be up solidly 70, whatever, 80 basis points this year. So what's the difference between the SG&A decline and the margin improvement and why doesn't more of that drop to the bottom line?

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

Right. I will also pass it over to Brian, but you've got other things obviously that are being invested into the business. You saw the capacity increases, you saw the investments that we are making from a technology perspective. So Brian, do you want to --?

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**Brian Worrell - General Electric Oil & Gas - VP & CFO**

Hi, Brian Worrell, CFO for Oil & Gas. One of the things, Steve, you have is mix of business inside of Oil & Gas. I think you've heard us talk before about Brian's business. If you think about that business and what it offers, the relative margins are higher there versus some of the other project business. With what has been going on in the cycle for pieces of his business that are outside of Oil & Gas, that's not been growing as fast as some other places in the business. So there is a mix element that has impacted some of the margin that you've talked about there.

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**Andrew Obin - Bank of America Merrill Lynch - Analyst**

Andrew Obin, BofA Merrill Lynch. Just a question on deep offshore. I think there's a lot of controversy about where the end market is going and I understand the nature of your backlog in this segment, but I was surprised to see that you guys have actually a pretty optimistic forecast for offshore. So first, if you could just talk about that and second, vis-a-vis GE, it seems that Petrobras is a big swing factor and my understanding is that has not historically been a big customer of yours in Subsea stuff.

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**





I will let Rod speak to that considering it's his segment.

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**Rod Christie - General Electric Oil & Gas - VP, Subsea Systems**

Okay. I think when I look at offshore, right now, we see a number of projects that are really pushing to the right where from a point of view of closing, commercially closing. If I talk to my commercial team, the proposal team and I look at what we have actually got out active, the volume that is going out the door today exceeds the last two years. So there is a tremendous amount of activity. I think there is a whole variety of reasons, some very complex projects, geopolitical issues and then obviously just getting the right mix I'd say on capital efficiency. Much more interaction with customers' front end, earlier engagement, looking at how did they take cost out. So how do we work around spec revision, technology revision? So I really do still see -- if you take sort of macrolevel declining production rates, need (inaudible) to put new reserves into production, drilling activity, offshore drilling activity from a development point of view is still forecasted fairly well. So we still feel good about that space. Medium, long-term cycle, it is going to work its way through the cycle.

Petrobras, I think the other area, we have been underpenetrated in Petrobras. I've talked about it before. We stepped back a little bit when we felt we couldn't quite get the right balance from a profitability and mix point of view inside the business. We've just actually reentered there. We earlier this quarter secured our first order in 17 years to actually supply manifolds to Petrobras. We have continued to invest in the technology programs for pr-esalt trees and actually pretty well placed if you wanted to step back into that if we feel we can make the right requirements from the point of view of investing both in the technology and the footprint to do that. So I think we feel there is an opportunity there with Petrobras and there still is a tremendous amount of activity globally, which we are very well placed for.

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**Andrew Obin - Bank of America Merrill Lynch - Analyst**

And is the idea that there is enough backlog there just to provide stability over the next year or two as you get over that? Is that basically what the forecast implies?

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**Rod Christie - General Electric Oil & Gas - VP, Subsea Systems**

I mean we are at record backlog basically for our business since it was actually conceived. So we are still in a very good situation right now and as I say, a tremendous amount of bidding activity in the market right now.

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**Andrew Obin - Bank of America Merrill Lynch - Analyst**

Terrific. Thank you.

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**Julian Mitchell - Credit Suisse - Analyst**

Thanks. Julian Mitchell. Just a question around organic sales growth. You talked about a 6% industry spend CAGR at the beginning. Your orders have obviously been mixed in the past 12 months. Is kind of 6% plus what you think GE's business in aggregate should grow at and how does that differ between equipment and service?

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

So again, as I mentioned, we think we can outpace the industry. And as you look at the collection of the portfolio that we have from the equipment and service side, that enables us to do that. And on the equipment service mix, we think that again on the equipment side maintaining at the high single to double digit and also on the service side maintaining at the high single digit.

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**Julian Mitchell - Credit Suisse - Analyst**

And then just to follow up on Measurement & Control, maybe for Brian, I think that business has been a bit underwhelming versus GE's expectations of a year or two ago. Your peers like Emerson or Flowserve have had very good orders this year. So maybe what's been happening at GE specifically and is that turning around?

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**Brian Palmer - General Electric Oil & Gas - VP, Measurement & Control**



I'd say first with Measurement & Control, as I said up there, we serve a number of different industries. Power Generation is probably the next largest industry that's in our portfolio. About roughly 30% of our revenue comes from power generation and those businesses, as well as other industrials have been flatter in the past say 12 months, but our orders book and orders rate increased in the second quarter of this year and I think we were in line with or probably stronger than peers. Emerson is not a direct comparison just because of the portfolio, but I'd say Emerson, Honeywell and others mixed, we are stronger year to date on orders growth than those peers. So I see the market both in Oil & Gas and Power Generation rebounding, but not roaring back, but gradually getting better.

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

So we will take a question from the back just to be fair. Over there.

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**John Inch - Deutsche Bank - Analyst**

Thanks. How do you define your cycle or the cycles that make up your portfolio positioning because obviously spending in these industries has been pretty healthy for a long time and I think most of us would presume that we are not early in this cycle and what are the things that could -- obviously, it's a great story, but what are the things that could be disruptive to the trajectories that you've articulated because clearly every industry is cyclical and these growth rates don't go on forever. Is it price of oil? Because you talk to these energy companies and they all seem to say the same thing. Well, if oil goes below whatever arbitrary number, investment spending tapers off. That's not a really great answer. How do you guys see this in terms of the context of supply/demand?

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

First of all, we stay very much in touch with our customers and we talk to them on a regular basis and we look at the fundamental macro indicators of what's happening from a consumption perspective and what's happening to the global demand for energy. And the global demand for energy continues to increase and there is a number of indicators that we look at that would say the forecast between now and 2035, energy demand is going to increase by another 40%. So that has to be fueled and it's fueled by the ability of the resources of Oil & Gas and others. And then we go and look at those indicators and that is why we feel good about the robustness as we look at the long-term nature of this industry.

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**John Inch - Deutsche Bank - Analyst**

But there's presumably between now and whatever timeframe you said, 2035, there is a downturn in the industry. So what are the factors that precipitate that and how does GE -- like how do you plan and prepare for it? Is there a share gain opportunity? I'm curious. And then just secondarily, M&A, given the breadth of your portfolio, is it fair to say that deals the size of Lufkin or larger are now off the table as you look to harvest, consolidate and integrate?

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

So firstly, on your first point, we've got an opportunity again to grow ahead of industry. As we look at the composition of the portfolio that we've pulled together, we've got an opportunity to continue the integration of the products and also the solutions, which is why we feel comfortable saying we are going to actually grow faster than industry. Relative to new acquisitions, we continue to look at the opportunities. It's not precluded and it's going to unfold as we see opportunities come about.

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**Scott Davis - Barclays Capital - Analyst**

Thanks, Lorenzo. If your competitors were here, I think some of them would stand up and say you've won contracts more on price than capability. How do you respond to that comment? Clearly, they are going to have a bias on their side, but we've heard it from a number of different players. And I guess part of the follow-up, because I think I know what your answer is going to be, but I think part of the follow-up to that question is since you were cobbling together these acquisitions and going to market in a different way, did you have to get more aggressive in your bidding to really prove out, get that installed base and then prove out some capabilities and now going forward don't have to be quite as aggressive on the bids?

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**



Well, first of all, I am not going to comment with respect to (inaudible) not the competition and what they say about us. What I will say is look at our price index and what we report externally and you'll see that we've got positive price.

Secondly, relative to the aspect of our presence in the market, GE has a great brand and a great recognition in the industry and we've been in the industry for a number of years and we've got a customer base that is supportive of GE being in the oil and gas industry. So we've worked to continue the integration of the products and adding on and providing solutions to these customers. So we feel good about the trajectory and we feel good about the competitive positioning that we have in the industry.

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**Scott Davis - Barclays Capital - Analyst**

Okay. Throughout the presentation, I don't think you mentioned GE Capital and you have a fairly large infrastructure Oil & Gas financing arm. Are we to assume since you didn't mention it that it is not important or not part of the mix or is there some clear examples you can give to where that has been a competitive advantage for you?

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

Actually it was on the presentation and I'm glad you brought that up in the question. We benefit tremendously by having also GE Capital as part of the GE franchise and also as part of what we can offer to our customer base. And when you look at one of the announcements that is being made today around Freeport LNG, that actually involves GE Capital as well. So you look at what we can do from a GE perspective for our customers, again, it's a unique proposition because we've also got the balance sheet and the financing arm that provides that capability, but only the products and the services, but we do also work with GE Capital where it makes sense.

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**Scott Davis - Barclays Capital - Analyst**

Okay. And then just last question, you mentioned that your deals that you've done have come in ahead of model, but since we don't know what model means, can you give us a sense of what the return on capital is on your aggregate M&A activity?

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

So if you look at it, you've got different years and different aspects of when the deals were made. So Brian, do you want to speak to that please?

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**Brian Worrell - General Electric Oil & Gas - VP & CFO**

Mid-teens.

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**Scott Davis - Barclays Capital - Analyst**

Yes, IRR, yes.

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**Joe Ritchie - Goldman Sachs - Analyst**

Joe Ritchie, Goldman. So first question is on R&D spend and can you maybe talk a little bit about the stepup in R&D to sustain the order pricing that you have had? I think you guys have had positive order pricing in eight out of the last 10 quarters and so how are you stepping up your R&D spend and maybe potentially quantify that number?

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

Yes, if you look -- again, we've actually steadily increased our R&D spend internally within GE Oil & Gas and you look at it from a GE Oil & Gas perspective, I think, Eric, we spend about 2% of sales on R&D and then we also benefit from the GE total research spend that, as Jeff has mentioned at times, about 5% of revenue.



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**Joe Ritchie - Goldman Sachs - Analyst**

And then maybe just following up on the pricing, we talked a little bit about the Subsea sector being a little bit more of a nascent industry. Talk a little bit about the rational behavior or potentially irrational behavior of some of your competitors in the space and how do you go about pricing the risk for first-time projects? You mentioned the Australian FLNG project. I'd be curious to hear how you think about pricing risk for a project of that size and a new type project like that.

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

So I am going to let Rod jump in here as well. One of the things that is critical in this industry is the expertise and the domain knowledge. And that is what we are benefiting from is having domain knowledge in the space. Through the experience that we have in the type of machinery, we are able to capture the experience from the prior projects and we are able to bring those onto the offshore floating LNG and also for the experience of other projects taking those into consideration as we look at taking on new projects. And specifically do you want to talk about what we are doing with projects?

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**Rod Christie - General Electric Oil & Gas - VP, Subsea Systems**

Yes, just to give you a quick idea, we've over the last three or four years invested in the risk management tool which starts at inception. So when we look out with a customer, we look at technology risk, schedule risk, the terms and conditions obviously that we are actually signing up to and what that actually has an impact from an execution point of view are we bringing through new technology? Is it in parallel, is it existing technology? And really we could put a model in front of a customer today that actually allows us to have a discussion around if we change from this technology path to this technology path, it derisks for you on schedule, it allows us to derisk and take price out.

So today, we are actually having some pretty good discussions and over the last couple years, I'd say we've had some very good discussions, which have actually changed the path the customer has been planning to take and I think I'd like to say that where we've done that with customers, the customers are seeing that performance also translate straight into the project execution. So we have projects where customers are looking at maybe changing the technology program from -- or having a very customized solution, move them towards a much more structured product that allows us to really expedite and derisk it through the business and bring that back to them. And they've seen that in project performance both from the point of view of ongoing change management and from the schedule adherence. So I think today we have got quite a good model for really understanding and pricing risk into a deal and articulating that with a customer.

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**Nigel Coe - Morgan Stanley - Analyst**

2% R&D of sales seems like quite a low number given the complexity of some of these products and given that you are talking about moving processing down to the deep sea. Do you see that number going higher over time? Does this become a more R&D-intensive business over time or does it stay low because you are leveraging the technologies in Power, Energy Management, etc.?

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

Well, I'll let also Eric jump in here, but I think if you look at our peer group, you will actually see that we spend in line or above actually our peer group and we have been steadily increasing our spend at the Oil & Gas level. We definitely benefit from the overall GE spend on the engineering aspect. And as Eric mentioned, the Global Research Centers, the overall spend and the leverage that we achieve by leaning into what Aviation has, what also the Power & Water team has, but, Eric, please.

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**Eric Gebhardt - General Electric Oil & Gas - CTO & VP, Engineering**

Yes, the 2% number is a purist view if you just look at how much we put into that, but if you look at how much we've stepped it up -- so first of all, last year, we added 1600 engineers to the 7,000, went from 5,400 engineers up to 7,000 engineers, continue to increase the amount of engineering. Our R&D spend for 2013 was 30% up from the year before and again, that is from a purist view of what we spend internally. We also have customer cofunded projects where we are part of joint investment programs. We have significant dollars coming in there. And then as Lorenzo mentioned, if you look at our Aviation team, as they enhance the jet engines, that technology just naturally flows down for free to the Oil & Gas team in the aero derivative. As Power Generation advances their technology, that flows right down to Rafael's business also. So it's a bigger number than that, the purist view would be at 2%.



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**Nigel Coe - Morgan Stanley - Analyst**

And then the follow-on question, your entire preface was almost entirely around product cost implication, efficiency, productivity. And given that Oil & Gas' margins are a lot lower than Power and Aviation, I'm just wondering where you see Oil & Gas margins going longer term?

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

So as we profiled, we've got a model where we continue to improve the margin rates. You've seen the margins improve in 2013. You've seen the 60 basis points improvement in the first half and we look to continue that improvement in the margin rate over the course of the next few years and getting to the mid-teens as we look at the next three years.

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**Unidentified Audience Member**

I have two questions. Your first slide talks about outcome-based service agreements. Could you talk a little bit more about those and how much of a percentage of your overall service agreement base those are as you see that increasing over time? And then secondly are there any areas where you feel you need to add to your product portfolio? Is it complete now or are there any spaces that you feel like you need to be in?

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

So firstly, on the outcome-based service models, we are, within the service models, looking at, on the Turbomachinery side for example, the efficiency levels of what is output and also what our customers achieve and Rafael, I'd say what proportion of our service agreements are those?

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**Rafael Santana - General Electric Oil & Gas - VP, Turbomachinery Solutions**

I'd say -- so I'm not going to comment to you on the specific size of it, but I'd say what we are doing there is we are partnering with customers now (inaudible) the LNG plants. We are able to be running that equipment harder to some specific timeframes and getting more LNG out, but we are also looking at ways to upgrade some of the equipment that we already have on some of those solutions and guaranteeing output over time. So that is the way we are doing it and we are expanding it and taking it into some new areas.

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

On the aspect of acquisitions, as you've seen, we've got a portfolio that we've acquired; we've been integrating it. We feel we have got a good product and solution offering and there is opportunities. If they come up, we will take a look at them, but at the moment we are focused on the portfolio we have at hand and we'll evaluate as things come up in the marketplace.

You've had your turn, Jeff. Let's try somewhere else. Anybody else back there? We will take Jeff.

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**Jeff Sprague - Vertical Research Partners - Analyst**

Thanks. My first question was a single question, not one of these multipart questions. Just two things actually. I was wondering on what you might do for the portfolio. One of the things I thought you might mention is something more on the geology of reservoirs and that sort of thing, which may end up being kind of very important to securing some of these projects longer term. So I would love your opinion on that. Then just on the new gas turbine that you mentioned, that is not a new power range for you, I don't believe. So what is really new about that piece of equipment?

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

Okay. So, firstly, on the geology aspect, we work hand-in-hand with our customers and so you look at the IOCs and the NOCs and there's elements of what is also important to them and important to their aspect of understanding the field. So we partner with them and in many cases, they also provide the information on the geology and we have the capabilities and technologies that we are investing in from an organic perspective on improving the optimization of the reservoir, understanding the



reservoir and so we are actually looking at that space. Relative to Jupiter, this is a power range that, as you say, isn't new, but this is a new product. I will let Rafael speak to it because it is new for the Oil & Gas business.

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**Rafael Santana - General Electric Oil & Gas - VP, Turbomachinery Solutions**

So I think there are some aspects around -- number one, it's a lighter turbine that we're bringing in. It brings I will call best in class some technical aspects. We're looking not just at efficiency, but some other aspects as well here such as emissions and some other areas. It will allow us to play with what I'll call a product family that will really allow us I would say to compete against some offerings that we have in that space. I think customers have looked for alternatives and we are really bringing that alternative and we are doing that by partnering with them. So we will be giving more specifics into the Turbomachinery Symposium that happens in the last week of this month.

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**Steve Tusa - JPMorgan - Analyst**

So you gave the 6% long-term industry growth forecast and orders have been lumpy and there's varying degrees of differences of leadtimes, early, late cycle in your portfolio. How do we think about the big move-up in orders in 2015, a step down in the first half of this year, but obviously a recovery in the second half of this year? How does that reflect on the lumpiness of growth around that 6% as we look out for the next three years? Will there be a little bit of a pause in there somewhere and then a reacceleration at the end? I guess it is kind of a question around 2015 and more of the near-term relative to that 6% for revenue growth.

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

Again, I think as you look at the industry growth, and as we've indicated, we are going to be above that industry growth and so we feel we can actually be ahead of that 6% as we go forward from a revenue perspective.

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**Steve Tusa - JPMorgan - Analyst**

2015 as well?

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

Say that again?

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**Steve Tusa - JPMorgan - Analyst**

2015 as well?

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**Lorenzo Simonelli - General Electric Oil & Gas - President & CEO**

Again, if the industry growth is there, that is what we will bank on with the basis of the portfolio that we have and also the proposition of aggregating the acquisitions we've pulled together.

Look, again, I want to thank everybody for coming out this morning. I think again we've shared with you a story of what we've pulled together at Oil & Gas. We feel we have a great franchise, a formidable product portfolio. Thank you very much for your time and again, I will just leave you with our purpose statement. We fuel the future, we push the boundaries of technology to bring energy to the world. Thank you.

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**Matt Cribbins - General Electric - VP, Corporate Investor Communications**

Thank you again. The team will be here in the room afterwards if you would like to have any additional questions and this concludes the webcast.

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