



Capital Markets Event

Friday, 15th June 2018

Introduction

Warren East

Chief Executive

Good morning everybody and I must say thank you all very much for coming on. This is a fantastic turnout. It shows that there are a lot of people interested in Rolls-Royce so thank you very much.

The agenda that we have for you this morning is I am going to introduce things for a few minutes at the start. Then we are going to have an example of one of our businesses from Andreas. Harry is going to talk about the restructuring that we announced yesterday. Stephen will show how that translates into numbers. Then I will make a few comments to close with.

Key Messages

Power Systems

After my introduction, why have we chosen power systems? It is an example of one of our businesses that is in transition at the moment. Andreas will illustrate some of the improvements that we have been making over the last 12 months and we aim to be making over the coming years.

The other reason we chose it is because when we discuss things with the financial community generally, we spend about 55 minutes of every hour talking about civil aerospace. We thought it would be a good opportunity to talk about another part of the business.

Fundamental Restructuring

Yesterday, we announced a fundamental restructuring. I am going to talk a little bit more about that in a few moments. Harry is going to plunge into some depth. Yesterday, the emphasis was very much on the people side of things. Today, we are going to, in the last session with Stephen, talk about how that translates into returns.

I hope you will go away with an impression of why this change that we are making is absolutely fundamental. Why it is not just another cost-reduction exercise.

Trent 1000 Update

However, before we get started on the business of the day, I do know that there is a lot of interest out there in what is happening short term and in particular what is happening with our Trent 1000.

Right at the top of the slide, as we said in March and as we said in April, this is a situation which is causing a number of our customers a huge amount of disruption. We had a team down out in Sydney last week. They were absolutely flat tacked with our airline customers spending a lot of time reviewing the plans that we have and basically checking in a high level on how the close interaction with those airline customers is going in the detail.

I think to summarise the situation, where we are at the moment, we have completed the first stage of the initial inspections on all the Pack C engines. The good news is that we have sort of gone through the peak of that. The incidence of aircraft on the ground turned out to be

less than we actually feared. The incidence of failure on the repeat inspections – because we are now into repeat inspections – so far is going better than we had anticipated which is all good news. We have started a one-off inspection of the Pack B engines. There are 166 Pack B engines. We are going through a one-off inspection right now with those to establish some data. It looks like at much, much higher cycles, much, much later in the engine life. There may be a similar issue. The good news is it is much, much later in the engine life, so it actually happens after scheduled maintenance in the main. However, we want to gather some data to get to the bottom of that.

However, we anticipated a pretty grim situation with aircraft on the ground. We told you in March, we were going to add lots of capacity to deal with this. The good news is we have added lots of capacity. We have trebled our maintenance capacity. We have reduced the cycle time, the time it takes to go through one of the inspections and to go through replacement of defective parts.

The bottleneck has now shifted from MRO capacity to logistics – the fact that an airline is based in one part of the world. We have repair and overhaul which we have spread around the world. However, it is still physically removed in many cases by up to a week or so of transport for a very heavy item in both directions. Logistics is probably now the bottleneck on bringing this peak of aircraft on the ground down and for an individual airline to bring a number of aircraft that you have on the ground down.

The good news is when we wrote this slide, we were getting on for 50. We never actually hit 50. As of last night, we were at 44 and it is starting to decrement pretty daily at the moment.

Now, there are three stages. First of all, there is inspection. Then there is deal with it and then there is fix it. On the fix it side of the chart, as far as the Pack C compressor rotor blade is concerned which is what has caused a lot of the concern over the recent weeks, we have a new design. Testing is going well on that new design at the moment. I saw it last week. We hope that therefore, we will be able to pull the fix for that in from Q1 next year into the end of this year. That is continuing to move on a positive trajectory.

We will then fall back to the limiting factor which is turbine blade capacity. We have been addressing that since 7th March. Then we have continued to improve on turbine blade capacity. Actually, since the beginning of this year, we now have approximately 50% more turbine blade capacity than we had at the start of the year. We will, we believe, be able to eat through this problem.

Financial Impact

What difference does that make to our guidance? Well, the key message here is that our guidance for 2018 is unchanged. We clearly laid out on 7th March that we expected 2017 costs to approximately double in 2018 and then fall in 2019 and 2020 and so on.

Since 7th March, we have had accelerated inspections on Pack C. We have decided that we want to investigate for data gathering on higher cycle engines on Pack B. However, because we had a better aircraft on the ground situation than we anticipated, because MRO response has actually been at the high end of expectations, then actually, the good news is that the cost of those incremental pieces is not going to be quite as much as we thought.

Netting out those, we end up at approximately £100 million of additional cash in 2018 compared with where we were on 7th March. As we said in April, we have taken additional mitigating actions to cover that £100 million. That is a bit of rephrasing of some nice-to-have projects, cuts to discretionary expenditure. That is how we are maintaining our guidance.

Now, I want to get into the business of the day. That is the end of the Trent 1000 update.

Initial Transformation Programme Completed

Getting into the business of the day. I put this slide up at our full year results. This was a summary of where we got to with our transformation programme announced in 2015. In 2015, it was obvious that some significant change was needed. We did some change. We completed some of what I called organisational hardware. We needed to do some organisational software. In March, I reported good news. We have done some of that. However, there is a heck of a lot more to go.

Today is about that of a lot more change that we need to make in terms of the organisational software. What we have discovered is that in order to do that, we need to make some much more fundamental change to what I was previously calling the organisational hardware, i.e., the structure of the organisation. Much more radical change is needed to the structure in order to achieve this whole thing and make the obvious change that is necessary for Rolls-Royce.

Today we're at a Pivotal Moment for Rolls-Royce

Today is a pivotal moment. It is an intentionally big word – pivotal. I will come back to it in a moment or two. Basically, an awful lot of preparation has had to be done not just over the last few weeks, not just over the last six months since we got A&M in to help us with this.

Stabilised Businesses

However, actually, over the last several years, I had a number of questions yesterday from the media about, "Well, why on Earth didn't you announce this three years ago?" Because actually, that would have been exceedingly foolhardy to announce that three years ago.

Delivered a Ramp-up in Widebody Production Capacity

We had to get on with stabilising the business, do some really crucial things, tighten grip on the business and prepare for a big change to do it properly. We did have to stabilise the business.

A crucial question a few years ago was could we deal with the volume ramp up from approximately 300 engines to approximately 600 large engines per year? Okay, so that is getting there. Well over 500 engines last year, nudging towards 600 this year.

Brought New Products to Market

We had to bring several new products to market. Actually, over the last three years, four new civil engines have entered into service. That was absolutely essential to get these solid foundations in place.

Started Portfolio restructuring

There was some tidying up of the portfolio to do. We have been addressing that through a combination of some reorganising and some disposal activity that you have heard.

Established a New Leadership Team

Last but not least, I had to establish a leadership team that was up to the task and up for the task of leading this company through a fairly pivotal change. That leadership team has changed significantly over the last couple of years. You cannot do that overnight. So, 90% of the executive leadership team has changed. We now have a mixture, approximately 50-50, of established players promoted and fresh thinking from outside to deal with this task. That was the answer yesterday.

Restructuring

A summary of what we announced yesterday in terms of facts and figures. Well, we are going for something which is much, much slimmer, leaner, more nimble.

Net savings, £400 million. Costs per annum from the end of 2020, net cost approximately £500 million. That will unfortunately involve the loss of about 4,600 jobs. I spent a lot of yesterday explaining that a lot of those jobs will be lost in the UK. Consequently, a lot of them will be lost in Derby. They are management and support functions largely. That is making the big structural changes necessary so that we can really affect a proper culture change. Harry is going to talk about that in a lot more detail.

The idea is to create a world-class business that matches our world-class technology. It is not secret, or it is no coincidence that we have got a picture here of our newest engine – one of the Pearl series business jets that was announced a couple of weeks ago. It was launched a couple of weeks ago. No coincidence we have got that picture there to reflect the newness of the new management system and the behaviours that are going to be apparent in this business from now on.

Longer Term Context

So, what now? Well, before I go on to what now, sorry, a bit of context. Again, this is back to why I used the word pivotal. It is important to understand that this is a new phase in the development of the company. This is not a cost-reduction exercise from 2015 to 2020 to achieve some better returns. This is about making an organisation that is ready for the next phase of its development.

I said in the media yesterday, we have been around for 100 years. We want to thrive for another 100 years. A fundamental change is required. At the left-hand side of the slide, we have got a period of evolving engine architectures. We have got a period of developing market share.

We are now going from the developing market share phase into the using market share phase where we use that market share to generate returns and invest in new technology going forward.

To put some metrics on that, 15 years or so ago, we had about one in seven of the large jet engines flying around. Today, we have about one in three. We have an order book that will take us to about one in two in a few years' time.

We invented the Total Care product way back before the turn of – into the 21st Century. However, actually, we had a very small share of that. Now, to make this business really work, we need to have an annuity-type income. What has been developing over that period

is the Total Care package has evolved from few to most of them. In fact, when we take orders today, about 99% plus go out with a Total Care package.

We needed to move from what is essentially a bespoke business where we made very small volumes of a number of different varieties of engine to much higher volumes of only a few varieties of engine. We need to move from bespoke to industrial. Also, as I mentioned earlier, double that capacity in just the last three years. That is the wider context for this change.

Defining our Ambitions

What now? What now then? Our ambition is a much, much simpler business – one which doesn't celebrate complexity but celebrates simplicity. We have structured the business. We will talk about in terms of three empowered businesses. We think that those businesses can deliver materially improved returns as we move into this next phase.

We understand on technology that we need to be using the world's best technology. However, we cannot necessarily own it all. We need to be quite selective in terms of what we own, what we produce, where the key intellectual property is and where there is other world-class technology that perhaps is not key intellectual property for Rolls-Royce where we need to do some partnering so that we can be the world's leading industrial technology company.

By world's leading, I mean not just the company that responds to market changes but a company that actually makes the market change and that is a market leader. Stephen is going to talk a bit later about translating some of this into financial returns. There are a couple of midterm ambitions here on this slide.

I want you to note that we are talking not just about quantum but about quality as well. It is not just about how much return, but it is return related to input and therefore, a measure of the quality of that return that we are going after.

To Achieve This, We Need to Optimise our Resources

What are our resources available? I tell our people that our competitors have access to all the same technology that we do. They have access to all the same customer base, all the same equipment and so on. The only difference is the people.

Well, that is true. The people are the differentiating asset. We have access of course to three basic categories of asset – the people, the things and the money. The difference is in the people. The people determine how we use the things and how we use the money. The emphasis on this change is going to be around the people and how they assets get used.

Structure to Enable Change

Now, this is the proposed structure that enables the change. Harry is going to show a contrast between what we have today and where we are going. What we have today has brought us through the last phase, has enabled that growth in market share and that evolution of engines and that creation of the next generation of engines.

It is not bad but the complexity that is buried therein has generated a huge culture of bureaucracy, slowness, duplication and just a culture of complexity. We need to move to a much, much smaller lightweight corporate centre. We need to have empowered businesses that operate with freedom but freedom within a framework, not chaos.

I have deliberately pushed people in preparing these presentations that you are going to see this morning that we represent these as three interlocking circles, not three blocks of PowerPoint. The three interlocking circles are there because although these businesses face different market sectors, these businesses share intellectual property and share technology and share philosophy.

The synergy in our supply chain between civil aerospace and aerospace defence is obvious. The synergy between the power systems, defence activities and our broader defence business is obvious in the customer relationships as is some of the technology. The technology and service synergies between the civil aerospace and our power systems business are there. They are there to be exploited. However, we do it in a lightweight empowered way rather than through trickle of an overweight centre.

Accelerating Culture Change

We are going to talk about accelerating culture change. Harry will go into a bit more detail than this. However, I want to get across the message that simplicity is a state of being. That is what I told our leadership conference this year. That is the overwhelming state of being that you need to get to to make this happen.

Pace is appropriate but generally, I mean, faster. If you look at the complex situation we have come from, you have a chunk of people doing things in a complicated way. It takes them a long time to do it. However, you still got to do a whole load of things. You end up hiring more people in order to get more stuff done in the same period of time.

However, that makes things even more complex. You get weighed down even further. You get into a negative spiral or vicious circle. That is what I mean by complexity killing and why we have to move to a state of simplicity. Pace and simplicity lead to efficiency and that is enabled by a framework which is empowering.

Will Improve Productivity and Efficiency

That efficiency will improve our productivity and give us the world-class business to match the world-class technology. We are looking for efficiency in those three things – the people, the things and the money. That is the message.

What Success Will Look Like

When we get there, we will have replaced the vicious circle or negative spiral by hopefully a virtuous circle where again thinking about those three things – the people, the assets and the money. Those are key to create the output which is market leadership and strong financial performance. That is a little bit of introduction.

We are going to step back from the restructuring programme that we announced yesterday to give a flavour of what it looks like in a business that is the transitioning right now. Over to Andreas

Power Systems

Andreas Schell

CEO, Rolls-Royce Power Systems

Thank you, Warren. Good morning everyone. I am very proud today to present Power Systems. As Warren said, if you only get five minutes of an hour of your attention, I need to use my time wisely.

Since I am also new to Rolls-Royce, a quick introduction. Andreas Schell, 48 years old. I started my career in Stuttgart with a company back then Daimler-Benz then DaimlerChrysler. Then I spent about ten years of my time in the US and then followed by about four years here in the UK.

I have also worked with Fiat Chrysler under private equity ownership and then later in my career moved over to UTC, in the UTC aerospace. Then in December 2016, I was hired by Rolls-Royce. Since then, I am running the Power Systems business and I am very proud to be part of the Rolls-Royce business.

Overview

With that, let me introduce Power Systems to you. Since you are not so familiar with Power Systems or you may not be so familiar with Power Systems, I will start with a quick overview. However, most importantly, we have been driving a lot of change in the last year and a half. I would like to introduce what we have done to make this business fit for the future. Then follow and finish it out with our plans for the future and give you a perspective on what midterm you can expect out of the Power Systems business.

Operational Profile

All right. I am very proud to stand here on behalf of the 10,000 employees of Power Systems. They sit mainly in 11 locations in five countries around the world. We sell about 25,000 engines and units per year. These include the lower power range that we do together with a partner.

The engines are grouped mainly in four product families – the 4000 series which is really the very, very famous main product line, the 2000 series, then a series called classic engines, large engines, mainly the 8000 series and then a smaller series called the 1600 series.

They are used in 24 sub-applications. The way we sell into the market is we go partially directly to the end customer, but we also sell through a distribution network. This distribution network is a hybrid distribution network.

We have some of our own MTU subsidiaries in certain countries and regions. In other regions, we sell through third-party distributors – a hybrid network and there are benefits for our business to do it that way. This gives us about 140 sales partners but more than 500 authorised dealerships around the world that sell our product.

The one thing that I find extremely attractive about the Power Systems business is the installed bases. It is more than 100,000 engines. Now, you could kind of say, "How does this relate to the 25,000 engines sold per year?" The 100,000 units installed bases are the ones that we really develop and make within Rolls-Royce Power Systems and MTU. Those are the

ones that are mostly service revenue generating engine. We will come back later to what we do with the installed bases already and what we are going to do with that in the future.

Customer concentration, top ten account for about 17% of the sales. I will talk about the customers later again. However, I can tell you, we have fantastic customers in the Power Systems business.

Key Attributes

Some key attributes. There is a lot that Power Systems has in common with the rest of Rolls-Royce – a very high brand recognition. We have a significant R&D experience in Power Systems. I think this is something that both have in common. However, there are many areas where Power Systems can learn and has learned from Rolls-Royce.

One area is the experience that the civil aerospace business has in after market when it comes to developing products like long-term service agreements which is something that Power Systems did not have. I can tell you within one year because of the experience we have across Rolls-Royce, we were able to close the gap towards our competitors quickly and aggressively.

However, there are some things that are different and there are good ones. When I look at the financial side, we have a very short cycle order book. There are certain engines that are standard-type engines where we can fill the order book in three to four months. The governmental businesses, the longer side of it, which are about three or four years after order when we can put it in the order book. Again, a couple of months...up to three, four years to fill the order book. The business enjoys a double-digit EBIT margin. It provides the opportunity as shown last year that it has a very high conversion rate.

Market Profile

The market profile. I said before, we have fantastic customers. The customers are everything from small little family-owned business that operate our engines and they rely on the function of that engine day-to-day. If the engine fails, they cannot generate revenue. However, at the upper range, we also have large mining conglomerates that are multibillion dollar businesses.

However, I can tell you, what is common to all of the customers is the passion for what they do. This is something that is reflected also within Power Systems. Diversified end markets and customers.

Revenue profile, about two-thirds coming out of OE, one-third generated out of service revenue – something we will talk about a bit later again that we will want to change and increase the percentage of service revenue as a total.

Geographical split - 45% in Europe. However, what needs to be considered in that number is that a lot of the European customers actually take the engines, generate systems and then export to global markets. Also noteworthy, between China and Asia Pacific today, 27% of the total revenue in that region and growing. Also noteworthy, 23% in the Americas so we have to always monitor geopolitical situations and respond. That is what we do in the business but well-diversified.

That diversification has helped us going through downturns, through down cycle situations and we are not as susceptible to down cycles as other peers in the industry.

Focused on Higher Value Market Segments

Now, let me talk about what value we generate out of the market. The market itself is about 1.2 million units or €27 billion of value. That is the total addressable off-highway market excluding automotive, truck and on-highway applications.

With our product line-up as we have it today, we can service about 440,000 units or €13 billion of that. Now, we punch above our weight. We get 5% of the unit share but we take 15% of the value of that market with our products. We are premium in that segment all in.

Marine

Let me introduce some of the segments that we do business in. First, marine. We are amongst the top three participants in the marine segment. In marine, we do mostly direct sales. About 70% of the sales, we transact directly to end customers. Keep in mind, end customers are often ship builders. Then in the service, the end customer is the owner or operator of the vessel – a multi-state industry.

Applications, we are very strong in naval with a share greater than 25%. I really like this. When you ever consider to buy a luxury yacht, the engine you want to have should have the MTU print on it. This is what a lot of the customers aspire. It really is something they show off. When you go to boat shows, they open the engine rooms and they are really proud, the technicians, to open it and show the MTU print in their engine compartment – really something to be proud of in that industry. Projected growth, about a 4% CAGR. We expect the market to be €2.1 billion in 2022.

Power Generation

The second segment – and we like this even more than the marine segment. Why? There is a lot of growth in power generation. There is so much power demand out there. With what we do already today, we are right in the sweet spot of this. There is growth. There is about a 6.7% growth projected in power generation.

Now, we are very focused in power generation. We do not do everything. Our equipment is used in mission critical applications. If you use your smartphone later on today, there is a very high probability that the backup power provided when the grid goes down comes from Rolls-Royce Power Systems MTU.

This is what customers are willing to pay a premium for. When the grid goes off, there is a battery storage that takes over for a few minutes. But then, an MTU-branded engine has to switch on and provide power within minutes thereafter and basically back up the facility. Data centres, hospitals, companies, everybody who needs reliable power – this is basically the market we care about.

The other reason we really are very passionate about power generation is we are going to talk about microgrids later on today which is a whole new different segment. I think we fit right in the sweet spot of that with our ongoing developments. Again, we enjoy one of the top three market positions there. Products we sell in that market, 4000, 2000, 1600 series – both diesel and gas systems.

Industrial

Third segment, industrial. The industrial market is a bit different to marine and power generation which are somewhat easy to introduce. This is a very complex and very diverse segment for us.

What you find in that segment is everything from railway application, oil and gas, huge mining trucks. We have our engines on a mining truck with Belaz which can carry the takeoff weight of an A380 on its back. There are two 4000 series engines that power up that truck, the largest mining truck in the world so very diverse.

We are doing well in particular railway, in mining, fracking but also in construction and agricultural equipment. Now, this market is very sensitive to regulations. They are not the same all across the globe. They vary strongly. We have to kind of monitor this always. That is why in that segment, you often have very special effects and cyclical behaviour of that.

For instance, right now, because of the introduction of a new regulatory emission stage coming next year, there is a pre-buy effect in the smaller, lower power range that we enjoy right now. However, we will have to deal with that then next year.

The reason I am really passionate about this segment is all of these applications are heavy use applications. This is the best place to be for service. We will come back later on. This is where we start connecting the engines because we need to monitor the use and the wear of the engines.

Let me give you one example, a mining truck. The engine in a mining truck is pretty much dead after three years. It will come back and we basically repair it, restore it. We can do this three times over the lifetime of an engine. That means in about ten years, you have generated about three times the value of that engine on that engine. This is how mining for instance works for one example.

5.4% CAGR. However, as I said, we really like that segment because of its potential in service.

Defence & Other

I am not going to spend much time on this chart. However, for completeness, we also offer our products in the defence sector. Land-based battle tanks, infantry-fighting vehicles and howitzers. It is a stable market with a recent increase in governmental spend. We enjoy a bit of a future upside in that market.

We also, after the realignment of the businesses across Rolls-Royce have now ownership for the civil nuclear business. There, we are present on 195 reactors in 20 countries. I think all of you are aware, we just recently completed the sale of L'Orange to Woodward. While we have transacted this, we enjoy a long-term partnership with L'Orange since injection systems are still an important part for our engines.

2017/18 Financials

Now, I am very proud of this chart really on behalf of my team. In the end, doing business and having fun with all of these end-market applications is one thing. However, it needs to translate into financial results. I think you all agree with me, 2017 was a very strong year for Power Systems.

Now, a lot of people were quick to say, "Okay, the markets came back." Okay, yes, the markets came back. We also were able to take share last year because we made changes in the sales organisation and we approached customers in a much different way.

In parallel to this, we also focused last year on cost reduction in the business. We took C&A down by 7%. We reduced R&D by 6%. I will explain later why we reduced and why we were able to reduce R&D which then resulted in a 240 basis point gross margin improvement. It allowed us to increase operating profit by 61% in 2017.

How do I feel about 2018? We have given guidance for revenue on high single-digit growth. I am quite comfortable at this point in time with that guidance. Operating profit, I expect the margins to be stable. However, there are going to be some effects. I talked about the pre-buy effect in the lower power range. That is revenue but very little margin coming along with that.

In power generation, we will have less loose engine sales with higher margins. However, this will be basically made up by more system sales. At this point in time, I feel comfortable with the margins being stable. 2018 looks at this time to be yet another strong year for Power Systems. I can assure you, we will continue to monitor and optimise our cost in the business.

Driving Change

Now, Warren talked about the importance of people being a strong and an important asset in the company. When I talk about what we have done last year, this will also be a story about the people and what our people have done in Power Systems to make it fit for the future.

The View on Arrival

When Warren asked me to join Rolls-Royce in December 2016, I needed a few weeks to kind of do an assessment of Power Systems. Here is what I saw. Here is my view on arrival.

A bit of a personal story, my family comes out of the area in Southern Germany around Friedrichshafen. I have always admired MTU. It was kind of like a dream for me at some point in time to lead this business. You look at this blue and red, they resemble the flames in an engine. It made me really kind of wanting to work for that company. I was a little puzzled when I started how this icon, how this hidden treasure did not perform the way it should or it could. Here are some of my views.

Positive, a real hinge for engineering. Our people pride themselves, we do not play premier league in engine development; we play champions league. When we do engines, we do the best engines. So, a hinge for engineering.

A strong market share in niche markets. You would not believe how proud our people to tell about the stories when we kind of took in certain niches pretty much everything away. There is the marine segment where our engine has pretty much kind of gotten two competitors out of the segment altogether but again, in niches.

Super dedicated workforce and a transformation programme that I felt was really, really good, maybe not kind of delivering the results yet. However, it was a well-setup programme.

There were a couple of things that I felt I needed to take a deeper look at. The leadership culture in the business, I needed to understand the core drivers of this business. Again, when you kind of operate in such a diverse end market, this takes a little while to understand how

you generate orders and how you deliver against these orders and more importantly, how you generate margin out of that.

I noticed an absence of digitalisation. Lots of PowerPoints about how digitalisation could be but very little in place. There were some things that really required immediate attention. 20% of our portfolio was driving the majority of the profit. In fact, 20% of the portfolio also generated 80% of the revenue in the business. By the way, a big dissimilarity between H1 and H2 financial results, very big dis-balance between the two halves of the year.

An absence of a customer-focused mindset in the business. Then I think very similar to the words that Warren has chosen for the company, we needed to improve pace, simplicity and agility. There were always endless discussions. There was a governing body. It took about three months for presentations and for big topics to get to the top of the house for a decision. If we could not decide on it, it took another three-month cycle to bring it back.

We now have a much faster decision-making cycle in the business. There is alignment on the top. There is very little time spent on protocols and minutes of the meetings. There is focus on execution right there after once we come to an agreement in the business.

Key Focus

For 2017, the key focus was to address culture and leadership, number one. 80% of the folks that work with me and I have one of my colleagues here with me, Matthias Vogel, who is in a new position, has been in the business for quite a while. He is the Executive Vice President of Network Distribution and Service, a new position we created because we needed to separate OE sales from service because they had to be focused on selling and focused on differentiation through service excellence.

However, 80% of the leadership team, we made changes. We brought people in from other industries, people in from the outside. However, we also focused on promotions inside of the business through identifying talent.

Sales and service, clear messages – putting the customer front and centre. That does not mean to kind of sell for free. Then as I said, service excellence and to create differentiation in the industry.

Clear focus on product and quality. It is not that product quality was completely out of whack. However, it was not there where you would expect a premium manufacturer to be. Focus on that, we appointed a new Vice President of Quality. He had a clear mandate to show everything that is not per standard.

We have a bit to work through. However, the results are stunning because the customers are experiencing a much, much different product already right now.

On product development itself, more rigor on product development. We introduced a new organisation called Product Management to avoid generating small variance and pretty much not seeing the sales following through.

Then last but not least, clear focus on cost and cash. The leadership team meets once a month. This meeting is called performance assurance meeting. It is a mandatory attendance meeting and we see here where we are against budget. It drives and promotes accountability in the business. When in the second quarter we needed to focus on cash, we added cash as a KPI to this one. I think the results speak for itself.

However, clear accountability in the business, no hiding in the organisation. The people in sales stand up for their KPIs. The people in operations stand up for their KPIs. We all come together. If we are off, it is not a question how did we get there; it is a question what do we do to kind of mitigate this. I think it has really sparked a different culture in the Power Systems business.

RRPS2018 Transformation

I said we had a transformation programme in place. It was really, really good. Fifteen work modules. We were not in a position to really generate results out of that. That has changed.

So, 2017 actions, I spoke already about the H1 versus H2 activity balance. This creates for a much better absorption in factories as you all can imagine. To give you an example, Q1 in 2017, the factory was down for a couple of days because there was nothing to work on. We started on January this year with a full production schedule on the factory loading. That is what you want to have because then you have better absorption rates in the factory and your cost basically is much better applied.

Then direct material cost reduction, 4.3% material cost reduction. To be quite fair, the team has done material cost reduction for years. The 4.3% was a little bit of uptick. We are now looking also at technical measures to take cost out. You do not always have to use the most expensive material. You have to use the material that works and belongs to the function of a part in an engine.

Then very importantly, looking at target operating model – the way we work. We made changes to sales and service. We made changes in the engineering organisation, changes in the quality organisation. I can see the benefits of it because there is more clarity. Again, coming back to the concept simplicity. People understand what their job is. Therefore, we can operate much faster.

Then 2018 focus, ongoing product review, a lot more sales and service campaigns. Focus on networking capital. Most importantly, I will speak about this later on, digital where we have made a massive improvement in just one year.

Transformation

Let me give you one example out of the transformation. This is about product portfolio. I mentioned already 20% of the product portfolio generating 80% of the revenue. We had to really kind of take a look at the reprioritisation of the engine roadmap. There was one engine we had developed and in years, we had sold five of them.

Now, we kept the parts in the business because, I mean, of course, if you want to sell it one more time, you need to have the parts. There are people in indirect who renegotiate supplier contracts for an engine that you don't really sell.

We put up an organisation called Product Management, gave them the mandate to review this. Here are the results. This started in 2015 already. However, we are now down from 850 engine variants that you could order back in 2015 down to 600. Long term, we will be around 500 engines. Again, if an engine is taken off, we take the part out of the system. We will keep a few parts in service because we need to stand by our customers should they ever repair on the engine sold. However, that is it.

Rationalisation of the engine portfolio. Now, back to the question, what do you do going forward to avoid this? There is now continued modularisation. In the future, when sales come back and this here is a great application, think about industrial market, a lot of diversity there. We really go together and there is a clear assessment done. Do we really need that engine? If we need it, how can we use the parts we already have in the system and take a modular approach?

Another thing we have done is the 1600 series engine was always in its 11 years suffering from – there were some variants that were selling very well. However, most of the variants were sold at a loss. We did not really make a lot of parts for that engine. Most of it came from a supply base in Western Europe. That engine – I will talk about this later – was moved into a joint venture with an Indian partner. The supply chain will get localised in India. From there, we will basically then export to the global market.

Growth Strategy

All right. So much about change in Power Systems. Now, the question comes, what next? I will talk about key trends. I will talk about our strategy and the implementation. I will also speak for a moment about what I define success for Power Systems in the medium term.

Long-Term Trends

I could speak about this chart for hours. I had to already this year a couple of times because it is so key for the business. Let me start with a very small anecdote. I have two sons, 14 and 12 years old. The 12-year-old came one day home and said, "So, dad, all of this discussion about the diesel. Isn't diesel everything you make?"

Yes, we had the same laughter at the dinner table. However, it makes you think about the business you run. Now, let us be clear. We play champions league in diesel. It is a pretty profitable business.

However, the diesel is not only in the public perception and the public discussion. The question also is what do we do with this business. Let me be very clear that diesel is anything else but dead. If you speak to customers in the outback in Australia, three flight hours north of Perth in a mine and you speak to them about alternatives, others than diesel, you have to have a lot of arguments to convince them because diesel is a very energy efficient carrier. Therefore, they love it. The same for yacht customers in the end.

Now having said this, there are clear rules and emission regulations out there that we have to comply with. In a yacht for instance, a 4000 series engine, you have to increase the volume by about 40% to incorporate future emission regulations and put exhaust gas after treatment on it. You give the owner of that yacht less cabin space and increase engine compartment space. That is not what yacht builders want to sell.

Having said this, so these are the key market trends – regulations and green policies all around the world. Norway putting a ban on any internal combustion engines and marine usage in fjords for instance.

Alternative fuels and energy sources, a marine example. Only 0.3% of all marine today is penetrated by the use of natural gas instead of diesel so a big opportunity.

Propulsion and electrification. We have customers who come to us and say, "Well, is there any chance you can do some sort of a hybrid on our application?" Also, this industry when

you go to a mine, in mines as remote as they are, they are highly digitised today already, connected autonomous operation of mining vehicles for instance.

Then last but not least, I really believe the era of repair and spare parts comes to an end also in the off-highway industry, therefore, thinking about lifecycle services. We really had to think about new solutions and new approaches for Power Systems.

Integrated power solutions, again, we will continue to do diesels. We are good at this and there is no reason to kind of get out of it. We need to make sure that diesels are compliant to emission regulations. That is very important to us.

However, we also need to be open to new fuels, gas. We already have a marine 8V and 16V for mobile application in gas. We have gas in our power generation line up. There are some production portfolio gaps that we are about to close. We are also thinking about fuel cell technology hybrids in two and a half years from now in the marketplace. Down the road on our roadmap also, pure electrical solutions.

Then system intelligence, integrated automation on remote and autonomous operating engines. Then last but not least, life cycle offerings. I mentioned that before already. This is where we really greatly benefit from the experience in the civil aerospace organisation.

Implementing our 3 Key Themes

Three key schemes. We need to reshape our core. Again, we need to retain our competitive engine portfolio – very important because that fuels everything we do for the future. However, additional growth coming through joint ventures and partnerships and localisation of production.

Life cycle services, digital-enabled which we will talk about on the next page. Then turning Power Systems into a solution provider. Again, we are good in engines today. In the future, we will be very good at being a solution provider. That requires us to do a bit of a capability build-up in electrics and automation.

Reshaping Core

Reshaping the core. We signed an agreement with Yuchai Power to establish a joint venture. I was personally in the city of Yulin which is about 300 kilometres away from the Vietnamese border. I was personally there in April to take receipt of the first engine coming off the production line about one year, 14 months after we had finalised the agreements for this.

Working very closely together, so we have a couple of people from Friedrichshafen, Germany who are permanently in the city of Yulin. We are not going to build the latest model of our 4000 series engine over there. However, because of the parts commonality, after localisation, we will be able to kind of get local parts also out of Yulin for usage in other factories around the world.

Then we signed an agreement in April this year with Force Motors in India. This is the localisation of the 1600 series in the city of Pune in a joint venture with them. They will do assembly and test of the engine. However, we also plan to localise about 80% of the supply chain in India and then use it for the domestic power generation market and also export for global markets.

Life Cycle Services

Life cycle services. Life cycle services for me go hand-in-hand with digitalisation. I cannot imagine how companies really will be in a position to talk about life cycle services unless you really make sure your assets are connected because that drives advanced analytics and data-driven value care agreements. In the end, you really need to know how you tailor your life cycle offerings to your customer.

We last year signed an agreement where we guaranteed uptime of the equipment. This example here in the UK with the railway company. The duration of the agreement is 27.5 years. You cannot sign an agreement like this unless you really kind of get the data to understand what you are doing there.

In 2017, as I said earlier on, we really did not have a digital organisation. Again, the leadership team got together in March. On 1st April – and this was not a Fool's Day joke – on 1st April, we started the digital organisation with 40 positions. Those were filled. Three quarters of them were filled by domain experts, by system experts from inside the company. One quarter came from the outside because for digital, we needed new capabilities there.

Started the digital unit and today, we have digital products whether these are applications – we started first with digitising the customer interface there. By now, we have more than 2,000 assets connected. It is a KPI that I follow every week and every month very closely because as I said before, there is more than 100,000 units out there that want to be connected.

2018 focus continues to be to connect the fleet. However, we will also now embark into a horizontal digital transformation. What we mean by that is that we will go rigorously through every function in the company.

Inside Power Systems, we talk about 'X of the future' so 'service of the future', which I will show to you on the next page, 'sales of the future', 'factory of the future'. Every one of these functions has to own the future picture and then we use digitalisation to really kind of optimise the business. The digital team will be doubling in budget and the team size during the course of this year.

Here is a picture on services of the future. I am sure you have seen these pictures before. Again, we did have very little to nothing about a year ago. Many of the elements of this picture are in place. For me, this starts with the customer. Our customers for their equipment want more up time. It is hard to see but that makes them rest well. It allows them to kind of spend time on their leisure.

We at the other end of the whole chain, we care about data because that data is worth to us a lot. It helps us to kind of drive the business, make the right decisions within the business and steer the business. This whole chain, if the customer is up there, that customer has their own operation centre. We are connected to this.

On the example of the train here in the UK, these trains are connected. I could pull out my smartphone right now and I could take a look where each one of these trains are operating. We had six failures of the engines. That was not good. The good thing is we were able to predict failure number seven and avoid that failure from happening and therefore, from disrupting the service of the customer.

Now, on our end, we have a customer care centre. This is where the data comes together. There is a team permanently sitting there monitoring operations. This team is fully empowered. If they feel there is a need to call Warren and get a plane orchestrated to get a part out there to a customer, they are empowered to do so. We did not have to do that because so far, we did not need it. However, this is the empowerment that team has to really serve the customer and make sure the equipment is in place.

Now, downstream, it is very difficult for us to have all of the spare parts available. Wouldn't it be great for us to know the failure rates based on the utilisation of the assets and have an optimised inventory management? That is the next step on the journey on services of the future. However, as I said, a lot of the elements of this picture after one year of work are in place already.

Become Solution Provider

Turning Power Systems into a solutions provider. Now, a solutions provider, it is a little bit more than selling product because you are selling all of a sudden solutions. It is a different thing for the sales force. That is why we talked very often about we need to develop new capabilities in the business. This is more about consulting the customer.

The way this works today, our people look into the spec. They negotiate with a customer sometimes about elements of the spec. However, in the end, it is a product or a genset or a marine system.

Well, in the future, a lot of the customers especially in the energy market asking for wider systems. We need to kind of develop our sales force and develop capabilities for them to become more like consultants. This has implications on the product side where we talk more about integrated propulsion where we will talk more about microgrid.

A microgrid is the combination of a controllable energy source and a non-controllable energy source like photovoltaics or wind, an energy storage device and an intelligent control. Now, today, we do with gas and diesel-powered generators one element of that one. We have started to develop a battery storage container made by MTU. I can tell you, it is a very interesting product, short time before launch.

On the capabilities, we need to kind of embark more on project development. Then we spoke already about life cycle services and the advancements we need to make there.

Medium Term View

Coming to the end of my presentation, where do I see the Power Systems business in medium term? An average sales growth of 3 to 5% above GDP. Why do I feel this is possible? We will continue with what we have developed and what we have in our pipeline to take share. We will also embark in new applications that allow us access to markets that we do not play in.

Operating margins, I can imagine us being in the mid teens. Volume is our friend and we have more volume than we had in recent years so good factory absorption. I can see this trend continuing on. Localisation also will help because it will allow us to kind of get parts at a lower cost.

I year ago, I was a bit jealous on some of the peers in the industry. It was kind of hard to imagine that we would get close to them. I think we have surpassed many of them within

one year. That is why I'm confident if we just stay the course and optimise cost in the business, we will continue on that trend.

The next line is a very important one to me given all of the environmental challenges there to kind of lower our dependence on diesel as a main product. Therefore, 10 to 15% in the midterm need to get generated out of non-diesel product line.

Then I think also very important to change the split of OE and service more towards the 60 to 40 range; eventually, even kind of doing better than that. This will not happen overnight. However, as I said, I can see us going there in a couple of years.

Summary

Last page. I hope I gave you a good impression of Power Systems and that you now know a bit more about this business. I really think this is a fantastic business. It has fantastic customers with a great leadership team in Power Systems that has just started to work together to transform this business. There is more to be expected from us. There is a strong drive amongst the leadership team to transform this business into a solutions provider.

I think we already have a very good position in the marketplace today and we are a worthwhile investment. Thank you very much.

Restructuring Update

Harry Holt

Chief People Officer

Right. Hello, everybody. I am Harry Holt. I am the Chief People Office in Rolls-Royce. I have been in the company for just over seven years. I have held a number of different appointments in our headquarters, in our civil aerospace business and most recently running our nuclear business division.

Before I joined Rolls-Royce, I had another career. I was an officer in the British Army for over 20 years. I commanded men and women on combat across the globe and I also held a couple of senior jobs doing policy and strategy in the Ministry of Defence.

I have held this role for just shy of six months. I have to say, it is a very invigorating and exciting role to have for two main reasons. First of all, I always think that there is no such thing as good or bad companies or good or bad organisations. There is only really good or bad people and good or bad leaders.

Being the chief people officer accountable for making sure that we got the right people and the right leadership seems to me to be quite a stimulating and rewarding place to be.

The second reason why it is an exciting time to be in this position is because of the restructuring programme that I am about to talk about because I believe that it is a fantastic opportunity for Rolls-Royce's future.

I am going to talk about restructuring. I am going to talk first of all about our approach. I am going to talk about structure, culture, processes and people and then I will leave you with our next steps.

Our Approach

I think Warren was crystal clear on the requirement for restructuring. After a period of really significant investment by the company, first of all in R&D to develop a whole series of new civil aircraft engines and secondly in the capital expenditure so that we got the wherewithal to deliver those engines at volume, we now need to reposition ourselves, make ourselves fit for purpose for this next phase in our cycle so that we can generate the right returns on the investments that we've previously made. Also, so that we can achieve our longer term strategic ambition of being the world's leading industrial technology company.

With that goal in mind, how have we gone about trying to achieve it? Well, we have looked at more than just structure. We have looked thoughtfully and strategically at structure, culture, processes and people because of course, the four are highly interconnected. It is only by simultaneously changing all four that you can bring about the sort of lasting change that the company needs.

If you just change structure, there is a real danger that you just end up with the same old people operating the same clunky processes in the same old culture but with just some different reporting lines. We are categorically not going to do that.

Instead, we focused on culture, structure, process and people – applying those four common principles of pace, simplicity, efficiency and empowerment looking not only at where we can potentially reduce activity and take heads out of the organisation but also where we may wish to enhance operational or strategic capability.

Principles

Now, Warren has been very consistent and clear on the principles of pace and simplicity. They are both really states of mind, states of being where in any given business circumstance, you ask yourself, how can we go quicker? How can we make this simpler?

Efficiency is more than just doing the same for less. It is also about potentially doing more with the same resource. Empowerment is a theme that comes across very strongly every year in our annual employee opinion survey. When our people tell us that they do not feel fully enabled to do the jobs that we ask of them, we have a tendency to centralise and elevate decision making as opposed to delegate decisions to those people that are best informed and most capable of making the decisions in a timely manner. We need to invert that traditional hierarchical command and control pyramid. That is a theme I will return to later on.

Outcomes

The outcomes are twofold. Firstly, to generate better returns on the order book and the product portfolio that we have today. However, secondly, to make Rolls-Royce more strategically resilient. By that, I mean more capable of absorbing the inevitable ups and downs that happen in our market. At the same time, to invest in new technologies and growth for our future. Fundamentally, the restructuring programme is a risk-reducing measure for the company's long-term future.

Diagnosis and Planning

What have we actually been doing since January when we announced our restructuring programme? Well, we have been doing a very great deal. With the help of Alvarez & Marsal

who joined us in early February but firmly led by the new executive leadership team, we have been doing a really rigorous diagnostic of the organisation which we have now largely finished. We have also been developing plans for implementing the new structure.

We have a team of about 80 people working on this full time, about 50 from Rolls-Royce and about 30 from Alvarez & Marsal running a number of different work streams each one of which is sponsored and owned by a member of the executive leadership team. In fact, the executive leadership team has met almost weekly to review progress on those work streams.

We have managed to rack up over 3,000 man-days of diagnosis and planning. We have used a number of tools. We have used a number of A&M proprietary tools. We have used a number of industry standard tools like SQL and Tableau to help us to identify and visualise where we have got areas of duplication, where we have got areas of inefficiency.

We have applied those tools to over 18,000 different job types. That has given us sight of about 2,000 or so things that we can either completely stop doing or we can significantly change.

We have also been doing analysis on our structure. We have applied these tools to our structure and discovered for example that in areas of the headquarters, we have up to nine to ten layers between the chief executive and the bottom of the organisation which is clearly far too many. The new structure drives us down to about six or seven.

Equally and linked very closely to layers, we have looked at our spans. In some areas, again, often in the central functions, we discovered that the average number of spans is down at about two or three which is clearly too low. Again, in the new structure, we will push that up closer to ten.

We discovered a number of managers who do not even have any direct reports. We discovered a number of technology projects that were still going. However, now, they seem to be misaligned with the original business objective that conceived them.

As well as all these structural activity analyses, we have also looked at the health of the organisation, conducting an organisational health diagnostic. I will return to that later on.

I think it is worth saying that from the outset, we asked Alvarez & Marsal to challenge us. We asked them to make us feel uncomfortable. I am pleased to say that five months in, I am giving them an 11 out of 10 on that front.

Proposed Reductions

The outcome at a summary level as you heard yesterday is that we believe by changing the structure, simplifying the business, reducing the number of layers, increasing the number of spans, simplifying our processes and most importantly of all, stopping nugatory activity, we can reduce by about 4,500 jobs.

Broadly speaking, they come out of the functional support, first of all, functional support in the centre. The corporate centre of about 4,300 will move to about 100 in our lean head office and about 2,600 in group business services and number of functional support resource coming out of our businesses at the same time.

Our Previous Structure

Let us look first of all then at structure. The current and old Rolls-Royce structure was based on the traditional matrix model with a considerable amount of resource, about 4,500 heads in the corporate centre grouped into the traditional functional groupings of IT, HR, finance, legal, etc. Partly because those functional groupings were in the centre and partly because they owned and controlled the majority of their resource, they were far too dominant in the matrix. They were able to launch initiatives almost at will. They were able to insist on the businesses taking services that the businesses might not require. They had almost endless meddling rights.

The cost of all that, all that resource and activity was about £1 billion per annum. That was then recharged back to the businesses allegedly in proportion to their size. However, in reality, that meant that the businesses had almost no visibility of what they were being charged for. They certainly had no control or ability to reduce it.

The matrix was complex. Accountability was opaque. There was considerable scope for duplication of activity. Decisions took a very long time to reach because almost everyone had to agree them. If heaven forbid something went wrong, it was all too easy to legitimately point to somebody else in the matrix.

Our New Structure

The new structure is simpler focused on three empowered businesses, each one of which focused on our customers enabled by a group business services organisation providing demand-led support services for those three businesses that are best value for money basis and a lean head office doing corporate governance, group strategy and ensuring that we fulfil our corporate responsibilities as a publicly listed company.

We show this very deliberately with the customers and businesses at the top and funnily enough, the lean head office at the bottom because that signifies that inversion of the pyramid that I mentioned earlier on.

Three Empowered Business Units

I will just go through in a little bit more detail starting with our three empowered businesses – civil, defence and power systems where we have made some minor adjustments to make them more customer-focused and to make us easier for our customers to do business with.

For example, putting naval marine and submarines into the defence business means that our defence customers now really only have to deal with one or two Rolls-Royce businesses as opposed to three or four.

Our empowered businesses will be the absolute mainstay of the organisation. It will certainly be where the vast majority of our people reside. They will drive competitive and financial performance for the group.

They will have the maximum accountability for their own outcomes consistent of course with overall corporate governance, the group strategy, shared value across the group and our corporate responsibilities. What that does mean is they now have accountability and authority for their P&L. Most importantly, they get control over the support services that they require and visibility and control of the cost of those.

They now get their hands on all of the resources they need to really continuously drive productivity, quality and performance improvements as well.

Supporting Empowered Business Units

Now as Warren said, we are very clear that we are not creating three independent fiefdoms. The businesses will all still share the same business model. They will all be developing advanced technology to apply to systems solutions for our customers that we then service through life. They will continue to collaborate and learn from one another – Power Systems for example being able to take advantage of the decades of learning that we have in our civil business, on engine health monitoring and long-term service agreements so that they too can extract greater value at the aftermarket. Our civil and defence businesses clearly share the same core gas turbine technology. They share a number of the same suppliers.

Enabling those businesses, we have the group business services organisation where we are going to effectively pool our support services or our professional and transactional services into one entity to drive value across the group. That will have a real culture of customer service provider and a mindset where services are driven solely by customer demand. They are measured solely through customer satisfaction.

It will have a culture of continuous improvement looking to continuously enhance value through process standardisation, process simplification, leveraging the obvious economies of scale and then of course taking advantage of outsourcing, offshoring and increasingly robotics and automation.

Interestingly, it gives us an opportunity for the first time to really create a multifunctional, multi-process end-to-end capability. That is a bit of a mouthful to say. What I mean by that is that we have some of our big processes like source to pay where at the moment, you have different functions managing different discrete elements of that process and therefore, managing all of the handoffs and interfaces between them which is unduly complex. In this new model, we can put those people together into one coherent team to manage and improve that process genuinely from end-to-end.

I think group business services will grow. I think the scope will grow as we learn and as we bring in new capability and as the businesses get used to working in this new model. It will certainly be a very exciting opportunity to build and grow global and diverse talent.

The lean head office – and you may spot that we have got a leaner font on the word lean just in case you had missed that point – based in London but in a new location, a new smaller location, more accessible for the majority of our people, closer to Kings Cross. That will provide the senior leadership for the group. It will provide the group strategy. It will ensure the disciplined allocation of capital consistent with that strategy. Of course, it will continue to provide corporate governance control and assurance.

Changing our Culture

Moving on to culture. Culture, it is such a nebulous concept, isn't it? However, we all know that it is very, very important. I think the saying goes that culture eats strategy for breakfast. In the same way as we conducted an analysis of our structure, we have conducted an analysis of our culture using an organisation health diagnostic tool, using our annual

employee opinion survey and using Alvarez & Marsal to conduct a number of focused interviews for us.

The first thing that came out loud and clear is there is plenty about our culture that is really laudable and really fantastic and we need to preserve and enhance. We need to preserve and enhance that sense of pride that all of our employees feel for working for Rolls-Royce. That engenders a fierce sense of loyalty to our company. We have a consultative and inclusive atmosphere and that engenders very high degrees of innovation.

Equally, there are some aspects of our culture that we certainly need to change. I have just listed the sort of to and from on the right-hand side of this slide.

First of all, we revel in complexity and we need to get much simpler and much clearer. We have a thing called the Rolls-Royce management system which is designed to provide people with processes and procedures that they need to follow to get their job done. That feels like an eminently sensible thing to have.

However, when you look inside it, you discover we have got 167 group procedures containing 751 different steps which are governed by 6,955 different rules. If you look even further, you can find 3,424 embedded links to take you to separate documents providing how-to guides and local work instructions.

In fact, if I printed it off and brought it here today, I will have to cut down 28 trees to produce the 5,450 sheets of A4 paper. That is printing them on both sides. That is what I mean by revelling in complexity.

Maybe it is because designing and building the world's most efficient gas turbine aero engine is actually a pretty complicated thing. Otherwise, everyone else would be doing it. We somehow believe that complexity is an end in itself and clearly, it is not. We need to become much simpler and clearer.

We have a tendency to gold plate and duplicate. The Rolls-Royce solution is not always a good moniker. I remember running the nuclear business. We made a small acquisition in North America for about \$5 to \$6 million only to be told by our own people that we are going to have to spend considerably more than that to bring the single facility of this new business up to Rolls-Royce's group property standards. This was on a building that had been cleared by the US regulator to handle nuclear contaminated material.

We have a culture where we tolerate low productivity and poor performance. Last year, less than 0.1% of the workforce left due to poor performance. To put some numbers on that, that is one engineer out of a population of about 17,000. I know we have some really great people they cannot all be that good. A much stronger performance management culture is where we need to get to.

One of the reasons why the performance management culture is poor is because the lack of accountability in our structure. It is really difficult to put your finger on someone and say this was your accountability. This is how it has turned out. Here are the outcomes good or bad.

Of course, the stories of internal approvals needing 25 or 26 signatures are more than just sort of anecdotal. They are symptomatic of an organisation that shies away from individual accountability and somehow thinks that the more people that can take shared accountability, the better the outcome. We all know from experience that it is often the reverse that applies.

Then last but by no means least, a lack of cost awareness. Of course, the danger of giving you lots of stories here is that you come away thinking that we are profligate which we are not. We actually have a lot of very good people working on cost reduction very successfully day in and day out. However, we still have too many aberrations where we seem to incur ridiculous cost just because someone, normally acting out of their best of intentions, thinks that they are upholding a group policy or standard.

Again, in my last business in nuclear, I discovered that three people had flown all the way from Bolton to Grenoble simply to erect a Rolls-Royce sign because they did not trust a local contractor to be able to do that consistent with Rolls-Royce's branding policy. We have not yet got the sort of cost conscious mindset that we need.

Clearly, changing culture takes time. It is not going to happen overnight. It takes strong leadership. The new leadership team that we have is really driving the cultural change. We have launched our new behaviours, our ABCs as we call them. Be agile, be bold, be collaborative, be simple. Those new behaviours are woven through our new leadership expectations. We are increasingly judging people, judging leaders on how well or how badly they can live up to those expectations. That will clearly have an impact on their performance appraisal, on their reward and clearly on their longer-term prospects within the company.

As I mentioned earlier on, we are changing the leadership model seeking to move away from that traditional hierarchical pyramid to invert that pyramid where leaders are less focused on how they control others and more on how they can build and develop and enable their teams to solve the problems that are in front of them. We call it leadership through people.

I think it was Steve Jobs who says it is not clever to hire smart people and then tell them what to do. We hire smart people so they can tell us what to do.

Simplifying our Processes

Our processes and systems are clearly another area which can help to shift culture. Of course, we need to simplify our processes. We need to reduce the process burden. Otherwise, we cannot reduce by 4,500 jobs or at least we cannot unless we want to have an organisation that has got fewer people in simply working twice as hard to keep the old clunky machinery going.

We have looked at a number of our processes of which we have got several hundreds, many in the Rolls-Royce management system, many elsewhere. We have applied the four simple principles of stop, simplify, improve and automate.

We have started with some of the biggest first. I will just give you a couple of examples to show you what we have achieved but also to show you the opportunity for future achievement.

The management system I spoke about earlier, 167 group procedures. Forty-four of those procedures are to do with how we manage customer relationships and the services that we provide them. By putting together a small team, applying some good lean methodology, applying a good dollop of common sense, we have managed to reduce those procedures down to just 18. More importantly, we have reduced the 1,065 rules governing those procedures down to less than 40.

We have also had a lot of success with indirect procurement. Three years ago, in 2015, we spent about £2.7 billion per annum on indirect procurement using very outdated systems that lacked pace and lacked transparency.

Over the last couple of years through a project called IPEX, indirect procurement excellence, we have introduced a new world-class source to pay digital platform called Coupa which is integrated across our ERP systems and across our major geographies. At the same time, we have upskilled the buying teams and simplified our processes.

The outcome has been very pleasing. We have managed to reduce the time it takes to process purchase orders by about half. We have managed to exceed the 5% industry benchmark savings in the various indirect commodities that we procure. We have reduced the total spend down from about £2.7 billion in 2015 to a target of £2.3 billion this year. We have done all that with a team that is 23% smaller than it was. It shows you what is possible.

Annual budgeting process

We have also tackled our annual budgeting cycle, which Stephen quite rightly is very pleased with. Up until recently, our annual budgeting cycle took us ten months. We were in the cycle from April through to February. It involved over tens of thousands of different spreadsheets, all being developed bottom-up. You can imagine the number of man hours that went into that. At the end of it, in February, we then had a locked and pretty static budget.

By changing our approach, swapping all those thousands of spreadsheets out with one simple tool, driving the budget top-down based on a few simple value drivers, we have now shortened that process to just a couple of months – September-October – and because you can change the assumptions on the value drivers, it is actually a dynamic tool. You can update your forecast whenever you so wish.

Our success depends on our people

All that is a sort of corporate office process improvement. Clearly, the businesses continue to drive improvement on the shop floor, in our operational processes, where we continue to get really good results through a combination of Lean methodology, but importantly, by empowering the teams and leading in that different way, leading through people.

XWB

For the XWB, for example, we have managed to reduce the snags on the build line by 27% simply by linking the engine fitter with the engine inspector by a new IT system so that each time the engine inspector sees something that is wrong, the engine fitter that caused the fault gets instant feedback.

That was more than just a system improvement, of course. It is a cultural improvement where we work with the unions to make sure that the fitters were really embracing a culture of continuous improvement, desperately trying to drive the snags down and the product quality up for our customer.

Sticking with the XWB – obviously, our biggest volume engine – we have managed to drive the turnaround time – turnaround time is the amount of time the engine spends on the test bed before it gets shipped to the customer – from 58 hours down to 22 hours, the Holy Grail being to get it down to 15 hours because if you can get all our large engines down to that sort

of level, then we do not need significant additional test bed capacity. A single test bed is about £70 million to £80 million of capital expenditure, so some of these simple operational process improvements, as well as clearly improving our productivity and customer satisfaction, actually can help to lower the overall investment bill for the company.

Our People strategy

You can have the best structure in the world, you can have all the best processes in the world, you can have the best culture in the world, but if you have not got the right people in the right jobs, with the right skills and the right tools at the right time and, most importantly, with the right leadership, you are doomed. Our people strategy is absolutely essential to the overall restructuring, and it includes four elements that you can see here on this slide.

Leadership capability

First and foremost, we need to enhance our leadership capability across all levels of the organisation, from the top to the bottom and, at the same time, change the leadership model to one where we lead through people and we enable our teams as opposed to controlling them per se.

We have rolled out, as I mentioned, new leadership expectations. We are also going through a complete refresh of all of our leadership learning and leadership courses not only so those new expectations are embedded in them, but also so that our leaders get a licence to operate, as it were, before they move to the next level of leadership.

Talent management

Linked closely to that is improvement in our talent management to make sure that we have the right leaders in the right place at the right time, and also to improve and strengthen our succession planning.

Three areas of focus here. First, to ensure that our leaders really understand that identifying and developing talent is one of their core accountabilities. Secondly, be much more proactive and systematic about how we manage people's careers, moving people across the company so that they can get the right experiences and grow the right capabilities, so they can fill some of the biggest jobs in the right time frame. Then, thirdly, being slightly less risk-averse and conservative in some of our appointment decisions. Obviously, as we go through this restructuring phase, we have a particular focus on keeping and promoting our key talent.

Diversity

This will all help with our diversity agenda. Diversity is important to us not only to make sure that we have access to the largest possible pool of global talent, but it is also important because it is only by having diversity of experience and diversity of thought that we can be as creative and as innovative as we need to be to succeed. Diversity is all about creating better business outcomes for Rolls-Royce.

Capability

Then finally, capabilities, where we have certain capabilities where we are strong today and we need to preserve them. We do have deep functional and technical expertise that we want to preserve. We are innovative and we certainly need to preserve that. However, there are other areas which need enhancements or, indeed, growth.

We need more business and commercial acumen across the organisation. We need stronger programme management in all of our businesses. As we pursue our new strategy based around the two pillars of electrification and digitalisation, we clearly need more electrical skills and data scientists in the organisation.

Next steps

Proposed reduction of 4,600 jobs by mid-2020

Next steps. Yesterday, we made our announcement. That really signalled the end of the diagnostic phase of restructuring. We have now very firmly moved into the implementation phase. We will be beginning consultation with our people. You are familiar with the overall number of 4,600. Broadly speaking, we would expect about a third of those jobs to be lost this year and the remainder to be lost during Phase II and Phase III, complete by mid-2020.

Restructuring process

4,600 is actually a very big number. I think it was Stalin who said, 'One death is a tragedy, a million is a statistic.' Even though, thankfully, we are not talking about life and death here, we are talking about people's livelihoods. There are real people behind this slide, with real families, real dependence, and real hopes, dreams and fears.

How we, as a company, treat them is of the utmost importance. We will absolutely treat them with fairness and respect. We will make sure that we involve them, as indeed we have done over the last few weeks and months. We will involve them and their representatives at every stage of the process.

Where we are selecting people into new roles in the new organisation, we will make sure that that is a completely transparent process based solely on merit. All of that is important, clearly, to the people that are going to leave, but it is actually equally important to the people that are going to stay behind because it sends a very, very powerful signal of the sort of company that we are, and we will remain.

Conclusion

Three key takeaways

Can I just leave you with three messages? As Warren said, having stabilised the business, having created and built and developed a new Leadership team, we are now ready for this restructuring programme. It is a programme that focuses not just on structure. It is actually a really fundamental change to structure, culture, people, and processes.

The second thing I would like you to take away is it is only by stopping, simplifying, improving and automating our work to reduce the overall burden on the system that we can let these jobs go.

Then, the final thing is that this is all about better results today. However, it is also about preparing ourselves and building ourselves so that we are better-positioned to seize and exploit the opportunities in our future.

Thank you very much, everybody. I think we have now a much-needed coffee break.

Delivering Returns

Stephen Daintith

CFO, Rolls-Royce Holdings Plc

Agenda

Okay, I think we are all set. Good morning, everybody. My name is Stephen Daintith, the Chief Financial Officer for Rolls-Royce, been here for just over a year. This session is around delivering the returns.

I think just to put sort of Rolls-Royce in context, we are a growing business. We have reported good growth in 2017. We expect to report good growth in 2018 – revenue growth – and we expect our revenue growth to continue over the next few years as well. We are also coming out of a significant investment cycle. We are entering the phase, now, of delivering the returns on that investment cycle.

KPI Model

Today, we are going to share with you our two KPIs that we will be tracking most closely to measure the success of those returns. Number 1 is cash flow returns on invested capital, and I will talk quite a little bit more about that later. Then, cash flow per share.

Just to give you some context as to how we have built this model up – and Harry alluded to it as well and I talked a little bit about it a year ago at the half-year results – we are building and have built within Rolls-Royce, a driver-based approach to modelling our business. 'X*W' or 'V/Y' equals Z, with the three key drivers there, using that as an example, to get to an absolute number. That way, we can better track performance and delivery metrics and very much, as Andreas was talking about in his business in Power Systems, tracking our progress.

We have developed this model and this model allows us to develop a rolling forecast for Rolls-Royce, whether it be over a five or 10-year period, with great detail behind it as well. Clearly, a lot of assumption is driving up at that, but that is the essence of where we are trying to get to. In time, this rolling forecast will, in fact, replace the budget process because we will always be updating our model on a driver-based approach.

What we are going to hear about this morning are the three key drivers – there are plenty of others, but three key drivers to deliver those returns. At the end of this session, there would be about an hour for Q&A, so just to let you know that we will not finish immediately after me. There is an hour set aside for Q&A.

Increased returns: Three key drivers

Right. Let me get into the presentation. What are the key drivers of the increased returns? There are three significant ones. We reduced OE cash deficit per engine. We improved aftermarket cash margin. What we are describing as bending the fixed cost curve.

Important at the top there, "underpinned by significantly increased returns across all three businesses". Andreas talked about those mid-teen margins for Power Systems. We expect something very similar for our Defence business as well. On our Civil business, perhaps we are not quite at that level, but certainly moving up into the high single digits as civil progresses over the next few years.

All three of those will drive and result in cash return on invested capital growing. We have given a mid-term ambition this morning around what that means. Mid-term ambition, you should be thinking five, maybe six years – that sort of time period – because I am sure that question will come up.

OE cash deficit reduction

First of all, looking at this key driver of OE cash deficits. There are three key factors behind the drive to reduce the cash deficits on our original equipment. As you know, we sell civil engines at a small deficit today of about £1.6 million cash loss per engine. Through three key factors of pricing, cost, and mix, we expect that to come down significantly over the next five years. I will be a bit more explicit about that on the next couple of slides.

The Trent XWB-84, in particular, we are highlighting is a break-even engine by 2020, and that is a key driver of part of the journey that we are on. Looking at the cost reduction side, in particular, as a contribution to that reduce cash deficit, there are four key drivers of that: sourcing, engineering change, commercial terms and partnering, and then how we manufacture the OE.

Tangible examples

Sourcing

Let me just give you some practical examples of what has happened within Rolls-Royce. The Trent 7000, for example, we have transferred the pipe supply from Spain into Mexico. We get about a £50,000 benefit per engine from that.

Engineering change

On the right-hand side there is a fan case. That is this part of the engine here. We have reduced significantly the amount of raw material that we get before we start forging it to produce the finished design. We have reduced it by around two tonnes lower per engine of raw material. That, again, drives around £50,000 benefit per engine. Those two changes – £50,000 each.

Commercial terms and partnering

Commercial terms and partnering. This has been very effective. We have worked with our suppliers to get improved commercial terms for them, but at the same time, better pricing for us and cost of the engine design. XWB-84 and 97, in particular, driving a £20,000 benefit per engine from that collaboration on working with our suppliers.

We have not always had a great reputation for working with suppliers at Rolls-Royce. I would hope that we have dramatically improved this over recent years, or certainly over the last couple of years or so. I would say on this whole area as well, the Civil team, each year, have a very detailed list of initiatives to pursue along these lines to deliver that ongoing opportunity of cost reduction in original equipment.

Method of manufacture

Method of manufacture is important as well. We have a large disc facility. Many of you may have visited it up in Washington in the North East. Big investment going on in there. I am going to talk about this in a second when we talk about the cash return on our invested capital. That has delivered a benefit of about £30,000 per engine.

Incremental cash flow benefit of around £500 million per annum*Widebody installed deliveries*

When you put all that together, what does it mean to us in terms of cash flow over the next five years? Our widebody installed deliveries are going to grow from last year's 444 to about 600 this year.

Widebody average loss per engine

We lost last year, if you remember from the full year results, about £1.6 million cash per engine. That £1.6 million we expect to decline to about £400,000 over the next five years. We decline by £1.2 million per engine.

Using simple maths, we get to an average cash deficit reducing by that much and an incremental cash flow contribution to the group of about £5 million per engine – number one of our key drivers.

Aftermarket cash margin*Key factors*

Number two of our key drivers is the aftermarket cash margin and probably the single largest driver – certainly one of the largest drivers. The key factors around this one:

- The growth in the installed base. I will show you the numbers in a second.
- The flying hour growth that will follow that growth in the installed base.
- Shop visits and how we expect those to develop over time.
- The in-service issues. There will be a lot around this presentation that will talk about the future and the good things that are going to happen, but we should not forget there is risk within our business.

The Trent 1000, the Trent 900 is a very good example of the risk that was within our engines with their performance. We assume a certain level of performance. The Trent 1000 has shown that it does not always happen that way. We are accommodating it this year and next year and so on.

- The Risk and Revenue Sharing Partnership Programme shares as well. This is a significant part of the equation to take into account that we have modelled. This is going to grow quite significantly over the next few years as a proportion of our engines have a higher contribution of the partners that we have worked with to develop those engines in the first instance. That is an important factor.

Widebody active installed engine base*Growth underpinned by widebody order book*

However, having looked at all of that and modelled it through, this is where we get to on our assumptions. The installed base will grow from 4,400 to around 6,500. Here are the assumptions that we have taken. Around 550 to 600 deliveries per annum. This will not be completely linear over the years, but it is pretty much a good guide.

We have about 100 to 150 retirements per annum. It will be looked throughout the aging of our fleet and so on as well. We have 2,400 widebody engines on order. That is 6,500 we end

up with in 2022. This should drive a 10% growth in engine flying hours by 2022, getting us to that 6,500 number.

Drivers out to 2022

Widebody LTSA major shop visits

Major shop visits. What is going on here? These are the major shop visits, first of all. Then, we have check and repair visits. The major shop visits are when the engine reaches the point of its regular service interval, whether that would be five, six or seven years.

In 2017, we had 240 of those. In 2022, we are going to have around 650. That is a reflection of the size of the growth of the installed base, but also looks at the maturity of the fleet. We have a younger fleet the most as well, which is helpful.

Widebody LTSA check and repair visits

The check and repair visits are the Trent 900 and 1000 type visits that are out of the regular sequence of scheduling. Well over half the 350 number in 2017 was down to the Trent 900 and 1000. That is the area of most uncertainty, in terms of how that develops. In 2018, for example, that number will grow to maybe 500 or 600 check and repair visits, depending on how we get through the inspections of the Trent 1000, engines.

Widebody aftermarket cash margin

Aftermarket cash margin to exceed £2 billion by 2022

The average cost of each of these varies considerably as well. As a good guide, you could use £1.5 million or so for the cost of a shop visit – a major shop visit. In 2017, £400,000 per visit, as a guide to what that number looks like as well.

However, I am hoping you can pick up a degree of the granularity they have gone into our modelling to help us get to the midterm ambitions that we shared this morning. Two additional important levers down the bottom here: maximizing the time on wing, but also driving down the short visit costs – both key contributors.

What does it mean when you put it all together? We are aiming to exceed £2 billion of widebody cash margin over the next five years, growing from £1.3 billion in 2017 to in excess of £2 billion over the next five years.

We have taken certain assumptions here. There is the bit that I just talked about, in terms of the installed base. As a good guide, net of Risk and Revenue Sharing Partner percentage contributions, you should be thinking around £500,000 per engine per year in terms of modelling this, as a good guide.

We talked about major refurb. We talked about the check and repair. There are other parts of the aftermarket cost base that are outside of this driver-based approach – things like the cost of leasing engines for the TotalCare provision, transportation costs are in that number as well, and also the engine health monitoring business as well on activity is in there. The product in-service costs, these are any additional costs that might creep into the margin, in respect of items like the 900 and the 1000.

Growth will slow down, but continue throughout 2020s

An important point. There is often sort of speculation and commentary as to when this growth might slow down. We have modelled through the 2020s to see based on what we

think the levers are going to be, what we think our retirements are likely to be, looking at the aging of our fleet, and we actually see continued growth throughout the 2020s.

In absolute terms, growth will slow down. The rate of growth will slow down, as the installed base grows and starts to flatten out, but also as the shop visit incidents per installed base starts to get higher as the fleet gets older. The growth will slow down, but it will carry on growing throughout the 2020s. That is an important point.

Bending the cost curve

Three key drivers

The third item, bending the cost curve. What do we mean by that? Three key factors that will help us bend the cost curve: the restructuring programme that Harry talked through a little while ago, the significant investment cycle that we are coming out of, and then the capacity that we have now built in to our production capability to deliver those 600 engines a year.

Four components of the fixed cost curve

There are four components to what we call the cost curve:

- Commercial and admin costs: that is indirect expenditure. That is the amount largely that Harry was talking about in respect of those recharges across the businesses.
- Net R&D cash spend. You will be familiar with that number, whether it be across Civil, Defence or Power Systems. We will show the profile of that in a second.
- Then, certification and participation costs. These are costs that go in, first of all, when we test the engine prior to delivery to customer. That is certification. Participation fees are the fees we pay to an airframer to participate on a programme.
- Then finally, the capital expenditure.

These are the four areas of fixed cost – £3.1 billion cost in total.

Bending the cost curve: Restructuring

Benefits: £400 million of annualised cost savings

First of all, bending the cost curve, the restructuring programme. We highlighted yesterday £400 million of net savings – run rate savings by the end of 2020. It is driven by reduced fixed costs, but also headcount, simpler, more responsive business structure, and efficiency and effectiveness around the organisation. Much more simple, less complex, lots of things that we are going to stop doing that we do today and deliver a more streamlined and simple and effective business.

The savings will flow through. Just thinking about timing, I think there will be a small portion in 2018. Clearly, we have a lot to do this year to start delivering. We have a target of a third of headcount by the end of this year, but only a small portion this year. 2019 and 2020 will be the two years when we start to see those savings really flow through. We will share more at the half-year on the phasing of the savings.

Implementation: £500 million cash costs

In terms of the costs of the restructuring programme, we have a £500 million cash cost estimate to implement – largely redundancy costs, but a decent portion of system investment

to facilitate the delivery of this programme. You should be thinking roughly around, I would say, 80% headcount redundancy costs and the balance being the systems investment, as a rough guide today. Again, we will update you more at the half-year results.

In terms of timing, around 25% of that in 2018 and then the balance in 2019 and 2020. I would probably say about sort of the remaining 50% or maybe 60% in 2019 and then, the remaining 15% in 2020, as a rough guide. Again, will give you updated estimates as we go along.

The treatment of this. We will treat the costs outside of underlying profit and free cash flow. We will disclose the amounts but will take it outside of underlying performance. Timing and impacts, we will confirm again with the half-year results. £400 million of savings, £500 million of costs – so, a pretty good payback.

Commercial and admin costs

Mid-term ambition is to bring C&A to around 5% of sales

This is the profile, over the last few years, of how these indirect costs have moved. 2014 and 2015 were quite a significant reduction driven by the absence of the Energy business, but also by the fact that in those years, a bonus was not paid, to be frank, due to the performance of the business at that time. That is quite material to our numbers. That is about a £100 million or so of that number across the Group, but rising again to about £1.1 billion that we see today.

We expect those costs to reduce to around 5% of sales. That is our ambition. That is our mid-term ambition, largely driven by the £400 million of restructuring savings that we announced yesterday morning. Previously, we operated at about 8% or so, dropping to around 5%.

Net R&D, certification and participation spend

Average Civil NPI has been 50% on average of Group R&D spend

Putting this in context, our net R&D has grown from £700 million to £1.2 billion over the last sort of seven years or so. Again, putting it in context, we have brought to the market six new civil aero engines during that period, during the last ten years.

On average, Civil NPI has been around 50% of Group R&D spend. We are unlikely to see that period of activity again over the next 10 years as we move into a service business, after having been in our R&D and OE business. Very important point.

Whilst the trajectory of that exact curve – do not read too much into the slope of that curve. The point is here we do expect net R&D to decline rather than grow over the next few years. We will still be investing, as you might imagine, significantly in products for the next ten to 20 years, but not at the absolute amount level as we have seen in recent years. That is the key point.

The ambition is to decline to around 6% of sales as the pace of Civil NPI slows down. At some point, we will get to move into an investment cycle. However, that will not be in the next sort of ten years. We will not see this sort of activity again. We are very much moving in to an aftermarket space.

Group CAPEX

Mid-term ambition to decline to around 4% of sales

Similarly, there has been a 60% increase in CAPEX since 2010, up 3% to 6% of sales. We have built in the capacity for our business to deliver those 550 to 600 engines a year. It is important to put Rolls-Royce in context of the investment cycle that we have been in over the last five to ten years. 60% growth. We expect to decline to around 4% of sales on a go-forward basis. That is our mid-term ambition.

Total fixed and investment costs

Fixed and investment costs risen since 2010 from 17% to 23% of sales

Bending the cost curve. What does it mean, when you put it all together? This is the rise from 17% to 23% of sales. Our ambition, as we will show in the next slide, is that this comes down significantly over the next few years.

Reduction in fixed costs to drive improved returns

Putting this into practice and showing the numbers, we decline from around 23% of sales to 15% of sales over the medium term. Another one of our three – the third of our three key drivers. Contributes around £500 million per annum. OE, around £500 million. Aftermarket, around £750 million. Bending the cost curve, around £500 million. All three of those will then help drive the improved cash return on invested capital and cash flow per share.

Working capital is a key consideration. It is a feature of Rolls-Royce. It will continue to be so. We are a negative working capital business. However, we have not included a material contribution from working capital in the modelling that we have over the medium term.

Capital allocation

Four key priorities

Capital allocation. How do we approach capital allocation? We have four key priorities across Rolls-Royce as to how we allocate our capital:

1. A strong balance sheet,
2. Fund organic investment,
3. Reward payment to shareholders, and
4. M&A.

Capital Allocation Priority 1: Strong balance sheet

Let us look at those in a bit more detail. Strong balance sheet. Why is it important? Credit rating matters for three key reasons.

1. Customer confidence

We do have, as we have shown on those previous charts, long-term investment cycles for our Aerospace programmes, multi-year service contracts. Our customers need to be confident they are investing in a strong and healthy business.

2. Competitive position

The credit rating does matter. It does matter when it comes to our debt and our funding. It is important and it supports our ability to continue to acquire competitive financing.

3. Hedging

We run a very large hedge book, as you know, approaching \$40 billion to manage our exposure to dollar inflows over the next ten years or so. A strong credit rating really matters. We have an ambition to return to a single A rating. All my conversations with the rating agencies indicate that they too have an eagle eye on free cash flow, and as do we. That will be the key guide, as to the rating agencies view on free cash flow and rating.

Capital Allocation Priority 2: Fund organic investment

How are we approaching organic investment – all these R&D and CAPEX of around £2 billion that we spend today across the business? First of all, increased rigour on R&D and CAPEX across the board. We have an Investment Review Committee that meets now every month. I chair that committee. The majority of the Executive team also attend that committee. We run through all the investment proposals we have.

New internal process

These are the four metrics against which we assess the credibility and attraction of each investment that is being put forward:

- Internal Rate of Return (IRR),
- Net Present Value (NPV),
- Cash Return on Invested Capital (CROIC),
- Also, the maximum negative cash flow to the business.

We prioritise our projects accordingly as well. I was asked a question earlier on around sort of Power Systems getting investment in the business, for example. There is not one business that is favoured. It is the returns that we favour and the visibility and credibility of those returns. We should not think necessarily that this is a Civil Aerospace-dominant business, in that respect.

We have a suite of metrics providing us the balance to appraisal. You will see them there. We include within our investment proposals, now, mandatory minimum contingencies. There has been, I would say, a streak of optimism in previous investments that have taken place, which have caught us out.

Demand and cost scenarios are assessed to measure our sensitivity. We carry out a rigorous sensitivity analysis to see how sensitive a proposal is to a particular individual assumption. We review them quarterly to monitor progress. They must demonstrate return of 5% above our weighted average cost of capital of 10%, which is the Group. We are targeting a 15% cash return on invested capital for each investment.

This process was introduced in 2017. It is still pretty new, the way it is working today. However, I would hope and expect to see it make a significant contribution to Rolls-Royce, going forward – particularly at how we look at our investments.

What worked well?

Example: Washington disc facility

Let me just give you a couple of examples of things that have worked well and one example of things that have not worked well. Our Washington disc facility was a £100 million

investment. We delivered it under cost and an NPV, 24% better than planned, a 50% lead time reduction. This was despite a seven-month slip in the programme.

Lessons learnt

We used well-proven production methods, knowledge transfer from previous projects such as Crosspointe in the US, and dynamic on-spend phasing to cope with timing changes. This one worked well.

What did not work well?

Example: Birmingham engine control facility

What did not work so well? This was a new engine control facility that we built in Birmingham, £35 million increase in cost. It was an investment cost of £84 million, so a pretty significant slip. A two-year slip to the timeline, pretty bad net present value. Two years post-launch, we had under estimated the costs. A 12-month delay, as well. One year later, that had gotten even worse.

Lessons learnt

Increased rigour, segregated phases of breaking down our projects into individual timelines and milestones, and put controls in place to strengthen the whole process through more rigorous and ongoing reviews.

Capital Allocation Priority 3: Payment to shareholders

Aspire to mid-term 2.5 times free cash flow dividend

This shows our dividend history over the last ten years, rising from £0.14 through to £0.23, and currently back down at 11.7 pence per share. Free cash flow will be the guide for us as to when we reconsider our dividend.

That bullet point down here - that will be the key driver of how we look at our dividend and how a dividend might grow. We aspire to mid-term 2.5 times free cash flow dividend cover through the cycle. This is our guide to us as how we are looking at dividend.

We are committed to restoring payments to an appropriate level for our shareholders. They have been patient. We hope at the right time, when the free cash flow is at the right level and the balance sheet is strong, that we can then revisit the dividend.

Capital Allocation Priority 4: Mergers & Acquisitions

Key criteria

A key criteria that we use to assess M&A opportunities aligned with strategy, the synergy potential across the Group, value creation – again, linking in with that 15% cash return on invested capital, the cultural management fit, but also our own balance sheet resilience – the ability to carry out and afford significant M&A. Technology, portfolio and growth are all key aspects when we assess the M&A opportunities that come our way.

Measuring our success – KPIs

Measuring our success and pulling this all together into KPIs. This was an interesting part of the exercise as we approach and say how do we translate this into a couple of succinct and effective KPIs that we can use not just to report performance, but also to manage performance across the business. There is no point in having a cash return on invested capital KPI if you are not working that way within the business and rewarding our people

through that KPI as well. It became interesting developing this when we settled on these two, and here is the reason why.

Again, around a year or so ago, I started here. I think then, we made the point that cash flow was the key driver for us, going forward, of economic performance. Rolls-Royce, in the past has, I think, largely been a profit-driven business and has benefited from long-term contract accounting through using a profit measurement whereas cash flow is the best and key indicator of economic performance. Our goal is to drive a cash flow culture across the group. We have made some progress with that. We have a long way to go, but it is a key part of what we are trying to achieve.

Focus on two core cash flow measures

- Cash flow Per Share (CPS): This will be key to long-term incentive plans and, I would hope, directly aligned with shareholders' interests.
- Cash Return on Invested Capital (CROIC): It is a measure of investment efficiency.

Let us just go through these two a bit more in detail.

CROIC approach

A key part of our entire capital allocation framework

Cash Return on Invested Capital is cash-flow based. The key aspect here is that it is not just cash generation itself, but it is asset efficiency. It is the return on the investment that we have put into Rolls-Royce. R&D and capital, otherwise, can be quite a lazy tool to generate cash flow. If it is just cash flow itself per share in absolute terms, you are not looking at the efficiency of that investment. That is the way we want to work as a business and get our business managers working that way as well.

CROIC approach

HOLT tool

How have we looked at this? A couple of things. We have worked a lot with Credit Suisse on their whole instrument. You will be familiar with the whole tool. This methodology is anchored in HOLT, although it is not precisely the same as HOLT. HOLT starts with profit, we start with cash.

Invested capital

It is probably best if I start on the right-hand side of the screen here on the denominator. The denominator is the invested capital in the business. Here is how we have arrived at our denominator of £18.7 billion invested in the Group today, at the end of 2017.

We have used a 15-year historic net R&D investment. Most of these numbers, by the way, you can get from our Annual Report and where you cannot, the IR team will be helping the analysts show how we have derived these numbers. PP&E and software gross are costs (Product, Plants & Equipments). Participation and certification costs are on the invested capital, as our other intangibles.

Working capital and provisions is in invested capital. Operating leases are in there as well. On operating leases we have used, we have used a perpetuity valuation of current operating lease payments to arrive at that invested capital for operating leases. An important point as well is that the deferred income from our aftermarket is not in the working capital number.

Annual cash return

Then, having decided what the denominator is – the invested capital – clearly, you need to approach free cash flow to make sure that you have a right sort of apples and apples comparison. Free cash flow. We then remove and add back to free cash flow net R&D spend, CAPEX on product, plants and equipment and software spend, participation and certification fees, other intangibles, the inflow and outflow from working capital adjusted for the – that is not excluded from cash flow, just to make that point – and then, operating lease payments. We came up with £1.8 billion of cash generation from our invested capital on a like-for-like basis anchored in HOLT and a 9% return, therefore, in 2017.

Typical Civil Aerospace widebody cash flows

What are we calling out today as our goal for the mid-term? We have a 15% target. Looking at that, the important context is how this business model works for Civil Aerospace. We put in here a very simple illustrative example just to remind us as to how Civil Aerospace works for a typical 2000 engine programme.

Typically, it costs us around £1.5 billion to £2 billion of R&D and CAPEX for that engine programme. We then have installed OE losses of around £3.2 billion. It is a 2000 engine with a £1.6 million loss per engine we currently have today. Then on a go-forward basis over the next 25 years, we have around a £10 billion aftermarket cash margin that flows through over the next 25 years.

That is the most simple way of looking at the business model of Civil Aerospace. Right now, we have quite a few engines that are just entering this phase of the cycle – those six new engines that we talked about. Some are newer than others, but hopefully, you get the feeling of where we are.

Annual CROIC*Mid-term ambition of 15% annual CROIC through the cycle*

How do we expect this to develop? You will see that we have declined quite significantly over the last four years from 17% down to 9%. I guess one key point out of this is that we have been there before, that high cash return on invested capital.

Right now, the 9% should not come as a huge surprise when you think about the dynamics of how the whole calculation and process works, and the investment cycle that we are in at the moment and coming out of – sort of a low for our cash return on invested capital. We expect that to grow over the medium term – 9% currently, and 15% through the cycle.

How will we embed CROIC in our planning?*A key lens for making our investment decisions*

How are we going to embed it in our planning? Improved returns on currency invested capital – it goes back to my earlier comments, really, making sure that as we review all investments, they are at least achieving returns that support our cash return on invested capital ambition. That is how we are going to work as a business when we assess our investment.

Cash flow Per Share (CPS)*Three key drivers*

In very simple terms – this is much more simple, this one. We are dividing underlying free cash flow by the number of shares. Just as a reminder, underlying free cash flow is everything before dividend and M&A and currently the SFO fine that we are paying off. Delivered by the three key drivers, but also underpinned by the three high-performing businesses.

Measuring our returns

Currently, our cash flow per share is around £0.15 over the medium term. Again, you should be thinking five, maybe six years to exceed £1 billion cash flow per share – sorry, £1 cash flow this year – that would be something.

I think one thing I would say in respect of this mid-term ambition; the model is there. The metrics are all clear. The roadmap is clear. We have a new Executive team. We have gone from 14 down to nine executives over the last 12 to 18 months or so. Pretty much everyone is brand new in the role.

We have a team aligned around this ambition, determined to deliver it. However, at this stage, it is just a PowerPoint. We should not forget that there is risk in our business. There is execution to deliver on as well. However, there is a clear way ahead. It makes sense, the way ahead. We are all determined to deliver it in our own parts, but also collectively.

That is an encouraging place to be, acknowledging though that currently, it is just a PowerPoint, and there is lots of work to do. Hopefully, that has given you a good indication around our ambition. Now, I am going to hand you over to Warren for some closing comments before the Q&A. Thank you very much.

Closing Remarks

Warren East

CEO, Rolls-Royce Holdings Plc

Execution

Good. Thank you, Stephen. Nice to see everybody was awake for his rather ambitious cash flow per share target there. Anyway, I am picking up where Stephen left off because to summarise, it is all about execution.

Harry talked about the state of the way we have been doing things at Rolls-Royce and that way we have been doing things – call it culture, if you like – has been very, very resilient. We have had a few generations of Rolls-Royce management try to tackle this. We have spent the last couple of years preparing because you cannot just tackle it by wading in and cutting a few costs here and there because it does not go away. That is why it has taken a little while to get to today.

As Stephen mentioned, a crucial part of that is the Leadership team. However, I think we have prepared over the last two to three years to get to this pivotal point. Even though it is just a PowerPoint at the moment, and we all acknowledge the fact that the proof of the pudding is in the eating and it is really all about the execution, I believe we are now prepared

to execute. We are capable of executing and we are determined to do so.

Driving out unnecessary costs

There are a handful of things from this restructuring that we absolutely must do. Driving out unnecessary costs. More often than not, that is simply about stopping doing unnecessary things.

Removing complex and duplicative processes, and develop a real performance culture

Removing the complex and duplicative processes. Harry described quite a lot of those sort of duplication that is there. My favourite word 'simplify' is really the next step to remove those processes so that we can get on to the improve and automate phase, which is developing a real performance culture.

Ownership behaviour

However, behaviour in that is key. I am looking for looking for ownership behaviour from the Executive Leadership team, from the Senior Leadership team and from the people in Rolls-Royce. I think because we are building on a very, as Harry said, proud workforce that is totally committed to this company, I think we are standing in a great place to be able to do that.

Key messages

Fundamental restructuring, empowered businesses and freedom within framework

I hope you got the message from today. It is fundamental restructuring. This is not a short-term thing. This is a moving from one phase of Rolls-Royce to another phase of Rolls-Royce. It is moving from building market share based on years of development through to using market share to deliver both returns and to deliver the sort of cash we need to invest to build ourselves a thriving future.

How are we going to do that? It is about empowered businesses and freedom within the framework. That is really how we are going to implement simplicity.

Release benefit of past investments

That simplicity enables the release of the benefits from all those past investments. We had a bit of debate about this slide internally and I insisted on using the word 'release' rather than 'realise' because actually, those returns have been there all along, embedded in the business model. They are there for everyone to see. Unfortunately, however, they have been trapped, captured by the complexity and the bureaucracy of our operation. I deliberately used the word 'release' because now we are about to do that.

Rigorous investment process

My second favourite word – probably - after 'simplify', is 'rigorous'. Stephen talked about a rigorous investment process. Too long, Rolls-Royce has had a fundamental confusion between 'detail' and 'rigour'. That applies to our engineering. It also applies to the way in which we have run the business.

Now, the good news is we have been learning some lessons and I am pretty confident that the Leadership team now fully understands the difference between rigour and detail. Of course, it is rigour that matters when we are developing success. That rigorous investment process is very necessary.

A continuous journey

It is also necessary to remember that you cannot just do change, and then sort of pack up and go away. It has to be a continuous process. I talked about being a leading industrial technology company, which means moving the markets. That means we constantly need to adjust and move and think about where we can do things to enhance our position vis-à-vis our competitors. That is what will make us a really leading industrial technology company.

Good news is we have managed to finish more or less on time, that bit. Now we are going to go to Q&A. I am going to sit down over there. There are microphones, I believe, Jennifer? Yes? Elena has some. We will take your questions. Yes, let us go. We have one here at the front. Let us start here, and then we will go over that side. Have we got two microphones? Yes? Okay. Let us have Elena over this side. Thanks.

Q&A

Phil Buller (Barclays): Yes, thank you. Just a few questions, please, and thank you for the detailed presentation.

I guess it is obvious that it is a story of future cash flow, but can I just start a little bit nearer term and ask about 2019, please? There do appear to be a number of headwinds. If I look at where expectations were a couple of days ago, I think consensus was looking around £700 million or £800 million of both EBIT and cash flow into 2019. I guess it just be helpful to know where we might be, so we can help get the starting point of the bridge to the £1 of the cash per share.

The second question is on the shape of the underlying balance sheet leverage over the next couple of years as EBIT is obviously a little bit volatile near term, cash flow is depressed near term, and I guess IFRS 16 will also bring some lease liabilities onto the balance sheet of debt next year. Where do you see leverage getting to, coming to the end of 2019 and should we assume that there is no prospect of the 1.8 million of outstanding shares changing, I guess, over that timeframe?

Longer term, I am just keen to get a handle on your top-down assumptions of the market environment, come the early to mid-2020s. Has Boeing launched the NMA? Do you foresee any pressure from transition pricing on wide bodies in a higher oil price environment?

Do you think that there is any prospect of narrow-body aircraft impeding on North Atlantic routes and so on? I guess just the macro items which are outside of your gift to control. Thanks.

Warren East: Okay. Thank you very much. Stephen is going to start.

Stephen Daintith: Okay. 2019 cash flow. As you know, we have not given guidance on 2019. Our market consensus is just north of £700 million or so, I think. You know that we have guided to £450 million free cash flow for this year and are on a track to now go beyond the £1.2 billion in 2020. I am not going to give any guidance on 2019 right now. As we normally do, we will do that at the full-year results early next year.

However, I think clearly somewhere between those two numbers is where we would expect to be, notwithstanding the headwinds, as you have pointed out, on things like one or two areas

of working capital and indeed the Trent 1000. However, the growth that we see in the business and the other opportunities around working capital – good, old-fashioned working capital, we have over 100 days of inventory on the balance sheet, for example, that we are having a crack at. In the classic sort of debtors and creditors, we have opportunities there as well. As it stands, I am not giving guidance on 2019, but it is somewhere with a good step towards the number that we are looking for now in 2020.

The next one was balance sheet leverage. There are no plans for shares, by the way, no adjustments to shares in that calculation. I think clearly, free cash flow growth will be a key guidance for that as we are looking at leverage and profit growth. We have announced the sale of L'Orange, which, of course, helps the balance sheet.

I am sure there will be a question later on Commercial Marine and where we are with that one. We have potential proceeds coming from that as well. I am not concerned about the balance sheet leverage. Our rating agencies completely take into account those lease obligations that you referenced. Like ourselves, they are very focussed on free cash flow, at looking at the balance sheet and the strength of the balance sheet. Warren, do you want to do that final question?

Warren East: Yes. The third question was about market environment – generally narrow-body encroaching on widebody space with transatlantic routes and so on. Yes, of course, we can see that happening. It has been a topic of some discussion for a while.

When I have asked around about that amongst the customer base, it seems that there is always a trend to experiment and differentiate offerings and so on. However, numeric – when you sit back and look at the numbers, then the potential narrow-body encroachment on the sort of long-range routes is pretty much balanced by the widebody adoption on much shorter routes in populous parts of the world. If anything, probably more so in that direction at the moment, but that does not mean to say that it will always exist like that.

As for NMA then, obviously it is a hot topic of debate, and probably one question that you ought to address to Boeing rather than to us. My slightly guarded view about these things is that when you have a market in a couple of sectors and there seems to be a hole in the market, quite often there is a reason for the hole to be in the market. However, that does not mean to say that things cannot evolve.

Where? I think we need to go over this side, yes.

Andrew Humphrey (Morgan Stanley): Hi. Just a couple, if I may. One is probably an extension of the NMA question, but framed in terms of the mid-term guidance.

If we are talking about five to six years from now, in terms of how you are framing that mid-term, we are talking about a phase where, as you say, you have come off the back of a significant surge in investment. You should be at a point where the majority of your installed engine base is relatively mature and operating in a steady state. You may or may not be at the point where you are about to kind of go into another ramp in investment into the middle and end of the next decade.

With that in mind, should we be thinking about the sorts of numbers you are targeting, in terms of that mid-term guidance, in terms of the cost to sales ratio as being mid-cycle type of

targets or is that a kind of, 'This is how we think things should look when the business is actually operating pretty maturely, and we have been able to optimise those cost ratios fully.'?

Then, I just have one more, if I may. It was just kind of shorter term thinking. You have clearly talked about huge increases, in terms of capacity to handle things like Trent 1000 and the compressor blades. I think you sort of talked about trebling workshop capacity and a 50% increase in blade capacity. Those clearly are not things that happen – you cannot build a FAB overnight. Clearly, there is a lot going on, in terms of processes there.

Could you maybe talk a little bit about how you are instilling those sorts of practices and the kind of things that allow you to engage in that sort of very effective crisis management into the rest of the business?

Warren East: Okay. Just on the sort of that long-term, how much R&D and what is the effect on NMA in the middle of the next decade and so on. Clearly, if we do not do any new engine development, then the number is going to be a lot less than the target that Stephen had on the slide. We anticipate doing some new engine development, whether it is NMA or whether it is larger engines based our Ultrafan architecture for widebody jets in the latter part of the decade. It is a combination of those.

Many times, we have debated the question in this sort of forum and we have said, 'Yes, specific NMA involvement will add £1 billion to £2 billion over a period of six to seven years to the development.' Now, whether that constitutes, actually, an upturn compared with what we have just been through or whether it is sort of sitting still within the range, I think it is probably more within the range. However, having talked – and Stephen has had a chance at thinking, he can answer that through-cycle question.

Before he does, a comment on the crisis management and the blade capacity. Two things. The blade capacity is something that we need anyway. What we have had to do is pull forward and accelerate a little bit some of the extra blade capacity that we need because of the size of the installed base. The size of the fleet that is out there that was on Stephen's slide shows clearly for normal MRO, we need more blade capacity. That is planned. It has been pulled forward a little bit because of the Trent 1000 issue.

On MRO capacity, a similar thing exists except that to deal with the extraordinary peak of activity around the Trent 1000 issue, we have had to go for some more temporary measures, in terms of MRO capacity. That is why we have been able to triple, specifically, the lines available to deal with the Trent 1000 issue. We have not suddenly tripled our overall MRO capacity. What we have tripled is the ability to deal with Trent 1000.

It has surfaced some fantastic behaviours. In fact, I got a picture last night from my Head of Engineering in Civil Aerospace of a new engine stand that has been developed, approved, manufactured and sorted out all within the space of a matter of tens of days, i.e., about six weeks. This has been driven by the crisis, obviously.

However, in terms of being able – looking forward and utilising that sort of lesson, then we can develop from that because this engine stand can not only be manufactured in a very short period of time compared with normal engine stands, compared with a huge cost of a normal engine stand. It is a fraction of that cost. It is basically applying the principle of

switching from heavy bespoke furniture to IKEA Flatpack.

One of the other advantages of the IKEA Flatpack is that you can ship it around the world quite easily and get this stand to airline home hubs and there they can do on-wing activity on the new stand. That would not have happened without the Trent 1000 issue that we are dealing with now. It is a lesson that we can build into our normal activity. That is that. Do you want to comment on mid-cycle R&D?

Stephen Daintith: Yes, sure. We have included within our modelling and our statements an NMA scenario in there. What that does is it just means sort of at most, R&D will be flat and if it declines, it just declines at a slightly lower trajectory of decline than it would otherwise do without the NMA.

An important couple of points there. We will be looking for about 15% cash return on invested capital from the programme. There will be rigour around this investment programme. Having just brought a lot of MPI to the market, clearly, we want to have some rigour around this one.

Another key important point. We have already spent around £500 million developing to where we have gotten with the Ultrafan so far, which will be a key part of the architecture for any solution for the NMA, should we choose to pursue it – that particular programme. It is not as though we have a standing start today, in respect of this particular investment.

Warren East: Okay. I think we are over this side. Microphone coming up. Yes. Let us go to the front and then we will work back, if that is all right.

Nick Cunningham (Agency Partners): Thanks very much. I wanted to ask about some of the potential consequential risks from the restructuring process. It seems that you are doing two things. One is taking quite a lot of people – or lots of people out and the other is going from quite a large HQ to a very small one with a lot of the resources spun out into the divisions. Two obvious risks arise. One is, you have a lot of commitments that you still have to fulfil, in terms of development, production ramp, fixing the Trent issues and so on. Would you have enough overall resources to deal with contingencies?

Then, the second one, which is probably a bit less obvious. However, if you go to a very small HQ with powerful divisions, it is a risk that – a pattern that we have seen at many companies in the past – be it Airbus, Leonardo, Lucas, whatever – developed where you get barons running the divisions, taking on risks which HQ cannot control and which have adverse consequences in the end. Thank you.

Warren East: Okay. Harry, are you going to have a go at it?

Harry Holt: Yes. I will do the people – the first part of the question. The key thing to, I think, stress upfront is that we are not actually taking any jobs out of people that are manufacturing the current products or supporting the current fleet. All the resources that we actually need to deliver to our customers and support the fleet will be untouched.

However, I think we are pretty confident about being able to reduce the number of sort of functional resource largely for the reasons that I explained that in the old structure, we had considerable resource in the centre driving activity in the businesses that the businesses did

not really need and by stopping that, you can actually considerably reduce the number of functional people required.

In terms of the barons then, I have taken a lot of care in developing the Leadership team that we have and take a lot of care over stressing the importance of the fact that these people are executives of Rolls-Royce who happen to be assigned to be doing this job or that job. They work very much as a team. Their characters are chosen to fit in with that mould. Of course, it is a risk. However, that is how we mitigate the risk. That is my responsibility to deal with it.

Celine Fornaro (UBS): Good morning. I have three questions, if I may. The first one would be on Power Systems. I would just like to clarify, in terms of your progression - you are including the Civil Nuclear business in your performance progression? Are you tackling the business as well or does it just mean the non-nuclear business is outstanding performance? Secondly, if you can comment on your Defence. It is only 3% CAGR growth. When you look at some of the contracts or order book, Rheinmetall seems to be more ambitious than that.

My second question would be on the business jet engine development. Any lesson learnt from that development and how you did it that you could share with us to show that maybe something has changed in the Civil Aerospace business? The first thing we notice is that it was kept top secret for six years.

Finally, it would be on the working capital, which we have not discussed very much. However, if you could share with us the impact, potentially, of the culture change? Yes, there are support functions, but into working capital elements that you can control. Here, I am really talking about inventories as the Group and Aerospace level. Thanks.

Warren East: Yes. Okay, so Andreas is going to kick off with the Power Systems question.

Andreas Schell: Let me talk first about Civil Nuclear. Most of the progression in Power Systems is driven by the non-nuclear part by the majority of the business in off-highway engine applications. We have started to look at the Civil Nuclear business and the opportunities because Power Systems before already did back up the power generation for nuclear power plants. We are looking at synergies there are on the sales side, but also kind of internally. We will progress on that as we go forward.

Your question on Defence. The defence market for us is wider. The 3% CAGR applies to the wider range of applications. That is wider than just Rheinmetall, which would be the battle tank business. The 3% is an aggregate number and it really reflects a reasonable assumption of modern market growth in Defence for the products we can serve.

Warren East: Okay. The second question was lessons from the recent business jet development and business jet launch. It is a market where you have to keep these things secret. The customers are very, very careful about not talking about their new generations until they are absolutely ready to go, contrast with the large airframers who talk about it for years.

If you want to supply and to partner with those people, then you have to make sure you can keep that pretty secret as well. I think we were lucky that the world did not find out about that three or four months ago when actually it was certified, and the record was available for anybody who looked hard enough to find it. Fortunately, however, they did not. It was a bit

of a secret with the big reveal a few weeks ago.

Lessons for us: small teams, very focussed, compared with our large civil engine programme which are very dispersed and really, the same sort of complexity disease that Harry was talking about, more generally. Some of those larger civil engine programmes have suffered from that whereas the corporate jet programme, it is done essentially in one location with a smaller team. Very, very focussed. They have incorporated new technology in it in much the same way as we incorporate new technology in the large engines. I do not think there is much to be learned from that part.

One thing we have learnt to improve generally on the business jet engines is going forward, we have just appointed the Head of Business Jet onto the Leadership team of the Civil Aerospace business. That person was not there before. That person was reporting in through all the programmes. I think we do need to apply a little bit more focus on the business jet programmes at that leadership level because that development was a little starved of resource, which led to some programme slippages. Looking forward, we will not be suffering from that in the business jet programmes.

Stephen, the third question.

Stephen Daintith: Yes, working capital. Working capital is often all regarded as bad cholesterol. However, there are elements of good cholesterol in working capital. When I look around sort of Rolls-Royce, there are plenty of opportunities to go. Let me just run through those in sort of simple terms. I will not quote specific numbers because they are material, but in terms of the opportunities.

If you can see trade debtors, as an example, we have a large balance of old disputed trade debtors to go for. There is a material number. We now have a team on the case in Civil Aerospace – dedicated team chasing these down. We actually have trade debtors right now today, as we are approaching the half year, that have gone beyond their payment terms. That is a good one to chase, clearly, but attention to detail there.

Trade creditors. We actually paid a reasonably material number of our suppliers early last year at the end of 2017. Getting consistent payment terms around our suppliers is an opportunity that we are getting into the detail of.

The most material though is in inventory. When you look at our balance sheet inventory from a gross perspective, the number that you see on the balance sheet is net of provisions. We have almost £4 billion of gross inventory on our balance sheet and well in excess of 100 days. What we have done now is by business, break this down by type of inventory, moving all the way through from raw material, work in progress, finished goods, all the way through and spare parts so we have by business, number of days of inventory, by type, by business.

There is a Project team led by an individual, I hope, naturally, who is driving this through and working across the businesses to address our efficiency around inventory. Lots to go forward on inventory. It is not all bad cholesterol. There is some very good cholesterol around working capital as well that we have dedicated teams working on.

Your point about the culture of cash flow as well. It is one of the four priorities that I have within projects that I have within the finance community generally is attention to working capital and attention to free cash flow. There is a dedicated team just generally working on

that, educating the businesses around the Group on the importance of free cash flow, but also the other ways of looking at it through the balance sheet and not just through revenue and margins.

Warren East: Okay. I think we are on this side. Elena is working from the front to back on this side.

Rami Myerson (Investec): Thank you. Two questions. One, you have talked a lot about the cost base and the improved cash. Can you also talk a little bit about the revenue line, going forward – particularly around how are you working with the Sales team to actually start and fill up the order book? Order intake for a lot of your large engines has not been particularly strong over the last few years. How you are working internally with your partners to fill up the hopper so when we get to 2023, you do not come off a cliff?

The second one is around digitisation. The Power Systems presentation was very useful. However, can you talk about it from a broader group perspective in terms of investment – how much you are spending, how many additional people you are adding for that effort – and how the negotiations with the OEMs on who collects the data, who manages data, who utilises the data is actually progressing, given there is a lot of your peers investing in that? Thanks.

Warren East: Yes. On the backlog and in particular, around the large engines, we are following a product cycle, effectively. From around the middle of last year then, definitely, activity has come off quite a bit. I have been asked this question quite a bit and I have delved into that point a bit as well. There does appear to be a product cycle thing or orders did get ahead and what we are seeing is activity, in terms of rescheduling, rather than ordering new aeroplanes.

In terms of what can we do about that, of course, each major airline customer has a team within our Civil Aerospace business – a small sales team with technical people sat behind that are engaged in that constant dialogue of reviewing people's fleet requirements and how they are changing their fleet requirements, going forward. There is no rocket science in it. It is classic key account management. We do it the same as everybody else does.

I do not think we can do anything particularly different about that, except perhaps develop some of those relationships – building on the second half of your question around the engine health monitoring – where we introduced the activity quite a long time ago. We have, with the newer engines, got vastly more sensors collecting data on the engines than used to be the case.

We have invested in digital capability to do something with that. We have probably been a bit tardy about making that investment, but certainly over the last 18 months, we have ramped it up significantly. It has proved incredibly useful, in terms of assisting with our classic engineering and diagnosing the Trent 1000 issues.

At the same time, we are doing the business development activity with a handful of airlines, at the moment. I think that helped develop lock-in with the airlines, which helps with the with the ordering process and the order intake in due course. End of the day, of course, it is pretty competitive.

We design on certain airframes. Our competitors design onto other airframes. You take part in the in the sales dance at both levels, really – the airframe and in the case of 787s, then

engine against engine. We are seeing no rocket science, except perhaps for developing that customer relationship around the data. You asked the question specifically about resource. I do not spend a lot of time now on resource. We can deal with that offline.

This side, yes. Okay.

Robert Stallard (Vertical Research Partners): Hi. Andreas, a quick question for you. Power – what is the current sort of cash conversion or cash margin you are seeing, and do you see the same opportunity for that cash margin to progress in line with the operating margin target that you set out?

Then secondly, Stephen, for you. You talked about the rating agencies and trying to get your credit rating back up. Will they be using the same adjusted free cash flow number that you are using, or will they be clued into the cost of the redundancies? Thank you.

Warren East: Okay. Andreas, yes.

Andreas Schell: I do not have the specific cash conversion number for 2017 right at my hand, but it is very high. There were a couple of effects last year. For instance, kind of doing a proper job on invoicing and completing project work. There were some one-time risks, especially in the second quarter last year, that really helped us.

Now, it is very comparable to what Stephen said before, continue to work net working capital – especially the bad cholesterol part of the net working capital is clearly a focus, going forward. I gave you an example today how many parts we keep in our parts inventory. As we go through this, I think we are still seeing opportunities in net working capital. However, let us be very clear, this is not going to work over the course of a quarter. This will take a little bit of time to do this proper.

Stephen Daintith: Yes. Just to add that number, the cash conversion in Power Systems in 2017 was well over 100%, driven by the attention to detail that Andreas talked about in that second quarter on working capital and cash flow. That was a big contributor to cash flow improvement for Rolls-Royce, generally, on working capital.

On the restructuring costs and the credit rating agencies, I have no doubt that they will look at the picture in its entirety. I know we have Moody's in the room today – hello. I know you will be looking at it and quite rightly too because it is the real sort of reported number and so on. However, I think the route through to free cash flow growth and the savings that come from the restructuring and the pace of the payback from this restructuring are all good indicators that I would hope that we could encourage the rating agencies to see the world that way as well.

That is where we are on that one.

Robert Stallard: Okay. Thanks.

David Perry (J.P. Morgan): Yes, hi. Also, three from me. The first two are just factual clarifications, please. The first one. The £500 million cash cost, is that a post-tax number and if it is, just what will the EBIT number be that you treat as exceptional, but just as a factual clarification?

The second one, also sort of factual, has a bit of forecasting in it. You are not getting into the

rights and wrongs of anyone's CROIC definition. Everyone has their own. However, you leave the TotalCare creditor out of it. What will that number actually be in 2024, just to kind of help us think about that?

Then, the third one, which is about guidance and you may not want to go there. However, I struggle – me personally, anyway – with the lack of any earnings guidance to back up the free cash flow guidance. Can you give us any help at all in terms of 2022 to 2024 – whether it is EBITDA, whether it is EPS – just to help us try and triangulate the free cash flow guidance, please?

Stephen Daintith: Okay. The cost of the £500 million is the gross redundancy cost, in very simple terms, plus the cost of investment in technology, systems, with finance being a key part of that, in fact, to deliver the savings that we have in mind. That is how we have gotten to the calculation.

David Perry: Sorry. Maybe I asked the question badly. You did £500 million in EBIT, which you will treat as exceptional, and £500 million in cash or the EBIT and the cash number would be different? That was all I was...

Stephen Daintith: They should not be different. They should not be repeatedly different. I would say the one thing is that the investment spend will be a capital item rather than a P&L item – the investment spend, if that makes sense? Is that what you are getting at?

David Perry: Yes. I am just saying, is there no tax benefit applied to that number?

Stephen Daintith: Yes. Clearly, there will be. That is an EBIT number, so there will be a tax benefit from the cost of those restructuring. Yes, there will, in that respect.

David Perry: The EBIT is not going to be £700 million that you treat as an exceptional?

Stephen Daintith: No.

David Perry: Okay.

Stephen Daintith: Okay, the TotalCare creditor. I think the chart that we showed a little earlier sort of showed the business model for Civil Aerospace and how it works, and how we include within our cash flow the aftermarket cash that we get in from engine flying hours after incurring the OE cash losses as part of the business model when we sell the engines into the airframe, as in the first instance. I do not have that number right now on 2024. We will have a think about it, so I am afraid I cannot give you that.

Clearly, however, it is going to grow significantly. I think a key part of our balance sheet over the next few years, you will see a large deferred income balance grow – we talked about this before – on our balance sheet in advance of our recognition of the profits attached to shop visits when they actually take place.

In the first four to five years or so with a new engine, we hope that there is not going to be a shop visit. Therefore, you are collecting cash all the time, building that up on your balance sheet's deferred income and putting it in the bank account. That is going to be a large credit balance on the balance sheet, on a go-forward basis. However, I do not have the 2024 number to hand.

Finally, on earnings guidance, too early to give you that. Earnings, as we pointed out at the full year, under an IFRS 15 regime are a lot more difficult to model because they are – you

model them around sort of frequency of shop visit and cost of shop visit and so on. It is something that we are getting to. Very much at the moment, our focus is on cash and we have driven the model on that basis. At some point, I would like to be able to share those numbers with you. However, we are not ready yet.

Christian Laughlin: Thanks. Just a couple questions. One, starting at the high level, you have talked a lot about the restructuring, kind of focussing on taking out layers of redundant management in the personnel and how you found various pockets of opportunities on that. So far, however, you seem to have a ring-fenced the factory floor, with respect to both personnel and also to – so, I was wondering if you could address that – if that is a future phase or are you happy with the headcount of personnel deployment in the factories relaying your direct manufacturing cost?

Then additionally, around where you see additional investments, with respect to tooling, maybe automation down the road. Automation was alluded to, but maybe some more detail on that? I guess my overall question is, is there sort of like a next gear or a next phase in this restructuring, as we look down the road, that more directly deals with direct manufacturing cost?

Then, the second, more tactical question is with respect to the recent issues on the Trent 1000 in particular, how confident are you that you will not see similar issues crop up later with the XWB family or this Trent 7000 family, assuming that you have run these programmes to ground to look at this potential risk?

Harry Holt: I will pick up the first part of that on sort of possible reductions on the shop floor. Over the duration of this restructuring programme, which is the next 18 to 24 months, I think we have sufficient visibility over the load on our factories to be very clear on what headcount we need to deliver that load, those products to our customers. We are comfortable that the number of people we have currently is what actually what we need to deliver our commitments to our customers.

In certain areas – Derby, for example – we have agreements with our employee representatives to protect against redundancies over the next sort of 12 to 18 months and we will make sure that we honour those. For the next, say, period of the restructuring programme, we feel that we have the right level of resource to deliver on our current commitments to customers.

Warren East: Okay. In terms of where that goes in future with potential investments in new manufacturing technology and so on, of course, we are doing that. Of course, at some stage in future, we may have significantly more automation in our facilities and that may mean that we can free up some of the people.

I would stress, however, that because of the installed base growing, the demand, particularly for the components, is going to increase over the coming years rather than decrease. It could be that you will see our headcount to be fairly flat in that part of the business, but our actual output continues to rise as we benefit from more automation.

Question on XWB and Trent 7000 and what about the risk of the issues we have seen on Trent 1000 – well, we cannot be sure about XWB and sort of the durability of all the components until 20 to 30 engines or so get to the first shop visit. And it's simply too new,

we've probably got about another 15 to 18 months to go, before we reach that stage. So, it would be foolhardy to sort of say "yes". However, if I look at the issues that are prevalent on Trent 1000 at the moment, then we see no evidence at the moment, of the turbine issues occurring on XWB. If I look at the design that went into XWB, it was a different design flow; it was more modern tools that we used. And obviously, because of the issues on Trent 1000, we're doing an awful lot more inspection of XWB engines now, which has given us still a lot of confidence that we're not seeing early signs of the turbine issues.

As for the compressor issues, basically we've checked the arithmetic, and the issues are not going to occur as we've seen on Trent 1000. On Trent 7000 then, as you know, it is derived from Trent 1000. And so, what we will be doing is making very certain – when we start making volumes of Trent 7000, which we haven't started yet – that any modifications and design improvements that we can take from the Trent 1000 will be incorporated into the Trent 7000. However, from the testing that we've done on Trent 7000 so far, we're not seeing a potential for those issues. But we will make absolutely certain.

Trent 7000 will enter into service later this year, towards the end of Q3. And the volumes of Trent 7000 that will be manufactured before such time as the final fixes in Trent 1000 are available, are very small. So, if there is an issue, it will be a very small contained issue. So, hopefully that's enough of an answer.

Zafar Khan (Société Générale): I have three questions, please, if I may. The first one is just on the engine of the engine OE deficit stream that you were showing. And it's very encouraging to see that, on the XWB-84, you're talking about breaking even in 2020. Yet, for the portfolio, you're talking about a £400 000 deficit in 2022. So, if I'm averaging – because that's an average you've given – it means something is losing a lot more than that. So, could you help us understand that, please? That's the first one.

The second one is just on this CROIC. By the way, I think the WACC of 10 seems a little bit high. But I don't want to argue about that, just noting that as I ask the question. The 15% number that you've got to. How did you get to that number? Is it a peer group comparison? Is it some benchmarking you've done? So, if you could help us understand that.

And then, I have a question for Andreas, if I may. The 100,000 units that you want to connect – the digitalisation. How much is it going to cost to connect, say, one unit? Who bears the cost, and how do you account for that? Thank you.

Warren East: Okay. So, the OE deficit going to £400,000 per engine. So yeah, your XWB-84, correct, going to break even. And a large proportion of what the mix will look like at that point. But we also have new engines that are part of that. We tend to find that new engines launch pricing tends to be less keen than a more mature engine. So, the T7000 and the XWB-97 are the two most significant examples of that. So, it's that feature that allows us to only get to 400,000. And I say, "only get to", but if you look at the context of the mix and the volume, that still, for the other two engines, would still be an improvement on where it is today. And certainly, I think, getting around about or close below the 1.6 average in any event. So, making progress. So, it's really all about launch pricing of the younger engines.

The cash return on invested capital. So, we have a Group WACC of 10%, and we arrived at this by looking at our cost of capital, the Beta of Rolls-Royce. And we have quite a high Beta as it stands today, when you look around the risk that's been attached to the business in

recent years, in terms of our profit predictability, so to speak. We have a 15% - we are comfortable with this. I think it gives us - it's a good risk management tool, we've approached it that way. I should make the point as well, that we actually have different working weighted average of cost for different sectors. So, for example, the short-cycle businesses have lower weighted average cost of capital than the long-cycle businesses. For example, Power Systems might be, let's say 8% weighted average cost of capital. The Cost Plus businesses - like Defence, where we're on a contract and it's a Cost Plus, but it's quite a small margin - cost of capital there might be 6.5% or so. But Civil Aerospace, a longer-cycle business, 12.5% cost of capital seems more appropriate. So, the 5% is a good guide, we believe it's a good risk metric, particularly when we look at previous experience of our investments. Some have gone very well, one or two have gone not very well. And I think the 15% is the appropriate hurdle rate we ought to be aspiring for, for Rolls-Royce. So that's how we got to 15%.

Andreas Schell: To the connection of the fleet. First of all, I said it's greater than 100 000 units in the field, but not all of them need to be connected. There are some of these applications that have very low utilisation. There are some marine applications, where engines get a few hundred hours per year. There are some bigger power generators that only get a double-digit number of hours per year. So, you so really don't need to focus on those applications. But we focus, as I said before, in industrial for instance, on high utilisation assets.

The cost to connect such an asset is actually three-fold. It's the technical connection, so our technical unit. That ranges anywhere from €80 per unit...up to €800 per unit for a very complex marine application that you need to make seawater-proof and ready for the ambient conditions over there. That we would need to include in the cost for future engines, and that's already kind of planned in. Then there's the cost to really kind of transmit the data. That ranges all the way from very simple UDC protocols, that will cost you about €1 per month. But it can be also a bit more expensive. And then, the third packet is basically to host an analyse the data. And we will kind of work with our customers. Some of that will be borne by the customer; some of it we will bear. Because we actually kind of both have benefits on this, when we talk in terms of long-term service agreements. What's really important to know, these long-term services agreements have actually to winners. It really kind of actually gives a shared benefit, and therefore I think it's fair. And I have seen, so far, a very positive reaction from the marketplace.

Warren East: Great, thanks Andreas. We've actually got a couple of questions coming in online. So, we'll take those, and then we'll have to move to the final questions, because we're going to run out of time.

Online (via Ross Hawley): Hi. Just a couple of online ones from a large shareholder. Some of your £11 billion of R&D since 2010 will have been on concepts with no real revenue attached to date. Do you sort of have a sense as to how much? But importantly, are there any concepts coming out of the R&D which you'd look to have exciting addressable markets coming from? And secondly, do you see any material risk to your after-market revenue expectations, from Airframer's own ambitions in this space?

Warren East: Okay. So, if I look at the £11 billion, and take the sort of, rather rule of thumb that Stephen mentioned a little while ago, about roughly half of the R&D expense coming from large civil aerospace NPI, for the last several years. So, we've got half of the remainder. Or sorry, half of it is a remainder. I actually don't know the answer to how much of it is concepts that have gone anywhere. But I suspect it is probably no more than 20% of the remainder. So, about a tenth, probably, of that number in total, over the last however many years for the 11 billion, will have gone on concepts where frankly, we haven't got much of a return. We may get some return in future. And an example might be, for instance, our fuel cell joint venture. Where frankly, right now, I can't tell you what sort of return we're going to make on that. Seemed like a good idea when the original investments were made. And it may materialise and turn into a good thing in future.

Sorry, Ross, what was the second half of that question?

Ross: Any in terms of concepts which you can see an interesting addressable market?

Warren East: Ah, okay. So, I think we've been fairly open. Some of the more exciting concepts are probably around the advent of electrification. And you saw us sign an agreement with Airbus shortly before the end of last year. That programme's on track, we still, with Airbus, hope to fly the hybrid demonstrator in 2020. That sort of thing is exciting. I mentioned fuel cells a moment or two ago. This is all sorts of other interesting alternative fuel cell type technologies that could be used for the storage medium in the hybrid systems, in the microgrids that Andreas talked about earlier.

Derek Johnson (Nitorum Capital): I wanted to talk a bit about the cash return on invested capital metric. So, you have that going from 9% to 15%, through the cycle. My question is, that's an increase of like 60-70%, but yet you have cash flow per share increasing 7x from last year to your mid-term goal. So just trying to reconcile those two metrics. And also, what is the cash flow per share goal throughout the cycle? Because I think your slide said in 15, that metric was 14%. And cash flow per share was significantly less than £1 per share. So, just trying to better understand, through the cycle numbers on cash flow per share.

Stephen Daintith: Right, so cash return on invested capital. Sorry, could you just go back to that first part of the question again? I was thinking more about the cash flow number there, but the first part of the question?

Derek Johnson: So, the metrics going from 9% to 15%.

Stephen Daintith: Yes. How do we reconcile that, yeah.

Derek Johnson: So, roughly speaking, that's increasing 60, 70%. I would actually think the denominator would be going down as you exit this investment cycle. So, I think it would actually be higher? I mean, it's pretty comparable to the number in 2015, when I think the slide showed 14%.

Stephen Daintith: Yeah, we have worked hard to ensure that these two are, as you would imagine, in tandem with each other. It can be quite sensitive to any assumptions around the base of the invested capital. So, I can assure you that we've got the model correct, so that the two do sync up with each other. And the next – we might have to come back to you, just to show the maths on that.

Derek Johnson: And then in terms of mid-cycle capital per share versus your cash return on invested capital number of 15%?

Stephen Daintith: You mean sort of in the period in-between sort of where we are today, and where we get to?

Derek Johnson: Well, the slide showed 15%, it says "through the cycle". But the cash flow per share just says "medium-term", not "through the cycle". Is there a difference between the two?

Stephen Daintith: Well, I guess the cash flow per share is more sort of at a point in time, to exceed £1 per share of free cash flow. We would expect that to grow, free cash flow. We would expect to see continued growth in the business. The cash return on invested capital, 15% through the cycle, what we're trying to get across here, is, on a steady-state rolling basis, that's the sort of cash return on invested capital you ought to see out of Rolls-Royce. That sort of 15% number. We get to that number by mid-term, sort of five-six years from now. And then, the average ought to move in that direction as well, to 15%. I'd look at it that way. That's what we mean by "through the cycle".

Andrew Gollan (Berenberg): Penultimate questions. So, the first one is on the Pearl engine, and well done for keeping it secret for so long. Opportunities there, are you targeting, for example, the Hemisphere which is facing a similar issue to Dassault last year, in terms of delay into service? And if not, what other opportunities – if, of course, you don't have to keep it secret? So that's the first one. And the second one, just to Stephen. You know, just to reconcile – we keep going back to this working capital thing – reconcile a couple of statements you made. You've answered some questions just now that indicate big opportunities within working capital. But I think in your slide presentation, you kind of implied that there were no – I think your words were "no material....impact from working capital changes" in the assumptions and guidance you're giving today. So, can you just help us understand what you're telling us?

Warren East: So, on the Pearl engine. When we launched that in conjunction with Bombardier the other day, we launched the Pearl 'xxx' and talked about a "Pearl family". And we deliberately talked about a Pearl family, to imply that the engine which is being launched is not the only one, that we hope, in the family. However, as I said, it's a sector which is characterised by secrecy. And therefore, we can't talk about other family members that may or may not exist in future, because they tend to be in conjunction with one of the corporate jet Airframers. It is our ambition to more than recover the position that we lost in market share, in large cabin business jets. So as far as I'm concerned, any of these large cabin opportunities are up for grabs. Subject to, as we've talked about this morning, if that means developing an engine with a business plan that doesn't make sense – according to the rigour that we are intending to treat these projects with – then, we'll find other ways of doing it. But definitely, the opportunities are there, and we're going to go after them.

Stephen Daintith: And on the cash flow, so working capital. What we've done, we've normalised free cash flow to exclude the benefits or negatives – the positives or negatives of material working capital movements. Because, in our view, it would be wrong to include a number that's a target, that includes a significant working capital benefit in that year. Because of course, you can only do working capital once. You can't do it year after year after

year. It becomes much, much harder. So, we've taken out that distortion. Clearly, we're not going to leave working capital on the balance sheet. And where we do see opportunities to get more efficient on our asset base – and I talked about whether it would be inventory days, trade desks, suppliers and so on – we'll pursue those opportunities. But we've purposely normalised our cash flows, so we don't get any distortion from those impacts. That's what we've done.

Andrew Gollan: Thank you.

Warren East: Sandy, would you like to ask the last question?

Sandy Morris (Jefferies): Yes, it will be swift. It will be just really asking to settle a squabble that's unfolding over here. If any member of the Finance team had inadvertently said "free cash flow to exceed £1.2 billion in 2020", that was a slip of the tongue, rather than him reading the budget there?

Stephen Daintith: I think I know what you're getting at here. I mean, I think with £400 million of savings delivered by the end of 2020... I mean, clearly, it will be hard to dispute £1.2 billion in 2020. And if pushed, that would be, as a kind of sensible guide, the way to be thinking around that sort of number now that we've said that we do expect to exceed £1 billion. But clearly, there's a lot of puts-and-takes along the way. We're in the middle of managing pretty significant issues on the Trent 900 and the 1000. And how that evolves, that's a risk around the business. So, don't treat that as a sort of hard and fast number. We've made the point though, that we do now expect to exceed £1 billion in 2020.

Sandy Morris: Okay. I'll follow up with Harry, if he doesn't mind, on how you avoid these "rationalisation people". How do they screen you out? Wee devils!

Warren East: Okay. Alright, with that, we're done. So, thank you all very much for coming this morning, we appreciate the support. And we'll be back with our half year results, at either the very end of July, or the beginning of August. (The confirmed date: 2nd August).

[END OF TRANSCRIPT]