

smiths

Capital Markets Day

Wednesday, 6th December 2017

Opening Remarks

Jemma Spalton

Investor Relations Director, Smiths Group

Welcome

Good afternoon, ladies and gentlemen, and welcome to the Smiths Group Capital Markets Day. My name's Jemma Spalton, and I am the Group Investor Relations Director.

Before we get started, just a couple of housekeeping points. There is no planned fire alarms today. So, if the alarm sounds, please make your way through the fire exits either behind the stage or back through the door through which you entered.

May I also ask you please to just read and digest our disclaimer slide which is at the beginning of your packs and on the screen behind me?

Agenda

So, today is all about creating the future. Creating the future for Smiths Group and how we are supporting others to create their own futures through the applications of Smiths' technologies. Just to give you a flavour of the agenda for the day, it falls into three sections. So, firstly, Andy and Bill will take you through the strategy, the actions that we are driving to ensure sustainable growth, and how we are measuring our success.

In the second section of the day, you will hear from the newest member of the Smiths team, John Shipsey, who is our CFO Designate, followed by three divisional presidents who will be providing evidence about how we are accelerating growth through focused invested and targeted repositioning. And all of them will also touch on what the future could look like for their businesses.

And in the third section of the day, you will hear from the head of Innovation, our Chief Digital Officer and the President of John Crane, about the culture of innovation and how we're employing the Smiths Excellence System throughout the group to ensure sustainable growth.

We have the full executive team here today, so, I'm sure they will all be delighted to take any questions that you may have throughout the day. And there will be opportunities to ask questions at the end of each of the sections throughout the day. I'd also encourage you, if you haven't already, to spend some time having a look at the product displays at the back of the room, which have got our products there and will hopefully bring to life some of what we are discussing today.

And finally, there is no material or new information which is being included as part of the presentations, and there is no update on current trading today.

So, with that, it's my pleasure to introduce you to Andy Reynolds Smith, Chief Executive.

Creating the Future

Andy Reynolds Smith

Chief Executive, Smiths Group

Opening Remarks

Hello, everyone, and welcome to the Smiths day in the sun, Creating the Future. I'm really grateful for everyone being here today and we're crystal clear about what today is about. It's about explaining Smiths return to growth, sustaining that growth and developing this business into a world-leading, diversified technology company.

Doing what we say we're going to do

When I think about what I'd like you to leave with today, it's really confidence. When I think back about the biggest area that I get questioned on, it's, "What's surprised you most about Smiths when you joined?" And you say, "Well, there's some nice technology. There's perhaps some things I didn't know about." But the thing that I feel strongest about is the level of opportunity and potential that we have in this business both surprised me and impressed me, but it's all in the delivery. So, when I say I'd like you to go away with some confidence, I'd like you to go away with some confidence that you share the confidence I have that we're going to do what we say we're going to do. And it's not an 'if.' It's a 'how' we're going to do it.

I'm quite often touched by some things that my father said to me – my dear, departed father who died about 35 years ago now. He had a very bad time come the end. And I spent some time with him on his last day and he knew it was going to be his last day. And he said something to me that stuck with me. And it was, "You're only as good as your last gig." And I translate that in our terms to be, we've got to do what we say. We've got to execute on what we say, because that's the difference between a good strategy and a failing strategy – doing what we say we're going to do.

He also said something else that I'm only just able to smile about now, because it turned out it was going to be the last time I saw him. But he said, "You know, don't let the fact I won't be here tomorrow ruin your day, tomorrow." Which I must say, there was no smile on my face at the time when he said that, but he said, "You must move forwards." And I think those two things, doing what we say we're going to do and continuing to move forwards to build a better company are the things that are absolutely crucial in our plan.

So, if in some small way you go away with the confidence that I have in this business and us delivering on our future plans, and get a sense and a feeling of what's going on in the minds of the senior leadership in this business and the great technology leaders, the great specialists and the leaders that you'll get to meet and interact with today, it will have been great, great success for me.

Team Introductions

And we have just a fabulous team. And the team and the people are the difference between success and failure, as we all know. I'd like to introduce – I have the speakers directly in front of me. There are a lot of other folks that I'm hugely grateful to for what they do in the room as well. But, I'd just like to introduce the speakers to you.

First, we've got Chris Holmes. Chris leads our medical business; been with us for a couple of years now. And as he'll tell you, he spent the majority of his career at 3M. So, he knows a little about what some good things look like. So, looking forward to hearing from Chris.

Karen Bomba; Karen leads our interconnect business. She's taking it through a reinvention right now. And I think Karen's a great example of how we extract value when we go buy stuff. Because Karen previously was the Chief Executive of the Morpho business that we just completed the acquisition of.

Jean Vernet; Jean joined us back in August. He's a bit of a French-American, as you'll get to hear. I think you'll probably say he was a bit more French than American. But Jean's just got a fantastic background in Schlumberger, Expro, oil exploration. Again, knows what good looks like and is leading our John Crane business to the next level.

Richard Ingram; Richard runs Detection. Took it from a position a number of years ago – four or five years ago – where our confidence to invest wouldn't have been there. And, you've seen some of the results. You've seen some of the things that have happened in that business. So, Richard's going to give you a bit more colour on what we're doing to build and develop a world-leading position in detection.

Philippe Roman; Philippe heads our Global Operations. He's the architect of the Smiths excellence system, the operating system that we use to run our business and has spent his whole career executing operational delivery improvement, continuous improvement, and best practice sharing in some of the toughest industries.

Bill Seeger, I think probably needs little introduction to most of you in the room. I just would like to take this opportunity to thank you sincerely, Bill, for what you've done in this interim phase of CFO-ship. It's enabled us to get in place an absolutely top-class, permanent solution. I would say, and yet those of you who know Bill will probably recognise this, there's been very little about what Bill has done that bears any resemblance to the word interim. He's kind of been all in on this and has done just a super job shepherding through the last eight or nine months, and also affecting a smooth handover with John. So, Bill, thank you.

Mr Shipsey, our newest member of the team. John, as you know, joined us from Dyson, a business that grew from a few hundred million to \$2.5 billion in a ten-year time frame. So, he knows all about growth. He knows all about growth. He knows all about technology. He knows all about executing on a global basis, particularly around Asia. So, you'll have a chance to spend a bit of time with him.

Roland Carter; Roland's our President of Asia. Recently moved to Asia to head up our endeavours there. That's a really important move for me, because the difference between winning in Asia and losing in Asia is being on the ground, leading on the ground, having capability there and executing on the ground. So, Roland brings a great deal of capability from inside Smiths, having run, if I'm not wrong, almost – in fact, all but one of the divisions over time in Smiths. So, Roland, I'm sure everyone's looking forward to hearing a bit more from here.

Jemma, you know. And Mr Tedd Smith. Tedd recently celebrated 43 years in the group. He also holds the gold medal for the most consistent delivery in the group in terms of growth and returns over an extended period. So, there's a lot that we're learning and have learned from Tedd over

time. He also shares my birthday, so is very keen to send me on an annual basis the percentage by which he's older than me in really quite precise terms.

There are a lot of people at the back of the room there who you'll get to see during this session, but you'll also be hearing today from Keir Boxshall and Samit Basu, Chief Digital Officer and our Head of Innovation, which is such a core part of our differentiation and how we take this business forwards and make Smiths more than the sum of its parts.

What it Means to be Smiths

I just wanted to spend a little bit of time talking about what it means to be a Smiths business – what it means to be Smiths. We focus in achieving market leadership – top three positions in the markets that we serve. We look really closely at how we can achieve, over time, leadership in those markets. So, it's all about targeting for us.

We then focusing on the execution piece, which is such a hugely important part of the story. In my mind, there is a huge difference between a diversified technology company which delivers and one which doesn't. Our focus from the beginning has been on putting the building blocks in place to really deliver over time. Execution is absolutely key for us.

And, all governed with a powerful and rigorous approach to our financial framework. You've heard many times that cash is central to us. Cash return on investment is central to us. And improving our capital allocation and the pace of that capital allocation is absolutely crucial in what we do every day.

Creating the Future of Smiths

So, what have we done over the last couple of years? It goes back a lot to doing what we said we were going to do and putting the building blocks in place for success in the future and that return to growth. I'm a big believer, also, that you can't wish for growth in life. If you don't do the things that will enable you to grow in terms of executing, in terms of investing in the future and the capabilities for the future, then the growth won't come. And that's what a lot of the last two years has really been about: doing what we said we were doing to do. And putting in place those foundations to give us the confidence that we can execute in the future, that we can measure what we're doing, that we can drive performance consistently and in the right way.

2016

You heard back in 2016 the first view of how we were going to try and take things forward, and we've seen significant progress since then that you'll hear about during the course of the day. We've implemented the Smiths Excellence System, which is the operating model that we have in place across the Group to drive the performance and measure it and loop back.

We put in place a group-wide innovation framework to ensure that we are leaders in the technology, the services and the products that we bring to our customers right across the Group, because that's the only way that we'll sustain a top-three position and ensure that we grow.

2018

2018's a really important year for us. At the backend of last year, we reported the set of numbers for 2017 that showed Smiths improving margins in every business; Smiths improving cash flow in every business. We freed up working capital. We reduced inventory. And, we increased our

investment in R&D substantially at the same time. But, we lacked that growth. So, this is about a return to growth. Three of those businesses last year grew. Crane returned to growth in the fourth quarter. This year, all of our businesses returned to growth.

2019

2019 is about sustaining and developing that growth further. So, you can expect to see good momentum as we move through 2018, as the fruits of our further investments, our improvements in competitiveness through the Excellence System really start to drive home results.

We also think about this in non-organic terms. I've said many times that for me, organic growth is priority number one, two and three for us. But, in complement to that, we continue to look at the right decisions that we need to make from a non-organic point of view. We sold four businesses last year that were too far from where we wanted them to be, were not part of our core plan, lacked growth potential. And we have proceeds of more than \$400 million that we then invested back into Morpho, which is a growing business, which positions us better from a technology perspective, customer and geography perspective in Detection. So, we continue to look at the non-organic areas as we move through the path.

A Smiths Business

You've heard a lot from me as far as the characteristics of the Smiths business. And a lot of times, I've been asked, "Well, how is a company that's in medical and oil and gas and aircraft and satellites band together?" Well, the things you hear today are the things that bind us together in terms of the characteristics of businesses that we want to invest in more, that are going to guide our investment decisions, whether they're organic or non-organic.

Now, organically, those things are happening every day – lots of small decisions. Non-organically, they're bigger events, the focus being on organic. These characteristics guide us, because we like them. And I feel that the risk/return profile of investing in businesses with these characteristics, if we execute, puts us in a good place. And I just wanted to touch on those individually.

Targeted in Growing Markets

First, we always want to operate in markets that are growing, that have good alignment with the future, that have good long-term trends, whether it's technology or otherwise. And that's a really important piece of the puzzle for us. We will always seek top-three leadership positions in the segments or in the markets that we inhabit.

Now you can see here a large portion of our business is focused in five main areas. The combined overall market growth of those areas is 3-4%, which is a good starting point. Our aim, of course, is growth above the markets we serve. And the way we do that is by continuing to focus in the segments within those markets that have better growth trends and running it better than the rest. Because for me, if you do those two things, if you're positioned well, where the growth trends are behind you, the tail winds are behind you, and you run it better than the rest – you're operationally excellent in terms of the way you drive production, the way you drive your product development, the way you service your customers – you will have a very good chance of growing, gaining market share and getting bigger. So, we've got absolute clarity on the way that we're thinking about this.

Top 3 Leadership in Targeted Market Segments

We've talked to you a little bit about where we started with this, the 60% plus of the business being what we called 'well positioned.' And the way we thought about that was on two axes.

Market attractiveness

The first was, how attractive is the market that we're playing in? So, what are the good growth trends? How big is it? What's the relative – the profitability of those segments? What's the competitor concentration?

Competitive position

And then the second and more crucial axis for me is our own competitiveness within that market. And we've used a number of things to think about how well we're positioned when you plot those two things. We had a position and there were a lot of people, as you know, that were kind of nervous when I popped up as the new CEO and said, "Only two-thirds of the business is actually well positioned." There were a few tense conversations around that, but it was very clear to me that we absolutely had to look at that clearly in front of us and address it. And either develop our position and improve our competitiveness, or do something better.

Now, over time, and this chart I think is really important to explain that this is not a buying and selling chart, a non-organic chart. This is a chart about how we improve our business organically, complemented by some acquisition. They tend to be bigger events, as we said. And in combination, the hundreds of decisions that are being taken within the divisions all the time on a sub-segment level, and some of the acquisition and divestiture stuff we've done, we've repositioned now to a position of 75%, which we judge to be well positioned, that we'll build on.

The remaining 25%, which is always the main thing on people's minds, because it's kind of the 'what's going to happen next' piece is roughly split half and half between the businesses which we'll sell and the businesses that we'll fix. The sell stuff is clearer. It's too far from where we want to be. We can't get ourselves in a reasonable timeframe to a top-three leadership position. The fix piece is defined as, if we can't get to a top-three leadership position in those bits by improving competitiveness, improving investment in growth, in a three-year timeframe, then it falls out of the fix category. And we continue to review that on an ongoing basis.

Now, the pace remains unabated. We did a lot in the last 12-18 months. The pace continues. The focus continues as the intensity of our capital allocation and capital deployment decision-making increases, as we build confidence that what we're going we can deliver on robustly and consistently. And that's the key for me. As we build confidence, we can build pace.

Technology Differentiation

The next characteristic is technology. I'm an absolutely passionate believer that if we have technologies which differentiate us from the rest, if we have better materials, better processes, better products, better services, then over time, we will grow. We've got some really incredible products and you'll see a lot more of that over the course of the next few hours.

But the main aim for me was how do we target better what we're doing? We've increased our R&D percentage to 4.6% from in the threes. Over time, that's going to go to between 5-6%. But

the key issue is we need to be doing it more intelligently than we were previously doing it. And in order to do that, we have put in place two things.

Innovation

The first is a group-wide framework that we call 'I-Cubed (I^3),' which is all about innovation. It's all about implementation and it's all about getting it right. And it's about inspiring people to get it right. Innovation, implementation and inspiration - I^3 . The engineers came up with that one, so, I'm looking at you guys.

What it's going to do is it's going to put in place for us a culture of innovation that enables us now to look across the Group in a consistent way, in a way that binds us together, enables us to leverage. Because we are not about commodity purchasing to make Smiths work. We're not going to go out and buy steel more cheaply or buy computers more cheaply. That's not what it's about. It's about leveraging a common language of operational excellence to drive performance and measure it. And it's about innovating in a consistent way, and bringing those innovation capabilities together kind of across the Group.

We replaced 18 new product introduction processes with one that is both more consistent, more focused, with a common measure of vitality. Now, what do I mean by vitality? Vitality for me is simply the yield on the innovation investment that we make. So, how much of the investment that we've spent in the past is converting into new sales? We didn't always do that very well in the past, mostly because we weren't able to look at it in a consistent and common way. We now do, and that enables us to increase that pace of new product introduction through the business.

People & partnerships

It's also enabling us to think about some of the areas that are real important for us, which bring leverage across the group. The first is the people. The engineering capability, the scientists are part of a culture of innovation. The second is looking at some of the alliances and partnerships that we need to create, because we're not going to do everything ourselves. And I'll talk some more about that in a second. But, the partnerships that we need to create, whether they're with academia or whether they're with other businesses to really make this work over time.

Spheres of innovation

And the final bit is how we leverage what we call spheres of innovation. And spheres of innovation are very simply, in the divisions we've got a bunch of stuff going on. For example, we've got 350 software engineers dotted around the place. Every division is working on 3D printing. It brings together that, creates a critical mass in a coordinated way and also enables us to target investment, some of which is funded by the Group, per centrally, out of the improvements that we're making in running the business, to really build our innovation capability.

Increasing Digitisation

The biggest piece of that central investment right now is in digital. You heard earlier Samit is our Chief Digital Officer, and we've recently announced the first of our digital forges. And a digital forge is a centre of excellence for digital that is focusing on creating certain areas of capability that are absolutely core to the products that we're going to bring to customers that they will value. Because this is about not so much running the plant better, but the value and propositions that we're able to bring to the customer.

Now the piece of this – because kind of everyone talks about a digital transformation. It is a bit of a flavour of the month at the moment. I passionately believe that digital is not a parallel activity that we might want to do alongside our other business in a complementary way. This is about defining future business models.

Physical and digital merge

Now, one of the things that Smiths has is a fantastic world-leading, installed base of physical stuff. Jean has 3.5 million mission-critical seals in multi-billion-dollar installations around the world. Richard has detection capability in pretty much most airport, port and border around the world. Chris has infusion pumps sitting on people's belts and in hospitals around the world. And our ability is to bring together and merge the physical capability with the digitisation of what's going on. And that's how we're focusing and that's what you'll hear a little bit more about during the course of the day.

We have a lot of examples. This is not an aspiration for us. We have a lot of examples with real and significant revenue already in place, that you'll get to hear some more about.

There will be two more digital forges. One of them in Europe. One of them in Asia. And they will form a network to coordinate and lead, in concert with the divisions, what we're doing as Smiths digitises and merges these physical and virtual worlds.

Aftermarket

Aftermarket; I kind of like aftermarket for lots of reasons. It's attractive as a business proposition, because it's predictable. The returns are typically very good. It builds customer intimacy, brings sustainability and enables you to bring something through life to a customer, which he values if you do it right. It also fuels growth. And detection is a great example of that because the percentage of software and equipment unique software that now exists, through image recognition, image libraries and the detection algorithms themselves, is changing at such a pace. I mean, we all know that the world is moving at such a pace, so this builds capability for us that's hugely, hugely important. And we're already at 50% or 60% aftermarket in services. And that will always be a key feature of the characteristics of the sorts of businesses we invest in.

Sustainably Competitive and Asset Light

The Excellence System is central to us executing reliably and sustainably, and driving performance and best practice, and improving the speed and efficiency through the business. I've talked a heck of a lot about improving cash flow, improving cash flow, improving cash flow, in terms of stock turns.

Stock turns

I mean, stock turns, for me, are the ultimate proxy for speed and efficiency in the business, because it more or less maps the order-to-cash cycle, which is so important to us. One of the key measure that we have in place is stock turns, which also is part of our incentivisation system. And we've mirrored a number of the measures that you'll hear about today in our incentivisation system so they're hard wired. We've set a target in the case of stock turns to move from three in 2016 to six in the medium term, which doesn't sound like a whole lot until you recognise that three to six means half the stock in double the speed through the business, which is transformational

because you get a happier customer and more cash to invest as a result. So, it's all about speed and efficiency.

I've been asked a few times whether there's more runway or whether we've just done the low-hanging fruit. There's absolutely significant runway. Yeah, I look at this and I look at it – sometimes, not very often anymore – through automotive eyes. And, life in automotive is all about speed and efficiency. Getting it through the plants, through the business as quickly as possible, but not just in production terms. In terms of developing product more quickly, in terms of servicing our customers, getting stuff to market and the rigorous programme management that goes with that.

People

Probably the most important piece of the Excellence System, however, for me, is people. We have a long-term plan that we're going to deliver on and matching that to our people and leadership plan and really acting with the muscle of Smiths, rather than individual businesses, is hugely, hugely powerful for us.

Asset light

And I think the final piece for me is really focusing on an asset-light structure. That in many of our businesses, we're well north of 50% bought-in product, which is a great thing, because we get to leverage those suppliers. It gives us agility, speed, flexibility to do more things more quickly. So, you will always hear as a key characteristic, a driver – relentless drive towards continuous improvement and an asset-light model.

Parallel Path

Capital allocation; we're doing a lot to what we call 'high grade' the portfolio, and there's more happening. We moved from 60% to 75%, and that progress will continue as we continue to review the fix and sell piece of the story. I expect that in the coming years to move towards 85-90%. This is not a dash to 100% because our prioritisation and thinking about our decisions, when we can get stuff done by with the pace that we need, is really important here, because we can't do everything. We have to be ruthlessly prioritised in our capital allocation thinking.

So, we've got a very strong path to make five businesses better. And we're on track with building momentum to do that. But in parallel with that, we're constantly thinking about those bigger capital allocation decisions across the Group. Where are we positioned now? Where will we be in the short-term? And what are the future options for us to develop further, once we've worked through an improvement path? But, none of us are setting our alarm clock to wake us up in a year's time and see how we've done. So, there is an ongoing and constant review of the bigger prioritisation decision across the portfolio, as we work towards improving each of the businesses individually. We can't do everything big. And we're thinking now with great clarity around the risk and return potential of each of the areas, from both an organic and non-organic perspective.

A World-Leading Technology Company

I want to leave you in this section with just a couple of thoughts on our key priorities, the strategy behind it, how we're going to deliver it and then the financial discipline behind it.

Key priorities

We want to grow above the market. We want to maintain and develop our margins, strong margins. We don't want to step back to invest in the future. We haven't, and we don't intend to. We want an increased intensity in our capital allocation thinking. And we want to continue to drive quickly towards merging our physical and digital business models to create some of those business answers for the future.

Strategy

Innovation's at the core. World-class operational excellence is in the core. The best people and leadership globally is absolutely in my heart at the centre. And this continued process of portfolio high grading.

Operational excellence

Execution I've talked a lot on. One operating model that ensures we execute on what we say we're going to do. We extract value if we buy something. We improve the businesses organically on an ongoing basis. So, we are world class and maintain and build our world leadership positions.

Strong financial framework

And finally, our strong financial framework. We have a very clear view about our decision-making from a capital allocation point of view, driving cash, cash return on investment. The returns that we think we can achieve in a risk-assessed and time-assessed way. And we'll continue to do that ruthlessly and rigorously every day.

And that's, I think, a great segue to introduce our outgoing CFO, with again, great gratitude, Bill. Over to you.

Measuring our Success

Bill Seeger

Chief Financial Officer, Smiths Group

Well, thank you, Andy, and good afternoon, everyone. Things are changing at Smiths as we pursue our build-and-grow agenda. Andy has talked about this and shared his strategic vision for the group. We are often asked by investors and analysts how we allocate capital in this changing environment. I will address that question today.

Although some of what I describe might sound a bit academic, I will illustrate through examples, our valuation and decision process. Keep in mind that measuring our success, both short- and long-term, is the basis from which we determine progress. Further, it provides a sense of pace as we move towards our goals. Importantly, it also gives us the input needed to adjust not only what we measure, but how we measure results.

Financial Framework

You might remember this slide from our annual results presentation. Our inherent business characteristics create an asset-light model with healthy sustainable margins. The underpin is a

financial discipline that finds its way into everything we do. We generate strong cash and are disciplined in how we use it. There's also a strong drive to sustain that outcome.

Cash generation

Organic growth is our top priority, so the first category for cash deployment is the support that growth provides through R&D and capital investment. Following organic investment, pension, tax and interest outflows, the balance is a high level of free cash flow.

Investing for growth is also supported by targeted acquisitions. Our progressive dividend policy rewards our shareholders in line with Group performance. And finally, the capacity and flexibility from our balance sheet, delivery on our strategic agenda will then have strong support. That flexibility stays within our guideline leverage ratio of a two times or less net debt to EBITDA, while maintaining a strong investment-grade rating.

Capital Allocation Criteria

Let's now focus on how we make investment decisions using our capital allocation criteria. Dynamic companies are continually faced with capital allocation decisions, which are essential to optimised returns. The criteria for capital allocation applies equally to organic as well as inorganic investments. Our review of investment decisions considers three broad categories: the market where the investment is focused; its strategic implications; and finally, the financial impact.

As you can see, the criteria are both broad but specific, and focus on several aspects. Most important, does the investment align with the characteristics of a Smiths business? Do we have line of sight to the growth story from a market and customer perspective? And is it supported by technology as an enabler? Are the financials compelling? And do we have a clear view of the risk profile? If we are satisfied on these basic questions, then we weight the merits of alternative investments, because at the end of the day, this is about making choices.

Market

Now a few comments on the criteria; first, market. The assessment and attractiveness of the market and the sustainability of growth is essential. Some of our questions are, is technology a cornerstone in this market? Is aftermarket a key element? Why is this important to us? Because it lengthens the business cycle and has potential to improve long-term margins.

Strategic

Next, strategic. This section is about fit – fit within the Smiths model. Questions where we focus are, what is the competitive landscape? Is there a path to category leadership? How strong is the management team? Or does the investment serve as a development opportunity for our high-potential talent?

Financial

And finally, financial. Our financial review looks at various metrics, such as growth, return, cash payback. Considerable time is spent to enable us to understand the risk profile of the investment, as well as the potential for mitigation. In addition, we assess the capital intensity.

Organic Investments

So, how does this work in practice? I will now show several examples of internal investments in products that are driven by new technology, followed by two case studies. Several exciting

products will be highlighted in our presentations and are shown in the product displays here today. Some are new products, and some are enhancements. All were evaluated against the investment criteria.

The CORSYS product is an integrated platform in Detection for our ports and borders segment. The CADD Solid NCS drug infusion pump is the latest generation with wireless connectivity. The Aura SEAL represents a new family of products in John Crane focused on gas applications. Volta is a semi-conductor test product in our Interconnect business; increases performance and lifecycle.

Case Study: Morpho Acquisition

Market

Let's now look at an example in recent times, the Morpho Detection acquisition. Let's rewind to early 2016, and I'll take you through the rationale for the Morpho acquisition and how it reinforces our leadership position. The detection market is attractive, growing around 5% per annum. Security threats continue to evolve, with safety a top priority. Airline passenger traffic is rising and international trade accelerating. There's an ongoing demand for detection technologies to constantly innovate to provide enhanced security.

The combination of this acquisition with our existing business provides a strong product portfolio, with geographic reach. Growth was supported by providing access to the US hold baggage market where we did not have a notable presence. The combination also means that we are well positioned for the current recapitalisation cycle in Europe, following the enforcement of the ECAC regulation. By 2022, all hold baggage must be scanned using computer tomography (CT).

Strategic

Innovation is a central pillar in this market to detect new or evolving threats, as well as developing integrated solutions to improve throughput and accuracy. With Morpho, we remain at the forefront of innovation, supported by our strong R&D capability.

Another feature of the Morpho business is the strong aftermarket profile. This accounted for about 50% of its revenue. The Smiths Detection business, by comparison, was around 35%. Over time, this helps drive margin improvement for the combined division. The benefit from a leadership and technical view was added further by adding to our existing strong team in the form of Karen Bomba and Samit Basu, who'll be presenting later this afternoon.

Financial

The financial benefits of the transaction were clear. The Morpho acquisition improves our growth profile, technology foundation of R&D and was accretive to EPS, supported by \$30 million of cost synergies. This transaction reinforces our leadership position in an attractive, growing market with strong technology, products and global impact. Our assessment of this business was extensive. However, not every transaction we consider concludes with a buy recommendation. We're not hesitant to walk away from transactions if the valuation is not attractive or we cannot put a floor on those risks. With our review complete, we closed the transaction in April 2017, and the business is on track in the integration phase.

Case Study: Wallace Divestiture

To help understand the rationale behind a divestiture, I will now focus on the Wallace product line within our Medical division. Wallace enjoyed a market leading position with very strong brand reputation. However, where we focused is a niche subsegment within in vitro fertilisation (IVF). Although the market was growing, Wallace had a relatively narrow product range. Indeed, it had a limited opportunity to build the business without significant investment. In addition, Wallace lacked synergies with the rest of our medical business.

In the IVF consumable segment, low-cost competitors are entering this space. As a result of our attractive margins and brand strength, a high-sale multiple was achieved. And the divestiture released cash that was invested in other value-added opportunities. As you can see, although Wallace was an attractive business, because of the changing landscape and the need for what we believe was long-term investment to build out the product offering in particular, the business was sold in November 2016.

Medium-term Ambition

As market dynamics change, there is a need for us to continuously assess our performance and portfolio to ensure we deliver our strategy from both an operational and a financial perspective. Some of the metrics on this chart are new, and some reflect further improvement. Many of these are, in fact, within our incentive schemes.

Operational performance

Let's begin with operational performance. Our objective is to maintain a top-three leadership in the market segments that we participate. Innovation is a key attribute for driving organic growth. We spend about 5% of revenue on R&D, but we focus on these investments that yield products and solutions that add value to the needs of our customers. We assess this using a vitality index, which represents the revenue generated in the year from new products that were launched in the past three years. Our objective is 20% of revenue, and this represents a significant progress and improvement from where we are today.

After innovation, speed and efficiency are crucial to a high-performing company. For example, we manage the flow of inventory through our plants by measuring stock turns on a 12-month average. We were at 3.5 times in 2017, but exited the year at 3.9 times. Our objective is stock turns of 6.0 times.

Aftermarket is an important part of our value proposition. We measure aftermarket sales, which includes repairs, service, spares and software updates as a percentage of revenue. Currently Smiths is at 55% with a target of 60+%.

Financial performance

Moving now to financial performance, sustainable growth is our top priority and we aim to outperform chosen markets while delivering margin of 18-20% and ROCE of 16-18% through the business cycle. We focus on cash flow and target operating profit conversion of over 100%. This is delivered through a rigorous focus on operational excellence programmes, which, as one example focuses on working capital reduction, currently 29% of sales. Our target for this ratio is 20%, which is consistent with high-performing industrial companies.

The combination of both operational and financial metrics gives us the right balance to measure our progress.

A World-Leading Technology Company

So, to summarise, by outperforming our chosen markets combined with achieving world-class competitiveness and a sound financial framework, our growth is supported by strong margin and return on capital. We convert profit into cash at a high level, which we use to invest for growth using our capital allocation criteria. Our approach is effective and comprehensive, creating a growing, value-driven and customer-focused Smiths.

Thanks very much. Andy.

Andy Reynolds Smith: Thanks, Bill. We're clear about what we're trying to do. We're targeting better. We know the characteristics of the businesses that we like, that we want to invest more in to guide our capital allocation thinking. We're executing and building confidence in that execution on an ongoing basis, and that will be relentless. And, we're absolutely confident that we're going to build a world-leading, diversified technology company here.

What I'd like to do now is take a break for a quick look at the products. So, we're going to take 30 minutes for a break. I'm then going to come back, and I wanted you to start to get a sense that there is hugely more to this business than me and him. We've got a fantastic team of people in the front two rows here and some guys and gals that I absolutely love out there, who are just the best of the best. So, I'd like you to really get a sense – start to get a sense through the sessions today to help you share some of the confidence that I have that we're going to do this.

I do also want to say that each of the next sessions, there will be Q&A after. So there's going to be an awful lot of opportunity to ask questions as we go through in the formal format, as well as informally as we're circulating. So, really looking forward to hearing some of your thoughts once you've heard some of the reality that's going on in the next session.

So, thanks very much for listening through the first session. And, see you in about 30 minutes.

Over to you guys.

[BREAK]

Comments from John Shipsey

John Shipsey

Chief Financial Officer Designate, Company

Opening Remarks

Good afternoon, everyone. I'm John Shipsey. I joined Smiths as CFO designate in October and I take over from Bill as Chief Financial Officer at the beginning of next month. Now, I'm acutely aware that for many of you, I am something of an unknown quantity or 'fresh meat,' as one colleague less politely termed it.

So, I'm going to take a bit of time this morning to introduce myself, talk a little bit about my past experience, my present impressions of Smiths and how I'm going to contribute to the future.

My Background

So, starting with my past experience, I've been privileged, over the last 25 years, to work for two employers, both of whom are world leaders in their field. First, I worked for Diageo in a number of Strategy, M&A and Finance roles in London, Africa, Europe and North America. After that, I set out to become a PLC Finance Director. Inexplicably, I somehow got waylaid for 12 years by a private company called Dyson. And there, I was part of a team that took a US/UK-dominated vacuum cleaner company with potential and grew it into the diversified global technology leader that it is today.

Factors That Shaped Who I Am Today

Over those 25 years, some, well, successes, I guess, and some failures have shaped the CFO that I am today. First of all, I should confess that I have a deep-seated and incurable addiction to growth. Now, growth isn't a human right nor does it come just because you wish for it. It requires hard work. And also, it requires a clear strategy to identify and exploit competitive advantage.

My Areas of Expertise

My particular experience and, I guess, my expertise is in exploiting two particular types of competitive advantage: technology and reputation – what some people would call brand. It probably won't surprise you to hear that I am a huge fan of well-targeted, well-executed R&D. Though by the same token, I'm actually very impatient with any other kind.

In my experience, I would say that building an R&D culture, a culture of invention, actually takes a lot of patience and consistency over years and not months. The rewards are certainly not immediate and they're not short-term, but they are truly sustainable. And in effect, that is how Dyson has grown from less than £400 million of revenue in 2004 to over £2.5 billion last year.

Now, I also should add that my experience has confirmed in me that I am a fully paid-up, card-carrying member of the Asian fan club. My previous employer is probably bit of an outlier in having more than 50% of both its revenues and its profits from APAC. But nonetheless, I firmly believe that a disproportionate focus on Asia is an obligation for every international company with serious growth ambitions.

What is My Role?

Now, I'm not an engineer, let alone an inventor. My role has never been to add to the stream or, indeed, sometimes to the torrent of ideas coming out of R&D or Marketing or other parts of the business. My role, I see it as very different.

My role is to ensure that cold, hard-nosed financial logic is applied to the investment ideas of other people far more creative than myself. My role is dispassionately to deselect those ideas, those investments that are clearly non-starters, to trial quickly the interesting possibilities and, most of all, to prioritise and accelerate those investments that carry the highest financial reward.

I am proud to be a CFO because of the ability to challenge and improve every aspect of the business, from strategy through to execution, from R&D through to sales, and operating to improve every line of the P&L, from revenue through to post-tax earnings. But ultimately, I want to reassure you that the only score by which I measure success is free cash flow.

Finally, I would say that if I have been successful in the past, it hasn't been down to my individual talent. It's been thanks to a very strong and global finance function behind me, supported by a global and standardised operating model.

So, turning now to the present. Well, I would say, first of all, I'm absolutely delighted now to be part of the Smiths team. Smiths has a long and impressive history. We all know that. But I certainly did not join because of past glories. I joined because of its future potential and the clarity of Andy's vision to realise it.

My Experience at Smiths So Far

I'm seven weeks in to a ten-week induction. And here, I should pause to pay tribute to the way in which Smiths has rigorously and thoroughly approached both the recruitment and onboarding process. Andy, Bill and many colleagues have been and continue to be extraordinarily generous with their time and, I have to say, patient with my annoying questions.

So, I've spent the last seven weeks trying to get out and about to see as much of the business as possible and meet as many people as possible around the world, from Oakdale to Ashford and from Chicago to Jiangsu. Ironically, I haven't yet made it to Paddington, the headquarters of Detection. Not the film – well, I haven't seen that yet either.

What I have seen has only reinforced my conviction and my belief in the potential that I saw before I joined. Smiths has technology, reputation, markets and people that its competitors would die for. But I'm also acutely conscious that potential isn't enough. It has to be realised. It has to be realised in the form of growth. That's the challenge. And I don't think that it's a challenge to be underestimated, but it's certainly one that I am completely up for.

Turning then to the future. So, I still have three weeks of my induction before I earn my wings. I am hugely grateful to my flying instructor. Bill, you are an outstanding role model and you've given me a fantastic education in Smiths. So, thank you. Any remaining gaps or flaws are entirely down to the quality of the student and certainly not the quality of the education.

And finally, I'd like to thank all of you for coming today. I'm looking forward to meeting each of you and over the coming months, listening to what you think and how you think Smiths should create its future and realise its potential.

And on that note, who better to hand over to than our very own Richard Ingram, who is going to talk about how he and the team are creating the future in Detection. Thank you.

Smiths Detection

Richard Ingram

President, Detection, Smiths Group

Opening remarks

Thank you, John. And good afternoon, everybody. And I'd like to first start by thanking you all for this opportunity to talk about the business and the growth prospects of the business. And I would say to John, you are welcome in the headquarters of Detection anytime. We did actually spend two days in the former headquarters of the [inaudible] business together. So as John said, he is

well up a steep learning curve, in terms of understanding some of the technological challenges that we have with the business.

So firstly, I would just like to – before I start the presentation, so a few words about me. I joined Smiths Detection in 2014, May 2014. And prior to that, I had an extensive career firstly in oil and gas as an engineer, subsequently in product marketing and service and aftermarket development in TRW Automotive. And then laterally, a quite long career in tier one aerospace providers, primarily working with the American company, Goodrich, before it was acquired by UTC.

Detection Driving Growth

So, Detection. We operate in significant markets which are growing significantly. And I'd like to first talk about some of the drivers for that growth.

Strong long-term growth markets

We work in an environment where threats are evolving all the time. And because of our position, we are well-positioned to keep up with these threats and understand what's going on and how that evolves. You need contacts to be able to do that. You need to be close to governments and military organisations and those who understand those threats.

This is a highly-regulated business, particularly on the airport side. And regulation obviously provides barriers to entry. It does provide a cost to entry, and requires the players who play in it to be able to understand and work and even help shape those regulations. And we do that.

Significantly, the number of passengers flying through airports and also the amount of trade going through airports and ports and borders is growing, and, in many cases, is growing faster than GDP. And we're at the unique point, in terms of recapitalisation cycles, as we'll see later in the presentation. There are some significant requirements to recapitalise airports, but also other installations in the world.

Smiths Detection is well-positioned

Our positioning; with the acquisition of Morpho, we are clearly a global market leader. We try to provide integrated solutions. The acquisition of Morpho is something I'd like to talk about, and I'll talk about it in more detail. But just to head this up, with the two businesses coming together, we really have what we see as an unrivalled R&D position. We have scale, which enables us to spend significantly more on R&D.

So, our focus is on how do we target that and trying to target it towards short and long-term growth, and particularly sustainable growth. And if you saw some of the metrics that Bill put up earlier, talking about both vitality and aftermarket, these are challenges which I think this business is very well-positioned to address.

Finally, this is a market where technological differentiation helps. And as I take you through, you'll see the evolution of technology. For example, from simple single image or single generator imaged X-Ray detection through to 3D image CT technology. And that's happened actually quite quickly in this business.

Detection Markets

So, what I'd like to do now is just give you a picture and some scale around those markets so that you understand what the proportions of our – where our revenue comes from in the business.

And just as a baseline, in 2017, we reported £687 million of revenue. That included approximately four months of the Morpho acquisition. So, just to give you a scale of the revenue.

Air transportation

So, air transportation currently accounts for 58% of our total revenues. We see that market being worth roughly £1.4 billion and probably growing at around 6% today. Very significantly differentiated technologically. We see major opportunities for algorithm development and digital applications. And a market which is very much characterised by service and aftermarket.

If anything, across the world, airports are keeping particularly CT equipment for longer than they originally planned. And that provides opportunity in the service tail to support that equipment into the latter part of its life.

Ports and borders

In ports and borders, ports and borders make up about 13% of our revenues. Our market size is a shade under £1 billion today. This is growing. It's growing because of the evolution of world trade. Significant amount of technological differentiation. But what's interesting here – and you will have already seen maybe our CORSYS display. If you haven't, then you can see it later and there's a video about it. Significant opportunities for digital innovation in this space.

Military

Moving on to the military market, this is a niche market for us. We play in a small niche of a larger Detection market and I'm going to talk about that. Very highly differentiated. The technology that's required is really the crossover between some complex ability to detect minute traces of certain types of chemicals, and the understanding and the database to understand what those chemicals are and what effect they can have on human beings.

Urban security

And finally, urban security. This is a market where we've so far been orientated towards a couple of niches, but there's more opportunity to grow. And again, very significant service opportunity.

So overall, we have strong and leading positions in these segments. And each of these segments has a good fit with what we're trying to do in Smiths, as a whole.

Air Transportation: Growth Drivers and Competitive Landscape

Volume growth is GDP+

So, what I'd like to do now is talk a little bit more about each of those markets and how we're trying to evolve in each of the markets. So firstly, talking about air transportation, have a couple of slides on this, as you can see in the pack.

What's driving the growth in air transportation? Well, personally, passenger travel. Passenger travel will grow faster than GDP on aggregate. Particularly in Asia, as the burgeoning middle classes in countries like China and India get the appetite for air travel, we expect faster growth. And this is driving airport investments, recapitalisation and increasing structure around regulation.

Secondly, air cargo is important in this market. We tend to neglect it, but it is important. Air cargo is probably growing faster than average cargo driven by, really, the need to get products to the market quickly for business-to-consumer type activities.

Hold baggage upgrade cycle

Just focussing a little bit on some of the – how that exemplifies itself, we are in the middle in European, a hold baggage upgrade cycle. As you know, there's a requirement that European markets, European airports move from X-Ray technology to CT to improve the performance and threat-detection capability in the airports.

We are about 40% through that cycle today. And Smiths, combining with Morpho, has done pretty well in these campaigns. And I'll talk a little bit more about the positioning of the products as we go forward.

Morpho acquisition

Morpho acquisition again. What did the Morpho acquisition bring, in a nutshell? Well firstly, a significant position in the US hold baggage market, which is really the one key volume segment where Smiths was absent. We were fundamentally absent from that market. And now, we are a leader in the market.

Secondly, complimentary CT technology. And as we'll see later in this presentation, if anything, the trend towards CT and away from simple X-Ray scanning is moving faster than we thought two years ago. And so, the acquisition of Morpho is actually right in our sweet spot and bringing us technology which will help us to advance.

And thirdly – and we talked about service growth and the challenge of growing and growing service at the same time. Morpho had developed significantly differentiated capabilities in service and diagnostics. So, think about – the model here is a prognostic growth. So if you have a ten-year service contract, that may be at a flat price or with limited escalation. But you can avoid cost by understanding what is going on in that market.

And understanding what's going on using remote monitoring in prognostics, there's two things you can do. One is repair the hardware before there's a costly failure. And the second is, you can weave that data back into your model and work out where you should invest money to develop fixes for the problem.

Sometimes you say, “Well, that fix isn't worth really fixing.” But if you have a chronic problem across your fleets, then you would invest engineering dollars to get a more reliable product or more predictably reliable product out there into the field. And when you have a long-term contract, then that's worth doing.

Air Transportation: Innovation and Cycle*Hold baggage*

So, moving on to the innovation cycle for the two key sub-segments of air transportation. So on the hold baggage side, as I've said, we are progressing through the so-called ECAC Standard III, the European recapitalisation. We have a strong product portfolio. The Smiths XCT product is selling well. But it's selling well particularly in those markets which value the dual-energy approach, such as Germany.

We have picked up good market shares in Germany. Elsewhere, the legacy Morpho products are really the best in class – I would describe as best-in-class of the mass-market products that are

available in the market place today. So, the UK has been – for example, the lion's share of the UK market will go to those products. So, so far, that's been good.

We expect that recapitalisation to tail-off around 2021, 2022 and that would become a replacement market. But at that point, we do expect the US market to start recapitalising. And, as a rough estimate, it could be faster, but we would expect at least 100 units per year beyond about 2020 to be replaced. And it could be faster. It depends what the US government and the TSA decide to do.

Checkpoint

Moving on to the checkpoint side of the business. And in checkpoint, really, what you need to think about is the key drivers when you go through a checkpoint in an airport. Firstly, today, as you are aware, you have to take various things out of your bag. That takes time. It's not efficient.

The C3 Standard in Europe will provide a capability to basically leave everything where it is. This requires CT technology. You need a 3D image and image-enhancing software to be able to do this. Smiths has a product which is going through certification now. And if anything, we are seeing that phase of development moving faster than we expected a couple of years ago.

The second thing that we are really investing in is lane technology. And this is the ability to differentiate between suspect bags and non-suspect bags automatically, and to differentiate those automatically, and to return the trays back to where they started from, avoiding the manual intervention you see in many airports today.

So, those two threads of technology provide us the capability to really focus on what customers need, which is efficiency. And so, I haven't really talked much about X-Ray capabilities. I'm not going to give you any discourse on X-Ray technology. If you go out to the museum in the break, you can find some displays about that. But that's not the point.

What customers – when we talk to our customers, if I take the example of Dubai airport. The key bottleneck in that airport is the number of staff that they can find to man a checkpoint in an airport. Because to be a policeman in Dubai, you need to be an Emirate-born citizen. There aren't that many of them. So actually, when you talk to the customer, it's not a discussion about X-Rays. It's a discussion about people. It's a discussion about efficiency. And that's where we're trying to drive our investment.

Morpho Integration

Supports future growth

So, a few words specifically on the Morpho integration. As I've already described, the timing was really good and has helped us to improve the commercial positioning, particularly in the hold baggage markets. But as we move forward, we are starting to see how we can use some of the CT technology to develop the next generation of checkpoint CT systems, and also to use some of the image-enhancing systems that Morpho had already developed.

Samit will later talk about the digital forge. Actually, Detection has been a net provider of talent to that forge to this point, simply because of some of the talent that was embedded in the Morpho acquisition prior to us merging the two businesses.

We've merged the technology road maps, so we are not running parallel paths. We may be supporting different products for a while. But we have points in the future where those technologies will come together and be supported as one single road map.

So, things that you maybe don't think about: in each airport you will have some kind of network server. Obviously, we have two server backbones, one from Smiths, one from Morpho. We have a roadmap to merge these two into one single network server system. And you think about the opportunity to leverage that when you've got one system in an airport, you can often make a hardware sale of the back of the network. And also, the cost for us, in terms of software upgrade, reduces because we only have to support one system worldwide.

Synergies on track

In terms of synergies, the synergies that we've announced are broadly on track. Obviously, it's early days. We said \$30 million of synergies by the end of the third year. The bulk of those synergies come through in year two. So, it is early days. But we've defined exactly what we're going to do. There are side rationalisations, for example, that we are moving through. And particularly in service, as we cross-train the teams, we will see significant synergies where we can do more with fewer people.

Ports and Borders

Growth drivers

So, ports and borders. Slightly different market segments. Key messages here. Seaborne trade is going to – we expect to double between 2010 and 2030, and move significantly towards the east of the planet. And I think the macroeconomic reasons for that are fairly evident. Second point, this is not a 100% Detection business as you see in airports. Typically, only about 2% of containers on ships get opened for closer inspection, or even X-Rayed in some cases.

Smiths Detection

What are we doing in these markets? Well, firstly, we're investing in future hardware where we see the growth. A lot of container ports have fixed gantries today. They're very expensive. They will be replaced with mobile equipment and that's where the investment is going.

Secondly, there's a great deal of opportunity to enhance the capability, using image-enhancing type software techniques. And you can again see those examples of those there; people who can talk about during the next break.

And finally, we're using digital techniques to help the decision-making process. You have to decide which 2% or 3% of the containers on a ship – and there are, in some cases, thousands of containers on a ship – which ones you're going to look at.

What we're developing using CORSSYS is a system which enables you – and I'll just flick the slide. On the right-hand side of here, this is a system which enables you to collate all of the data from manifests and machine learning to understand and attribute a risk profile to each and every container on a ship.

That's not done in that level of granularity today. So, this provides two opportunities. One is increased security. But also, the fundamental driver of this line of trade is to try and maximise

revenue take for Customs and Excise and keep illegal goods out of countries. So, significant improvement. And in just a second, I'll move to a video which talks about this.

CORSYS

On the left hand side of this chart, a more traditional image-enhancing capability, but still one which is very much in our sweet spot. The so-called iC More technology enables you to transform what you see at the top, which is a pretty uninteresting image of a truck that's being X-Rayed.

As we enhance those images, we can find, for example, illicit tobacco in very large quantities. It is possible to get about nine tonnes of illicit cigarettes into a truck that size, which has a very significant revenue opportunity for the smugglers.

So now, I'd like to just – there's a minute and a half of video which just tries to give you a flavour of what the CORSYS Digital Enhancement software does for you.

[VIDEO]

So if you're interested in this technology, Tim Norton is our Director of Product Development for this activity. He is here today. We have this on a 42-inch screen, so you're very welcome to go and have a look. I must warn you that he's a pretty dynamic guy, so he may try to sell you one. But it's very interesting technology. You'll be fascinated to see what it can do.

Military

Business characteristics

So, moving on to the military markets. As I described earlier, we play in really one single niche of the broader military so-called CBRNE chem bio market, which is chemical warfare agent detection. And we have just associated an additive market to that, which allows us to use this products for explosive detection in some markets. But broadly, this is a chem-warfare agent detection product market.

Key drivers for us: we have unique relationships with the US DoD and UK MoD. And that really enables us to understand what they see as being the future threats – the current threats and the future threats.

We have proprietary IMS, which is an ionisation-type mass spec product, which enables us to detect these chemicals very effectively. And as a result of that, we have sold over 70,000 of our lightweight chemical detectors using, really, military technologies to reduce the weight and make this a portable product. So, very good product. It's been very successful. Quite a high-margin business. Not that much aftermarket tail, but a very good capability.

Smiths Detection

Our investment strategy for the future is to invest in so-called Programmes of Record with the US DoD. In a nutshell, a Programme of Record, once ratified by Senate and Congress, very, very rarely gets cancelled. If it does get cancelled, you pretty much get compensated for the cancellation. These are things that don't get cancelled once they are decided.

There will be a so-called next – there's a suite of next-generation chemical detector products coming up, recognising that there are more threats coming out in the – evolving in the theatre of

war. For example, aerosol-borne agents are extremely difficult to detect, so we're working on that.

So, this is a very targeted investment market, investing in those programmes which will carry a lot of volume in the future. In the long term, this technology provides us an avenue to develop other precision technology capabilities. So, the IMS technology you see in the product that's at the back there today is also the technology that's used in an airport explosive and drug enforcement machine, such as an IONSCAN 600. So, this gives us technology for the future.

Urban Security

High-security facilities

So finally, and then I'll just wrap up, to talk about urban security. So, urban security, quite a significant market, but highly fragmented today. Not very regulated. We have focussed mainly in the top left-hand side of this segment and are quite significantly present in the securitisation of high-security facilities, US government buildings, UK government buildings, Ministry of Defence facilities, prisons – these kind of facilities. Nuclear power stations, those are examples.

Mass-transit hubs

As we see the trends here, growing urbanisation, increasing threats that we've already seen in that urban theatre environment, we are looking at other segments more seriously. A good example is mass transportation in China. In China, it is now standard that where new cities are built urban metro transit-type systems, those will be built to enable security to be integrated into the system. Obviously, that's not the case in the UK tube system. It's not practical without massive investment. But in China, it's being structured into the build.

So, these facilities will have X-Ray type security and maybe other security. And we are looking at these markets, and looking at where to put the price points and how to address that with local partners to achieve growth in those markets.

Public areas

Other examples are we're very interested in the public areas markets. And so for the long term, we are looking at what kind of so-called offset or stand-off detection capabilities can be brought together to provide products for these markets.

Creating the Future: Smiths Detection

So to summarise then, what I'd like to do in the remaining couple of minutes is just talk about how Detection plays versus the four key blocks on the diagram that describe what should be a Smiths business.

Technology differentiation

As I've described it with a couple of examples, a number of examples, this is a business which has significant technological differentiation. There's an evolving threat. This is not a static market; it evolves. We are spending more on R&D than any of our competitors today to ensure we stay ahead. And I think with the effort that we put in over the past three to four years and the help that's come from the Smiths Excellence System and, as Andy said, trying to bring together disparate approaches to a new product introduction into one standard format, then we have a

capability to spend the money where the markets attractiveness is and to achieve the milestones at the cost that we set as the target.

We're focussed on integrated solutions. And personally, I've spent quite a bit of time in the last three and a half years, getting engineers and sales people to think about what customers want and have dialogues with customers about their needs. Not to do product feature selling, "My product can do this," but have a dialogue around, "But what do you really want?" And that's where my example from Dubai comes from, or from the problem is not exactly from what you imagine it to be.

High proportion of aftermarket and services

How to push the aftermarket and service sales. We are, having brought the businesses together, well on track to get to a point where 50% of our revenue comes from aftermarket. Progressively, we will add on repeat digital sales to that and drive towards the Smiths Group targets, as we go forward.

Increasing digitisation

That brings me to digital and I've given you a couple of real examples. And I think what we tried to do here is not see software and algorithms as a way of improving our internal business, but to really drive our teams and challenge them to develop products which are saleable to customers. So, we want digital and algorithm products which are saleable directly to customers and are additive to our growth profile.

Sustainably competitive and asset-light

And finally, in terms of sustainability and assets, we started in late 2014 to try and improve the efficiency of this business. We did some fairly crude work and took out our excess capacity. Started down a journey of continuous improvement to try and increase the speed and the flow of material through the factory and weed out excess inventory and understand it and move it on.

That was being powered forward by the introduction of the Smiths Excellence System which, I think, really gives us a much better framework and also the support from the Group to do the things much more quickly. And to give us a standard set of tools and metrics which we didn't have.

So, those things will enable us to remain competitive and to face up to competition on the cost side and on the speed and ease side. And on the investment and R&D side, we think we can stay ahead on the technology front.

So in summary, this is a growing business in growing markets, which addresses very neatly the kind of aspirations that Smiths has for our business.

So with that, I'm delighted to hand over to Chris Holmes, who is going to talk about growth in medical. Thank you.

Smiths Medical

Chris Holmes

*President, Medical, Smiths Group***Opening Remarks**

Hi. So, I'm Chris Holmes. It's an interesting thing because I don't have a video. And I feel bad about it after that because that was a really cool video. But I am going to tell you about a really compelling opportunity to turn potential into reality and that's what the journey that we're on. That reality is a growth reality.

Background

I joined 3M in – sorry, I joined Smith Medical in 2016 as VP of Operations and I moved to this role at the beginning of the year. And I came, prior to Smith Medical, from a chemical called 3M, which you may have heard of as a home of innovation, etc.

We did some really cool stuff there. But we're doing some really cool stuff at Smith. It's really, really exciting for us. I was there for 28 years. And in those 28 years, I did a lot of different roles, a lot of C-suite roles in both business and in operations. I fixed businesses. I grew significant parts of the enterprise. And I developed people to follow along on those tracks and really become energised, energising and deliver great results.

I initially came to Smith Medical in the operations role. And the reason I did that was to turn around something that was stopping us grow. And that was supply chain performance. It was actually an impediment to growth. It was slowing us down. As I did that, I had to change roles. I had to change people in roles and I had to change what those people did. And as we did those things, we became far more robust and we became thankfully something that could potentially enable that growth.

As I move into this role as Smith Medical President, my role is to deliver those possibilities. It's about turning what could be there into what is there. And we're a long way down that path. And I'm really excited, frankly, to tell you about those opportunities today.

Smiths Medical – the Leadership Team

Years ago, Smith Medical was a great business. But at some point, its future became uncertain and people kind of retired into themselves and they started thinking about survival rather than growth. We needed to change and we have changed. We're focussed on delivering that potential. And a part of doing that, my Leadership team now is all new since 2015; has a 120 years of experience in medical companies like Abbott, Boston Scientific, Medtronic and Teleflex.

They all came, as I did, because we wanted to make special things happen at Smith Medical; because we saw the potential and we thought we could make something happen. We knew we had to transform things and we knew we had to deliver. So, you're going to hear this from me a few times, but the future at Smith Medical is really bright. And with the work we've already done, that future is just around the corner.

Medical Device Industry Overview

An attractive market with strong growth drivers

When you look at the markets we serve on the right-hand side, we can talk about some of the things that really drive those markets. Population size is growing, so a mega trend of population growth. You look at aging population, even longevity of life, those things help my market. You think of healthcare access, a larger middle class, more people with more access to healthcare, it's only going to get more because as humanity, we're going to drive it that way.

Just some other interesting things. As people find out more about disease, they find more solutions for disease and solve those problems. Those solutions come with things I can help deliver.

And the other thing that's really is lifestyles are changing. There was a time when you had a disease that you just went into the corner and just tried to survive. Now, the thought process is, "Yeah, I have a disease, but I want to have a normal lifestyle." So, people want mobility. They want connectivity. And they want it to be less invasive in their lives. All of those things are real opportunities for us and they can continue to drive us to a very, very different place as a med device provider.

Three Segments We Focus On

We have three segments, as you can see here. We have Infusion Systems, Vascular Access and Vital Care. Each of them are about a third.

Infusion Systems

If you go across the line on the Infusion Systems, you can see it's a £1.5 billion segment of our market that we serve. You can also see that we didn't choose very well because it's actually a £20 billion total market size. So, that kind of tells you there's a lot of adjacencies that we can go towards.

And it's actually interesting, and I'll mention it more later, but some of our brands play in that wider space. So, we can kind of move into some of those things. What infusion systems are is really delivering medication for pain, chronic or acute. It's maybe treating Parkinson's, hypertension through a device.

You saw from Bill's presentation earlier, the CADD disposable pump – the CADD pump. That's actually shown in that booth at the back. So, I hope you get a chance to see that. It is an industry-leading pump. People like that. It's really, really cool. I know it's hard to get excited when you see all the Detection stuff. But pumps are really cool, okay?

Vascular Access

From a Vascular Access point of view, Vascular Access is 33%, another third of our portfolio. We've got better representations of the total market with £3.3 billion market size. Well, that is really as fluids out and fluids in. So, it's blood draws, catheters putting drugs into a body or fluids into a body.

What's really important is you can do that, but you want to do by maintaining the security of the person. So, you don't want to have any infectious diseases or any infections that you could

transmit. So, it's really important to do those in a safe manner. We have an incredible brand reputation for that.

Vital Care

In Vital Care, much as it sounds, is all about vital. So, vital means maintaining body temperature. And it's also maintaining airways before, during and after surgery. So if you think of the things we do, tracheostomy tubes, etc., they're really, really critical.

We have an incredible product called Bivona which is, again, in the booth at the back. Bivona is the industry-leading best-in-class product with superior performance. We have the capability to do some really special things.

Where We Have Competitive Strengths

Trusted brands and quality products

When you look at the future, it's bright. We can deliver drugs. We have competitive strengths already. The thing about competitive strengths that's really cool, we also have gaps. We can do some of these things better and truly make a difference.

When you look at our brands, it's kind of an interesting thing. We had a person join us in our business recently to run our pump business. And they came in. They talked to their sister, who is an anaesthesiologist. And he said to her, "So, I'm going to Smith Medical." And she said, "What do they do?" And he said, "Well, actually, I'm going to run the pump business." And she said, "Oh, I ain't never heard of them." So later on, he went back and said, "Have you heard of Prizm? And have you heard of CADD?" And she said, "Yeah. That's all I use. That stuff is great." So, people know our product brand, but they don't know our family brand of Smiths Medical. So, that's a huge opportunity for us to really drive that out into marketplace and get some synergy as we drive that through.

82% of our revenue from single-use devices

18% of our revenue comes from capital goods. So, that's that placement of a pump, for instance. 82% of our revenue comes from single-use devices. So, that's really kind of nice. So, you get that stickiness with the original pump. And then, you pull other things through the marketplace.

Proprietary consumables

A lot of our consumables are proprietary. If you're looking at your healthcare, you want to make sure the system works. And so once you have Part A, if we tell you Part B goes with it, you kind of don't want to take a risk with somebody else's Part B.

Strong relationships with IDNs and NGOs

We have strong relationships with buying groups. You may think that's a bad thing. You may think, 'Oh, that's a huge amount of pressure in terms of pricing.' But the other thing it is, is access for us because buying groups are driving consistent processes across large sections of the healthcare population. As they do that, they give us the right for entry into those other parts of the business.

Strong, defensible intellectual property

We care passionately about intellectual property. We respect other people's but we defend our own.

Clinically relevant R&D

We've moved to a place where R&D is clinically targeted. We have people from industry, from healthcare helping our R&D people and make sure we come up with the right solutions. That gives us a huge advantage.

Experience of regulatory approval process

And candidly, one thing right now we're doing, we're getting one heck of a lot of experience putting things for a regulatory process. You'll see that in a couple of slides.

Winning Takes Category Leadership More than Portfolio Breadth*Category leadership is key to winning*

The elephant in the room a little bit is we have seen our competitors get bigger. They've consolidated. They've come together. And there's some people, probably nobody here, who said, "That means we can't be relevant. And we can't compete. And we can't grow." I agree with you, they got bigger. What I don't agree with you, they got better or more competitive. What wins in this market is category leadership. Category leadership is better products delivered better to customers. That's what makes the difference.

We have the ability to do that and we're driving that. The categories which we care about are the ones I said. It's Infusion, it's Vascular Access and it's Vital Care. We win by driving safe because they all care about safe.

Driving value-based healthcare

We win by driving effective total solutions that will help provide value-based healthcare. Value-based isn't cheap. Value-based is the total cost being the best that we can provide.

Increased R&D Investment Is Driving a New Future

Investment is a big part of that. You can see at the bottom of this chart, we've moved to 6.4% of sales investment in R&D from Medical. That's above the Smith Group, as Andy referred to earlier. It's a pivotal part of what we've been doing is making that investment and doing the right things. As we've invested more, it's given us the opportunity to really look at what things that we want to be in, how do we drive those things and how do we position ourselves, going forwards.

Investing smarter in R&D every year

We're investing smarter in the right things. But one thing we hadn't done historically well, the chart on the right – I know it's the right in front of me as well. One chart on the right is we waited too long. We let products go through a life cycle. And then as they were decaying, we said, "You know what? We better get back to maintenance on that product." That cadence held us back because as you got to the end of a life cycle, you lost customers. And then, you had to earn them back again. We're going through a faster cadence.

Customer engineering

And the other thing we've actually done within R&D, we've taken out a portion of our R&D people and put them on what we call customer engineering. So, they're responding much faster to customer issues, so, a three-month cycle versus a two to three year cycle in terms of what we've been doing. It's making a real difference in how we drive ourselves and how we drive things forwards.

Robust Pipeline of New Product Introductions

Substantial products aligned with industry trends and innovations

When you look at this chart, I hope it's not too subtle, from a graph point of view. So, imagine you're a sales person in Smith Medical. It's been difficult because you had to sell what we have. And what that meant is we have some really strong sales people.

But you look at the future and how bright it is and you can see there, we introduced nine products already in FY 2018. We introduced two in the last quarter of FY 17 for us. These products have been driven from that R&D money I told you about before. So, it's coming through our pipeline. It's revitalising what we do.

50% of our current product portfolio to be refreshed over the next few years

We will be touching 50% of our go-forward strategically viable portfolio with a move to make over the next couple of years. That's exciting. That's going to make a real difference to what we do.

Different Values

Safety

As we do those things, we're looking for different values. I mentioned safe a couple of times. And you may say, "They're a med device. Surely they are safe?" But you know something? You're dealing with sometimes the most fragile people in the whole ecosystem. So in a hospital, for instance, they have somebody called a Risk Mitigation Officer or it could even be a committee. And those people are looking all the time at everything that happened in that hospital that went wrong. Those people have a vote in the buying decision. If you have a reputation that you're better, those people are helping you make that sale.

Efficacy

It's about effective. It's always about effective in our business. So, efficacy is a massive thing. But it's not just about caring about patients. It is also because hospitals are paid on outcomes. So, they get money back based on outcomes. So, they want it to be good. So, they're prepared to pay for the solution that gives them the very, very best answer.

Clinically relevant

Clinically relevant – I mention clinicians a lot. We work with clinicians externally. We have panels. And we have clinicians who work for us.

Connectivity

Connected is huge. Not everybody is ready for it. Some of the homecare part of what we do isn't ready for connect yet, but they're going to be. And at that point, we're ready to provide it. Hospitals are ready now. And that's that continuity we can provide as we go forward. Connectivity is productivity. It's enhancement. It's improvement and it's more safety, etc.

Non-acute care

I'll talk more about non-acute care a few times. But non-acute care, if you think of it, part of the cost of total healthcare. If you take people out of a hospital earlier and put them in another setting, it's cheaper. It's also a little bit better. People have shown to actually recover better, if they can return to home earlier on. So, as that happens, we need to customise our products to play better in that environment. And we're doing that much more aggressively now.

Solutions that provide mobility

And then, solutions to provide mobility. That lifestyle thing, it's real. When you see the person bombing down a ski slope next, don't assume they're not being pumped into, infused at the very time they're doing that. It's crazy. People are doing extreme sports and medicating at the same time. I think we always thought they medicated, but this is different.

Product Launches

It is medical. It's not overnight. There's a sales cycle that we have to go through to get to the revenue. But it's really an exciting time to be at Smith Medical.

CADD pump

I'll look at two recent launches that – the CADD pump I mentioned before. £400 million market. We're a leading player. Giving people that capability jumped our sales. It was a great thing that we did. We weren't as quick as I'd have liked, but we were quick enough and we captured the opportunity.

Delta Ven

In Vascular Access, product called Delta Ven. This is a closed-system catheter that is going to touch a really good part of the market. What people care about in that market is safe. Again, safe.

Intuitive products

They also care about intuitive. Because they work on so many things, you don't want to nurse or the doctor making a mistake based on, "Oh, is this one right-handed or left-handed? How do I do that?" It's a little bit when you pick up your iPhone or whatever now, people can just do it because it's the way it should be. We do those kind of things.

In the pipeline

If you look at where we're going, it's about this connected part of what we do. So, as we drive, we're driving to have a suite of products that talk to each other. We provide historically into the medical record of the person. But now, we're providing data to drive analytics. We're communicating with the nurse's phone or the nurse's screen as to what's happening. Because people can then go to where they're needed as opposed to be checking on things all the time.

And subtly in here, I also put that we're working on a couple of new cool things that's going to fit into this space. Coming – the customers want to need. And it's a next-generation programme for us. And that's coming really soon that's really going to fit into that space and grow some market share in the whole segment.

Reshaping Our Portfolio to Higher Growth Segments*Moving to the best opportunities to enhance future growth*

When we look at commercial opportunities as we reshape this portfolio to a higher growth portfolio, we have the opportunity to really target R&D on the things that really make, commercially, a difference. So, you could think of, well, you know, those gaps every now and then. There's also complimentary products, adjacencies where we can really make some hay.

It's kind of interesting in that piece they said that sometimes even if we're not in a segment, people think our brand is. And we already have good brand presence even though we don't sell anything. So, that's a huge opportunity for us to expand that market and to go into those segments.

Target adjacencies for Infusion Systems

When you look at some of those adjacencies, the things that drive, would be for Infusion Systems, we're looking at large-volume infusion. It's a space we haven't been in. It's a space we think we can really play in really well. Non-acute. I mentioned that a few times. And then, disposable pumps.

Target adjacencies for Vascular Access

For Vascular Access, we're looking at hybrid solutions. So historically, what everybody did is sold an A component to B component to the C component. We're trying to pull those things together to provide a better solution that's easier to use for the clinician. It also gives us the opportunity to solve real problems of people connecting the wrong things, doing it wrong, putting things backwards. And it also allows us maybe put advance coatings on some things that would play into the marketplace and solve some other issues.

Target adjacencies for Vital Care

From a Vital Care point of view, it's about effectiveness. You know, bottom line, is it's about comfort? It's about effectiveness first. Comfort matters. But with chronic respiratory problems, it's about it working and it has to work really well. And so, managing airway is a critical part of what we do.

Strong Relationships with Key Customers And Stakeholders

When you look at how we go to market, there are three ways we go – to hospitals. It's going to take a – there's a lot more bottles of water under here than... That's kind of frightening. So, we have three sales channels predominantly. But let me tell you how those work.

Hospitals acute care

For hospital acute care, is 80% of our sales right now. It's an interesting channel because you can see where we go to with that. And actually, there's one thing I didn't mention to people earlier. But NICU/PICU, that's children, right? Prenatal and neonatal. If people trust you with their kids, they're definitely going to trust you with other things. Because kids is concentrated. It's small. It's got to be right.

So, where we go with hospitals is we have, all the way on the right-hand side, an account manager, a sales rep. That sales rep is critical because they pitch the need. They show people what's required. They show people the cool stuff. They create demand.

Then, the other group is those buying groups. Those buying groups are looking for consistency across their portfolio. How do I get into more hospitals? So once you pitch it and you're winning, they will help you take it wider.

When we sell capital goods like pumps into hospitals, we go direct. When we sell the consumables, we go through the distribution. So, distribution partnerships are really good. And

we have some great partners in that space who are really engaging with us very, very heavily right now.

Non-acute care

Non-acute care, the second segment, 15%. An opportunity because if we customize more for that segment and the market goes that way, we have the capability to really grow in that segment. We've been approaching distributors in that segment for would they like to do more with us. And it's kind of interesting because the answer is a resounding yes. And so, I think that really gives us some capability.

Again, there's more cold points though. So, you need that distributor to help you with the cold points because they're more fragmented. And again, you'd probably go through distribution.

OEM

OEM is an interesting channel. It's basically the place where you go to other businesses who are maybe a drug company, pharmaceutical company. And they have invented something really cool that's going to cure the next thing, but they need a method of delivering it. They're going to make their money on the thing they invented. They just want a great partner to help them get it into a person's body.

Our reputation allows us to do that. And we're playing that way more aggressively than we used to. It wasn't as much of a focus for us. But it's a space that we really like for the future and the growth.

Salesforce Effectiveness Evolution

Robust sales force across the regions

When I look at sales force initially, we're a hierarchical structure. We're conventional. We're regional. We're geographically everywhere. We have a sales rep. We have a manager, etc.

Continuous monitoring of results and effectiveness

The skills those people need is changing a little bit. So, we're doing different things. As we get into the software and into services, we need to assess people better than we did before. Some of that assessment is pure performance. And yet, I'm kind of a fan of ranking. So, we have a top-to-bottom list. And it motivates the people at the top. And, it motivates the people at the bottom too. And so, it's a good way of driving things so people know how they're performing and how they're driving things.

Comprehensive sales training programme

It also tells us if we have systemic training issues and we can move into more training. We've done a great job historically with product training. In terms of sales training, in terms of really looking from the customer's point of view, are we doing it the way we should, and are we customising our message for all the different people that we see? Probably not as well as we have historically. We're really doubling down on that part of what we do now.

Creating the future: Smiths Medical

Technology differentiation

So, that bring my last slide, which is truly about creating the future, but right now. We want the future now in Medical. And we're in a growing market; 3-4% growth. We're targeting technology. Technology is enabler for us. It gives us that category presence that we need to have.

We're being much more proactive on that product life cycle. We are significantly increasing customer intimacy. If you're in the medical business, it's not hard to pitch to people that they should care. It's not hard to pitch to people they should visit customers, they should see surgeries, they should see how it works. It is a little gruesome sometimes.

We're trying to provide value to clinicians. The best way to do that is to understand their pain. Understand what causes them difficulties and target those things. It's kind of cool when you go to clinician after you introduce something and they go – and there's this pregnant little pause of silence that worries you, “How did you know? This is exactly what I needed.” And under NDA right now with some of our new products, we're having those conversations. And that's what makes us think it's a really exciting time to be in Medical.

High proportion of aftermarket and services

From a high proportion of aftermarket and services, that's where our business is going. We're selling more software. We're selling more services. And it's giving us this ability to really extend our value into different areas.

Digitisation

From a digitisation point of view, you'll hear more. Science really helped us with some of our capabilities for pumping mechanisms, for taking things to a new level. It's really exciting, the capabilities we have.

Sustainably competitive and asset-light

And then from a sustainability and competitively asset-light, SES is really helping. It's continuous improvement is what it's about. We had lost the bull there a little bit historically. We've fixed that. We're going after it. We're really very, very heavily involved in SES.

We have new technology. You can see some of that in one of the tables at the back. But the other thing is changing our processes to the speed of the customer. It's a little misleading to say that because you think, 'Well, they're not quick in adopting things.' And you're right. In Medical, it takes some time.

But the beauty in Medical is they will always adopt a better solution. Because you all care about yourselves. But if you take your children to hospital, heaven forbid, you don't care about anything other than, “I want the very best.” If you want the very best, you can't really do better than Smith Medical because it's a really exciting place to be.

So with that, I'd like to introduce Karen Bomba.

Interconnect 2017

Karen Bomba

*President, Interconnect, Smiths Group***Opening remarks***Welcome*

Well, now that Chris has warmed up the audience, good afternoon. These are really exciting times for Smiths Interconnect too.

Background

I'm Karen Bomba, and I'm very happy to be here to talk to you about Smiths Interconnect today and to tell you where we're taking the business. I joined Smiths, as somebody mentioned earlier, as part of the acquisition of Morpho Detection in April of this year.

I was the CEO of Morpho Detection for the prior four years up until the acquisition. Running Morpho was my third CEO role for the French company, Safran Group, over the past 17 years. I've always been involved in high-tech companies – aerospace, engineering and rail. I joined Smiths Interconnect on 1st August when Roland Carter took his new role as the President of Smiths Asia.

I'd like to start by showing you a short video.

[VIDEO]

Smiths Interconnect: an Overview*Focus*

We offer innovative connectivity solutions where reliability, high quality, technical expertise and application knowledge and a reputation for excellence are all vital. You have just seen us transmit, filter, amplify, split, combine, refine and secure. You've seen our components, our connectors, our sub-systems. What we do is provide solutions our customers are looking for.

Enabling technologies; I'm talking about technologies that enable an industry's growing expectation and need for high volumes of data transmission. That's often delivered wirelessly. We're not only digital. We sit right at the digital-analogue interface.

Transmission of digital data wirelessly is actually analogue. That means it has to be converted from digital to analogue and vice versa. We're there to enable that conversion. We deliver connectivity that's difficult, that demands high reliability and where there is no room for failure. That's Smiths Interconnect.

Change

2017 was a period of change for Interconnect, change from being a global business unit structured business to a global organisation structured around functions. And frankly, we had to change if we were going to be able to provide a full suite of technological solutions to our customers.

Prepare

And we had to prepare for growth, prepare for the speed that's necessary in order to provide new solutions over and over again in our markets to meet the demands for faster and larger data. And we'll have to prepare for providing comprehensive solutions for our key markets.

Position for Growth

Six focus markets

But let's step back for a minute. In 2016, Interconnect took a hard look at our structure and our position in our markets. We decided we had to focus. And now, we focus in just six markets. We're talking about markets with growth, markets where enabling technologies drive differentiation for us and for our customers.

Focus on technology seekers, technology partners. That's because they're the market leaders. They're the Qualcomms, the Invidias, the Samsungs, the MBDAs, the Raytheons of the world. These players all need high reliability partners. That's how they keep themselves at the leading edge. So, that focus required that we change.

Tactics

In 2017, we consolidated from five business units to two. And by the way, we're required to have two business units due to the classified work that we do for the governments. But that's not stopping us from operating as one functional organisation, sharing processes, delivering a full suite of technologies to our customers.

To strengthen that focus, we've put in place a Key Account Management programme. Our Key Account Managers, or KAMs, are to get close to our top 20 customers, close enough to tech seekers to develop a truly long-term technical partnership.

We've also rationalised our distribution channels. We've kept our high-performing distributors and we've moved the customers that are not in our focus markets into that distribution channel to further allow us to focus.

We've stepped up our investments in R&D, improved programme management. We've focussed and prepared for increased investment in enabling technologies.

Finally, in 2017, we've been preparing for execution excellence, the Smiths Excellence System, our operating model.

Interconnect Applications within Six Focus Markets

So, focus on six growing markets.

Commercial aerospace

We focus where we provide connectors, components and sub-systems into aerospace, where we're in avionics systems, engine systems, power distribution systems and SATCOM connectivity. These are all applications where you have to deliver high reliability and the ability to operate in difficult environments – difficult environments due to temperature fluctuations, vibration and shock.

Medical

For medical, we offer connectivity for systems with high data transmission and reliability with no room for failure. We're talking about applications where signal integrity is critical. It's important for improved diagnostics. Examples would be in the MRI or robotic surgical equipment.

Defence

For defence, we're in electronic warfare, radar systems and communications, with solutions for digital, analogue and analogue to digital. And we're operating in really harsh environments, whether it's as part of the strategic missile defence system, the radar or on the frontline in the handheld radio. High reliability – that's what we do.

Space

For space, satellites and manned space flight, ground support equipment, you've got to deliver high reliability in really harsh environments. We help deliver clarity of data transmission and product durability for mission-critical applications where you can't suddenly send a repairman or send a satellite back to the depot.

Semiconductor test

And clearly, you've got to have that same reliability for testing of semiconductors and other high-performance electronics, high-volume connect-disconnect testing with high data transmission with the growth of cloud computing, artificial intelligence and big data. It's resulting in complex systems that require rigorous efficient validation.

Rail

And finally, connectivity and reliability in rail for increasing power distribution needs along the high-speed train, higher data connectivity for safety, for traction, for signalling. It's all critical to safety. It's got to be reliable.

Strategy Validated

So if 2017 was a year of focus, change and prepare, how did we do? We divested two businesses, Power and Telecom. They didn't fit the focus. Those two deals resulted in an improved ROCE, revenue and margin growth inside of our core business in a like-for-like comparison, 2016 to 2017. And that growth should continue. In our focused markets, revenue is up. The top 20 customer revenue was up.

And for key accounts, customers that believe and are tech seekers and we hope to be tech partners, bookings in these key accounts are up. In my view, that validates the strategy.

Finally, while our distribution channel rationalisation resulted in 50% fewer distributors, we actually increased orders and revenue through the distribution channel. I'd like to remind you that the revenues of our non-focused business have been put through those distribution channels. And some of that revenue will tail off over time because we're not focused in those specific markets. But others, those products are in our existing markets.

The tactics are working. That validates that the direction is correct. We're focused in the right areas. And now, we've got to execute.

Execution Delivering Results

Professionalised global organization structure around functions reduced complexity

So, let's talk execution. We have reduced our footprint from 28 to 23 sites. We have 14 production sites now. Our sales personnel are starting to sell a more comprehensive product line, where they used to focus on products from just one business unit. We have happier sales people and happier customers. Customers are seeing more value in dealing with a supplier who's easier to deal with.

Our operations team has been reducing suppliers, improving local operations and relocating operations closer to our customers. There's still a lot to do in this area. But we have plans in place. We have the right KPIs put in place and we're monitoring them. And we have a motivated team that's working to improve those measures. We're focused on improvement.

Nearest and dearest to my heart is engineering. The structure change I've been talking about has been resulting in our engineering talent being focused. They're focused on global priorities now rather than local priorities. And that makes a big difference because engineers are a really scarce resource. With our new approach, we can redeploy our engineering talent where they're really needed.

Increased investment in R&D – drive new technology and products for the future

We're also increasing our focus on next-generation and transformational technologies. 15% of our R&D spend in 2016 was transformational or new technology. It was 25% of our R&D spend in 2017 and we're hoping to increase that to 35% in 2018.

Another good indicator of improvement we're making is what we call product vitality. We've talked about it earlier, but I'll remind you that it's the percentage of our revenue that is actually from products that were introduced into the market within the last three years. Today, Interconnect sits at 30%. It's ticking up month by month and it needs to continue to go up.

Our R&D investment is up to 6% of revenue. And our R&D budget is focused on key markets and key customer needs. We're focusing on the future. We're building an independent, enabling-technologies organisation. That organisation will be focused on next-generation, transformational technologies that will later be put into transformational products.

An example of these transformational products is our new Volta semiconductor probe head. It's a world-class probe head for testing chip packages in mobile computers, smart communications devices. Volta is pushing the testing technology boundaries. And you can see it in the booth in the back.

Working with our customers, technology seekers and partners, we have used world-class electrical contact technology and proprietary engineered materials to provide a product that outperforms in both durability and performance. And at the same time, it improves our customer's production efficiency because it's quicker to install and it's easier to maintain.

As I said at the start, tech seekers and tech partners are receiving a truly transformational product. So where to, from here?

Future

Interconnect in the future. In the future, we're viewed as the partner of choice. We're making the way possible in space, aviation, defence, medical, rail and semiconductor test. We're providing enabling solutions for high-speed, secure, reliable connectivity in the very demanding applications.

Our vitality index will be higher. It really has to be even higher and it has to be consistently higher. In these high-tech, fast-moving markets, we've got to renew the product line quickly. More than 50% of our R&D spend should be in next-generational and

And we'll have to push our served addressable market to focus in our current markets, but expand them into the adjacencies.

We produce, develop and support customers locally, but with global thinking and global structure. And our Asian presence is truly on par with the rest of our geographical markets. It should be 30% of revenue. This is already starting. Last week, we signed an MOU with Huafeng in China. Our combined products and customer relationships will speed up penetration and growth in this important market.

Creating the Future: Smiths Interconnect

With focused markets growing at 3% to 4%, we're focused on technology differentiation – tech partners, tech seekers and customer intimacy. We provide solutions for digitisation. Our technologies are enablers for digitisation. We're focused on operational excellence – the Smiths Excellence System. And we have recurring revenues from rapid product renewal in quickly-evolving high-tech markets. We're prepared for creating the future.

And with that, I think we're opening it up to question and answer. Are you going to join? Yeah? Thank you.

Q&A

Andy Reynolds Smith: Thank you, Karen. Super job. Thanks, guys. Some super presentations and it's hard not to be inspired by some of the things that we're hearing. I hope you're getting a sense also of the trajectory, the investment that's going into improve our capability and fuel our growth. And particularly, the rigour with which we're thinking about execution.

So, this will be a great time to open it for any questions that you might have so far from the first couple of sessions. There will be another Q&A session at the end of the next piece. So, I think there's a roving mic back there somewhere. If you do have a question, if you'd be kind enough to introduce yourself, that would be much appreciated. And I would say if anyone's got anything for John also, please go ahead.

Mark Davies Jones (Stifel Financial Corporation): Hi, it's Mark Davies Jones from Stifel. Can I start with Chris, please, and come back to the timing issue? Because you said you're on the future now, but obviously, it **takes** time. On your subtle slide, there were nine of those products that have already been through the regulatory process. That's rather more than I think we'd heard. And outside, they were saying ten, I guess. So, it seems to be a moving target. But in terms of when this does become material to revenue, I think Andy has suggested the second half

of this year, so up to July. Is that still the timetable we're looking at to deliver actual revenue growth rather than just promise?

Chris Holmes: So, you're telling me Andy told you the second half and you're asking me to give you a different time?

Mark Davies Jones: No, just confirm it.

Chris Holmes: Just to clarify it? Yeah, the second half of this year. We have a selling cycle as we go into those things. And actually, the differences between a nine and the ten is the 23 that show up on the chart. We're actually doing more than that. So, there's a couple of other things with your PFG (Purchased Finished Goods) that we can package out there. So, it's ten for that. But no, the second half of this year.

We're showing them to customers now. There's a selling cycle and there's also their buying cycle and their capital cycle where they're at. So, we see an improving picture through this year. But the good news is it goes on for quite a long time. It's not just the – it's not like a pressure launch. It's slower, unfortunately. But that gives us longevity. So, Andy is exactly right will be the last part of this answer.

Andy Reynolds Smith: Yeah, I'm going to – and I think, just to add to that, you saw there's a really quite steep curve of new product introduction going on. We talked about 20 or 22, 23 major new product families.

We were disappointed in the second half of Financial 2017, as you know, that we were 3%, 4% down. And where we're tracking is that the first half of this financial year 2018 for us, we start to make material progress back towards that. And in the second half, we move back into growth. And then, as that ramp of new products come in, we expect that to continue to accelerate as we move into FY 19.

Chris Holmes: I concur. Second question.

Mark Davies Jones: Thank you. I ask a completely unrelated one for Bill. I guess it's fairer to ask you. But if we do get a 20% corporate tax rate in the US, what does that mean to Smiths? Because obviously, you've been guiding your tax rate up partly on the basis of the US being a larger proportion, but partly because your deductibles were disappearing. Have you looked to what that means in terms of a Group tax rate?

Bill Seeger: I mean, we're clearly, you know, keeping track of what's going on. It's probably premature to be definitive, as the bills go through a committee and get sorted out. As I said, I believe at the end of our results presentation, we have over 50% of our revenue in the US. So, it would be highly relevant to us. It would be a 38% tax rate – headline rate there including the state rate.

So, any direction in terms of reducing the tax rate would be highly beneficial to us. Increased R&D opportunities, increased capital investment opportunities would all be advantaged with the proposals between the two competing bills. So, I mean, it'd be positive to us. I can't give you the specific number because it's too soon to tell until I get clearer exactly how it works and when it's applicable **in terms of the year, it's relevant.** But it'll be positive for us.

Andy Reynolds Smith: Yeah. All I would add is more holistically, the tax rate is very clear in our minds as a big lever of value for the future impact on the EPS. So aside some of the country-based changes, we continue to look very carefully at tax planning and how that aligns with the strategy for the future to put ourselves in as good position as we possibly can.

Glen?

Glen Liddy (JP Morgan): Good afternoon, it's Glen Liddy from JP Morgan. **Chris, I mean, you said segment leadership is vital.** And if you look down **the segments**, it's on your first slide, you show your addressable market for Vascular Access is £3 billion and the market is £5 billion.

Glen Liddy: But then, when you look at Infusion Systems –

Chris Holmes: £1.5 billion and £20 billion.

Glen Liddy: – the market is huge.

Chris Holmes: Yeah.

Glen Liddy: So, where do you come into that sort of segment leadership and how strong are you?

Chris Holmes: I think, you know, in the other slide where we showed some of the areas we are looking out for the future too is indicative of that. So if we move into large-volume Infusion, that's a £1.7 billion segment on its own. So, you think of the syringe pump I showed you, £400 million. Large-volume Infusion is £1.7 billion. Disposables is large too. So, we're looking at adjacencies in that market where there is growth and potential and where our brand plays, frankly.

And then, as we have some technology things as well. So yeah, we think we can go into a lot more of that segment. A lot of that segment would have diabetes pumps in there and that may not be something that we go to.

Glen Liddy: And in the Detection world, we've got regulatory changes kicking in. Is there much to suggest that people are going to continue to move faster, in terms of installing the new systems over the next few years? Or are we going to get to a point where they say, "Well, we'll wait till the deadline in 2022"?

Richard Ingram: Well, I think it depends. If you're talking specifically about the countries in the EU region and Standard **3** for hold baggage, there have been different approaches by the different countries, quite frankly. So, you've got some leaders who are very keen to install the capital early. UK was one. Germany was another. France is moving now. But in the Spanish market, there was some pushback more around prioritisation of investment.

But Brussels has been pretty firm on this, frankly. So, they are making it very clear that the investment must be done in good time. In other words, the date is not going to slip. And they're expecting it to be completed and operational by the deadline. So fundamentally, there are some players who are reluctant to make the spends, but the message from Brussels is very clear and unambiguous.

Glen Liddy: Again, on Detection, the proportion of customers now that are taking longer-term service contracts with the new equipment compared with the last kind of regulatory changes, is there a big step-up?

Richard Ingram: It depends on the nature of the equipment. So in the hold baggage segment, a very high percentage of those customers do take those contracts. More than 70%. And that's one of the structural reasons why the legacy Morpho aftermarket positioning has been better. It's because of the nature of the equipment that's sold into those spaces.

In other segments, lower, but definitely driving upwards. So, at the checkpoint – and where we can leverage where we have the capability for both hold baggage and checkpoint in the same airport. And obviously, we have a very strong selling position to say, “Well, you're doing this for hold and we can make it commercially interesting for you to do it for the checkpoint as well.”

Glen Liddy: Thank you very much.

Andy Reynolds Smith: And Glen, just a couple of things there. What's also taking place in that aftermarket is back in the day, it was sell a box. And then, maintain the box with some quite irregular updates to image libraries.

With what's happening now and the pace of regulatory change and legislative change, that's moving a lot more quickly. But also, the sophistication of the software that we're providing is increasing substantially. So, for example, in the case of the CT scanning kit that we sold to Frankfurt recently, it's very sticky because you need our software to work on those machines, which is something that's occurring more and more that was much less true in the past.

The other thing from a regulatory environment, of course, it's not about just Europe at the moment. Europe moving towards CT scanning for hold baggage is currently at 40% and has to be at 100% by 2022. The US, of course, moved there a decade ago. So, hold baggage was at CT level a decade ago. So, those fleets are getting rather old. But the clarity on replacement cycles is not there at the moment, but will inevitably come.

The other piece then is CT above ground, the sort of thing that you and I put our bags through when we check-in at the airport. The US will need to go through an upgrade cycle. And also, Europe is moving, with the advent of smart lanes, in a similar direction.

Then, of course, in Asia, you've got a bit of a mishmash of regulatory and legislative requirements at the moment. But all of the water level is going upwards. So, there are some imponderables in this, but the general trends are very positive.

All I can see are spots in my eyes, these are so bright, these lights. Thanks. Elizabeth?

Denise Molina, Morningstar: I have two questions. First one is for Richard. I was surprised that you thought that urban security would only be growing at 6%. Given that it's low penetration, it seems like that's just an area where you can see a lot more mobile applications. Is it because you don't have the right solutions, the aftermarket isn't there? Why don't you see it as a bigger opportunity for you?

Richard Ingram: It's a really good question. I mean, honestly, it could be. The single thread is missing in urban security is regulation. And so, whilst in some of those sub-markets, the will is there. And we've talked – recently, I was in Japan because we just won a contract with Narita for CT. But then, we talked quite a lot about urban security. In the provinces in the regional government, there's a lot of interest in – I mean, the Japanese have a very secure way of life. If you travel around in Tokyo, you'll see eight-year-old children going home from their music lessons

at 11 o' clock at night on their own. This is something that doesn't happen in London, but it does happen in Tokyo. It's a very secure environment and there's a political will to keep it that way.

What's missing is the regulatory framework. But that will come, we think. We just don't quite know when. So, I think I said on the slide, increasing regulation, but we are not yet crystal clear as to when that will come. So, I think there is potential upside. But we don't yet have a handle on when we can see that regulation coming through in those different markets. But you're right. Potentially, there could be more.

Denise Molina, Morningstar: On the technology side, in terms of urban or if you think about public venues, sometimes, you read about AI and sort of image detection be able to match databases with visual match of someone's face. So scan a crowd, basically, before they go through check-in. So, is that something that you think is in the reach? Is that something that you might be working on?

Richard Ingram: Yeah. So, I think there's no single answer in terms of mass people screening. You would want technology which enabled you to mass-screen images of people and look at databases. Elements of these technologies are available. We don't have them all today. It's maybe leading you to another question. But we don't have them all today, but we're certainly scanning very actively who does and takes us to targets.

You would also want some kind of offset detection capability, which we are looking at. And we say that's moving from the impossible and too difficult into the phase of could be possible in the future. But you've got to think of very low-impact detection capabilities, non-intrusive capabilities.

So, this will be a market where a number of different technologies will come together to provide a solution. There won't be a single technology. And we're very actively looking at this because plainly, there have been a number of discrete events in the world which are crying out for a solution in the medium term.

Denise Molina, Morningstar: Okay. I'm not going to ask you the M&A question. I think you answered that. But you're obviously looking at possibilities for that. But I imagine they're pretty small, in terms of companies that do that kind of technology.

Richard Ingram: Well, there are a number of different partners with whom we're having discussions.

Denise Molina, Morningstar: Okay. Chris, can I ask you – when you were talking about the opportunity on Infusion, I'm just wondering like how you're going to break into that because I imagine there are established players in the adjacent that you have to compete on price. You were talking about outcomes. I mean, do you have like data you can provide that show you better outcomes? And how do you do that with new products when they're untested?

Chris Holmes: Yeah. Obviously, all the time you're always looking at outcomes. So, efficacy is really a big thing for us. It's actually interesting. Our brand – when we test our brand with clinicians, they think we are places we already aren't. So, we think we can just walk in, frankly.

One of the advantages going places you're not, you can look at who is doing what in that space and compare your device to that device and make sure that you cover any shortfalls they have.

So, when somebody else ploughs a furrow for you, you can really target your product to really fulfil customer needs much more effectively.

Our brand is phenomenal. So, the CADD pump I mentioned a few times, it's industry-leading. It's small. It's compact. It's respected. It's the largest category share leader in its segment. So, that really translates for us.

We also have a lot of clinicians that work with us. One of the ladies who was shown on one of the photographs, she is an ER room nurse. And so, she will tell – this is what we do. This is how we do it. And Andy was with me the other day when we were talking to somebody who actually sold for another company. And under NDA, we'd shown them some things. And she was saying, “You know, historically, if my child went into a hospital, I would have used this pump. Now, I'm going to insist on yours.”

So, we're hitting the points. We know what matters. We know our space and we're providing the value that people truly want. So, I don't think entry is going to be – entry is slowly going to prove it, but entry is going to be kind of fun.

Denise Molina, Morningstar: Just one last question. Are you going to increase sales to sort of push, because that's a big market that you're trying to get into?

Chris Holmes: Come back and see me later – like, even months, not in years.

Andy Reynolds Smith: Yeah.

Denise Molina, Morningstar: I mean, sales people.

Chris Holmes: Sorry? Say that again?

Andy Reynolds Smith: Salesforce.

Denise Molina, Morningstar: The salesforce. Like, do you have to expand your marketing force in order to...?

Chris Holmes: No. It's similar core points, actually. So, it's actually more people selling the same. We are probably looking at the skill level of people. When I talked about the training pieces, it's about knowing who is good at selling what kind of solution, so where we have gaps, we'll fill those gaps. But generally, no. It's not recapitalisation of the salesforce. We can do it with what we have. It's leveraging that.

Andy Reynolds Smith: Yeah. And just a couple of comments. We're investing heavily, as you know, in medical. It's a disproportionate percentage versus the revenue of the business right now. But we have to because to be honest, we'd fallen a little bit behind with some of the historical decision-making. That's now full speed ahead. We are intent on becoming and maintaining category leadership across Infusion, which won't be a big surprise. We are currently strong in portable and ambulatory. So, the smaller end.

But one big dislocation that's supporting what we're doing is, of course, the advent of smart pumps. Because that is changing the way that the hospitals are looking at buying and also, the sales force requirements to sell. So, one of the issues that Chris touched on earlier is we also need to be developing our salesforces to sell a different value proposition. More than the box-and-forget, it's much more now linked to that complete hospital ecosystem and the ability to get

people monitored out of hospitals and into homecare quickly. So, there's a lot of change and expectation in that area coming.

And we had a question over there.

Alex Virgo (Bank of America): It's Alex Virgo, Bank of America. Yes. I wondered if you could talk a little bit about how you're incentivising people against those operational metrics that you showed, I think, in Bill's slides. I'd appreciate from a top-down perspective, Andy, from you. But also, maybe divisional presidents could talk about what they're focused on in those set of metrics?

Andy Reynolds Smith: Okay. A really important point. Well, Bill mentioned earlier that some of the metrics we showed you, we have been endeavouring to build those into our incentivisation systems. A year ago, we completely revamped our top 200 incentive plan. We split it into short term, a medium-term programme that we called Strategic Excellence Programme. And that's intended to drive some of the things that are really important, strategically, but tactically important in the short and medium-term also. And then, we have our LTIP.

So, the biggest change linked to the metrics that Bill showed is that Strategic Excellence Plan, which specifically incentivises for the top 200. The introduction, the running and the measurement of our new product introduction process and the vitality of that process, that's been hugely important. Stock turns are explicitly called out. They are measured on a 12-month rolling average basis. So, some of the behaviours to make period ends are eliminated because you're measuring on a 12-month rolling basis. And we've also incentivised both customer quality – so the number of concerns and returns from customers – and our internal cost of quality.

Now, those might sound like quite crude metrics, but they actually drive a whole range of different behaviours. So, you're driving to build quality in, which improves your efficiency, reduces your cost, you get happier customers. So, there are a number of advantages that come together. Similarly, with stock turns, we, of course, measure cash both in our short-term and our long-term incentive more holistically, but inventory specifically called out as our proxy for speed and efficiency. So, lots of changes going on.

This year, we also have introduced – so, that had been running for one year. This year, we also introduced revenue growth as part of the – as the short-term incentive programme. So, the top 200 have a big chunk of their annual bonus based on revenue growth and achieving certain targets and outperforming. Lots of people had said to me, “Well, if growth is kind of the big thing, why didn't you put revenue in last time rather than just this year?” And it's back to my point, really, of you can't wish growth. You've got to have the drivers, the gearbox that will create that growth in place and embed it before you can start measuring something. Because you don't get the right behaviours, otherwise.

So, as we've embedded all of those basic activities with excellence and new product innovation, we now have revenue in place as well. And we'll continue to evolve that as we now go into the triennial review of our pay policy that kicks off in January.

So, a final question before we – there's going to be another session a little bit later as well. No? I think we're okay, at the moment. So, thanks very much indeed. Thank you all very, very much. We'll take a 30-minute break? A 20-minute break. And we'll see you in 20 minutes. Thank you.

[BREAK]

Smiths Innovation

Keir Boxshall

Head of Innovation, Smiths Group

Introductory remarks

Good afternoon, I'm Keir Boxshall and I've worked for Smiths for almost a decade, initially joining Interconnect in 2008, before, earlier this year, being given the opportunity to take the position of Group Head of Innovation. I've been a lover of science, technology and innovation for as long as I can remember, from my childhood obsession with Lego building blocks through the molecular building blocks I used to create biomaterial surfaces, all the way to the building blocks we have on our group technology roadmap today.

i³: The Smiths Group Innovation Framework

It's the creation and availability of these building blocks that are key to rapid innovation and iteration. It's the way nature does it; it's the way the universe does it and it's the way we're doing it. It's my pleasure to talk to you today about i³, our Group-wide innovation framework. Inspiration, innovation and implementation, that's what the three Is are, okay?

Andy created i³, our cross-functional, cross-divisional team; he gave the mandate and budget to drive real change across the organisation. We will keep pushing the organisation and our people to the leading edge, technologically and commercially. Our mission is to enable growth through innovation.

This virtuous circle represents our innovation framework, starting with culture, through horizon scanning and road-mapping, internal synergies, the capabilities available to us through our people and partners, our investment profile, and the products and services that will ultimately drive that growth.

Culture

The culture of innovation is crucial to our success: a diverse, collaborative learning culture. A culture that continuously adopts and tries new ways of creating customer value. I cannot emphasise enough the importance that we place on the customer-centricity piece of this. We believe it is the foundational element in the creation of value. We bring the art of the possible; they bring their challenges. We had a great example from Richard earlier with Dubai airport about how easy it is to misunderstand what's really driving a customer request; I'll give you another one.

So, we were in a road-mapping session with a space customer. This customer routinely asked us for just incredibly tight and difficult-to-achieve performance requirements. And we'd always assumed that it was because they were making up for some other performance deficit within their system. Anyway, through the course of this session it turned out that ultimately, the driver was our lead time. What they really wanted was numerous different custom solutions but they were trying to give us a specification that was a one-size-fits-all. So, as a direct result of that understanding, we embarked, or have embarked, upon developing an additive manufacturing

capability that will enable us to satisfy those bespoke opportunities with the lead time that they need.

Horizon scanning

Andy is driving Smiths to be a very proactive organisation: forward-thinking, taking bigger leaps and if you're going to do that, you need to look further ahead. And that's the origin of our horizon scanning. So, we take into consideration the influence of big global trends, like the ones Chris mentioned earlier – the ageing population, increasing average GDP. And we discuss, brainstorm, role-play and prepare for the disruptions that those big trends, and emerging technologies and emerging trends will have on our markets and our customer needs.

Synergies

As a result of that horizon scan, we created our group technology roadmap, for the first time in Smiths' 166-year history. From that roadmap, we saw numerous potential synergies. So we created this system that we call our innovation spheres, where we have Digital & IoT, additive manufacturing, advanced materials & nanotechnology that are of value to all of us. So these are the threads that bind us together and we will invest in them as a Group for the benefit of the Group.

We're talking an integrated innovation approach, deliberately combining advances in materials, in process, in product and in business model, yes, to create customer value but also to create propositions that are difficult to replicate and give us a sustainable competitive advantage.

In our August i³ workshop we went through our Group tech roadmap literally line by line; there are hundreds of lines, okay? And we discussed each product building block. And as we did so, even more opportunities rose to the surface. So, in a rotating gas seal – there's one out the back – the surface properties of the components inside are extremely important, as they are in contact and connect to interfaces. So actually, silicon carbide materials advances being made in Crane today could also improve connector products. Medical described the application of an acoustic sensor to measure the air flow from a patient's lungs, and Flex-Tek immediately proposed their own potential application of that same building block.

There are more examples and there are more to come. We've just started on this journey, there's so much opportunity and it is – we've said it a lot today but it is an incredibly exciting time to be in Smiths.

Capabilities

So our capabilities. You've heard that we're partnering with Microsoft on the digital transformation; I'm just going to provide a little bit of insight into what that means. So, we're working with them to utilise a product that they call HoloLens, which is a wearable, holographic, 3D computer, okay? So it's like Google Glass but both of your eyes, so it can project a 3D hologram in front of you. We're working on trials across Group to leverage that technology from our partner to create more value for our customers, to improve our service offering in terms of capability, quality, speed – you saw the great video in the great – the great CORSYS video – sorry Chris – the great CORSYS video. That's head-up display, that was HoloLens, okay?

I can give you examples with our other partners: Hitachi, on digital; Strataysys, 3d printing; UCLA, on developing our people. But the key take-away is this: we partner to give us the very best capabilities. We don't want to, nor can we, do it all ourselves.

Investment

Bask in the warm glow of the eagerly anticipated investment slide. These are our innovation categories. Innovation in this context is technology, business model, product, okay? So it incorporates those things. So a core innovation uses our existing technologies, our existing business models, in our existing markets. Until recently, this is where we focused almost all of our investment. Next generation is defined by new-to-company, so this is bringing in new technologies, it's bringing in new business models, to create new propositions for the market. Transformational innovations are new to the world. These are truly disruptive propositions, creating new technologies and even new market segments. You've heard a lot today that we've been increasing our R&D spend but it's really important that you understand how we're increasing it. So we've focused that increase on these brave new categories of next generation and transformational. It's by doing this that we create the differentiation potential for that long-term sustainable growth. This is what we mean when we say 'investing smarter.'

Products and services

We are laser-focused on facilitating that growth and we are investing, at Group level, in capabilities and initiatives that will drive it. We're also investing in transformational ideas that the divisions may find it difficult to justify investing within their strat plan window, or cycle. So, to date, we've funded, or co-funded, a number of projects. So there's CORSYS that you've heard a lot about; it's an open security platform that will make the world a safer place. There's next-generation connectivity; so the whole world, as we know, is moving towards consuming huge amounts of data. This is a highly-integrated innovation that's an Interconnect device, essentially, that will enable that high-bandwidth, secure data transmission. And the next four bring us full circle back to those Group-wide building blocks.

Machine learning is focused on algorithms for predictive diagnostics, predictive maintenance, so improving our servicing. The IoT platform is a modular architecture that will enable us to quickly sensorise and connect our products. Advanced ceramics is a project that will enable us – it's a proof-of-capability project, that one, that will enable us to create proprietary materials as part of the component manufacturing process. And the additive manufacturing consortium has the stated objective of increasing the use of additive manufacturing in production components.

The virtues of additive manufacturing can only be truly exploited if you design for the process. And actually that requires some quite different skillsets from traditional computer-aided design. When you get it right, you can provide the customer with a higher-value solution, more reliable, faster, whatever those performance requirements are, more quickly, and at a lower production cost.

The majority – well, a large portion of our group-wide innovation investment is being directed at Digital and IoT. And it is my pleasure to invite to the stage another member of the i³ team, Samit Basu, our Chief Digital Officer, to enlighten you further.

Digital

Samit Basu

Chief Digital Officer, Smiths Group

Introductory Remarks

Good afternoon. So, let me tell you a little bit about myself. My background is in engineering; I'm an electrical engineer. And I've basically spent the last 20-plus years of my career focussed on a technology called computer tomography. Most of you have heard about it; it's been mentioned many times. It's the type of thing that happens to you when you, unfortunately, some of us, when we go to the hospital and you get a CAT scan. Almost all of my energy and a vast majority of the 70 patents that I've co-written over the years are focused on this one technology. But it has global application and it's really important to how things, I see, are transforming at Smiths when it comes to Digital.

CT Scans as a Digital Transformation

So I just wanted to put this up here as an example of how far the technology has moved. And digital transformation, as Andy mentioned earlier, is a term that everybody throws out there but this is a concrete example of what that really means. So on the left is an image of one of the first CT scans. CT is a technology that was developed here in the UK predominantly. And at the time that that system existed, it was a very primitive brain scanner, because that was the original application.

So the acquisition took quite a long time, processing took days – it took days to get that image, that cross-sectional image. By comparison, at the time that I left General Electric and their research centre, we could scan an entire person, from head to toe, in about 30 seconds. And at the time that the Morpho legacy business was acquired by Smiths, we could scan a suitcase at millimetre-type resolution in two seconds. In the same two seconds, we could analyse it, look for threats, categorise it and provide 3D-rendered images at real time to an operator.

The difference between what's on the left and on the right is really enabled and empowered by the geometric growth in computing power that has transformed pretty much the way we do everything: the way we do business, the way we communicate, the way we keep in contact with our families, the way we work. And that's really underlying this technological shift.

Digital Forges

So you've heard the forges mentioned a number of times; what's a forge? You might imagine people in aprons hammering. It's not quite that industrial. So the forges are really meant to be digital start-ups; they are like incubators where you can try things and you can fail fast. You can bring agile development methodologies and try out new ideas. There are plenty of ideas. I have been with the company since July, as far as Smiths, and there are lots of ideas. People have great ideas for things that we should try, "We should try this. We should try that." The purpose of the forges is really – where that differentiating factor is digital, it's software, it's the connection between software and hardware, that's really where we want to try those ideas out. Put them together, see if they work and if they don't, move on.

So the first incubator, the first forge, is in my home area of Silicon Valley. And there's me and a couple of the folks that I've been working with for decades now, and we decided to try an experiment. So we've been working in CT technology for 15 years. And a lot of the stuff that we had done at Morpho was really focused on how do you analyse images? How do you understand them? How do you ship large quantities of data? How do you monitor machines in order to look for predictive failures? The sorts of things that Richard has talked about.

And we decided to say, "Well, just for a lark, could we train a computer algorithm to detect emotion?" And well, it is – it's actually – it's possible. Here you have an example of an algorithm which is not only identifying, from its database, who each individual is but it's taking a guess at what their emotional state is. So it's really – is this something we're going to monetise? I don't think so but it is an indicator of how quickly artificial intelligence and algorithms are evolving. And how the tools that we have in our toolbox are still applicable, even when you start to apply them in new domains.

Digital Forge Focus

So the first digital forge is in Silicon Valley, it's the first of multiple. And it's part of this realisation that we're not really talking about a dream, or a visualisation, or a line on a PowerPoint chart. It's real, we're actually doing it. And I would say we're really targeting that kind of third level of digitisation. The first level is how do I automate my shop floor? How do I improve my operations? How do I gain operational efficiency through automation? The second level is about business intelligence; how do I share information I gather information about the markets? The third one is about how do I bring value to my customers? And that's really what we're focused on.

So what are we focusing on in this digital forge? What are we doing? And I know the chart has words on it; you can read those. My way of explaining that is to tell you what I've been doing for the last couple of weeks and what I'll be doing in a couple more weeks.

John Crane

So, two weeks ago I basically met with Jean Vernet and some of his staff. And we talked about how the forges are going to work together with John Crane to really accelerate and broaden the scope of John Crane Sense, their predictive diagnostic tool, which he will talk about. The forges themselves are actually meant to be cooperative spaces, so they're meant to actually bring resources from the divisions in, some of them permanently and some of them on a rotating basis. And John Crane has taken the first steps in actually following through on that and putting resources into the forge. They're John Crane people but they live and work in the forge. And they're really focused on this boundary between digital and non-digital.

Medical

Last week, I was in Minneapolis, meeting with the Medical team. And there what we were working on – and this is one of our largest projects – is really what Chris has described as a next-generation, wow, totally awesome, pump platform. And they've got fabulous hardware and we're helping them make the software even better. How can we get that pump platform to be basically the kernel of a digital transformation inside of Medical? People are hungry for connectivity; they're hungry for the data. This is a great way to get started.

Detection

And then in two weeks from now, we'll start the journey with Detection on CORSYS, because CORSYS is something that we see as being key to the long-term trajectory in Detection. And Richard has talked about that as well. And in order to make that sustainable, we really need to pull that technology inside. We need to understand, pressure-test it, learn how to build it and then learn how to build on it. So that's really my calendar. There's other things that I really can't go into but those are the three big ones.

The last thing I wanted to say was we have multiple areas of focus and each of the divisions is at a different stage in their journey. Some of the divisions are already monetising digital products. That digital is already core to what they deliver; it's part of their revenue that they earn today and they've already figured out how to do it. Other divisions are just starting the journey. So it's going to be adaptive, it's going to change over time and our focus is going to shift to where the energy is needed most.

The second thing I wanted to point out was, is that these forges are actually meant to be collaboration centres. So I mentioned that there'll be a mix of different staff but they're also meant to be customer-facing. So we can bring customers in to talk about digital projects, digital transformation, and how that can enable their future designs and solve their future problems.

And the third thing I would say is that, even though the first forge is in Silicon Valley, it's part of a global network that we envision in the future of digitally-focussed development capabilities that are placed where the demand makes the most sense. Where can we put the resources? Where can we build critical mass in order to deliver on these technologies in these products?

Concluding Remarks

So I think I want to just leave and say I'm incredibly excited about being with Smiths. The folks here are just tremendous. You've seen some of the talent and you've gotten a chance, I hope, to go in the back and talk to some of our really top folks in the back, see the excitement, touch the products.

One of the things that differentiates Smiths, and Andy had talked about this before with the slight towards Angry Birds, was we really think we can recruit talent. Me and my team, when we were leading the advanced technology team at the Morpho site, we have been recruiting software people into Silicon Valley for ten, 12, 15 years. How did we attract good talent? We had a story; we had a mission; we had a purpose that we could put in front of them and say, "You can work on something that's meaningful. You can change the lives of the people around you. You can make the world a safer, better place." And that was enough to get really, really good people to come on board. So, as part of the digital transformation and part of the forges' purpose is to actually to try and facilitate, to get people to come in and learn more about Smiths and learn about the new Smiths that we're building now.

And with that, I want to turn it over to Jean Vernet, who's going to tell us about John Crane. Thank you.

SES in Action, John Crane

Jean Vernet

*President, John Crane***Introductory Remarks**

Good afternoon; it's now the afternoon in my time zone, sorry for earlier. And after four hours of compelling presentation, the last thing you probably want to hear is a Frenchman talking about a Chicago-based company in the centre of this fantastic museum, testament to the glory of British inventivity, past and present. So I will be concise and want to share with you the way I see the strands of John Crane; how we position John Crane for growth, strategically; and how the Smiths Excellence System is the glue that translates this superior business model into great results.

Career history

A couple of words of introduction. I was born and raised in the oil and gas, third generation. Spent 20 years of my life in the oil and gas professional life, starting with **Elf Aquitaine** for a couple of years in Japan, where I stayed seven years. I worked at Schlumberger for 12 years in various roles, including Financial Director a line division. Back then it was about \$5 billion, **the historical cradle**, of Schlumberger. As well as Financial Director for R&D, corporate R&D, which about \$1 billion yearly investment across all the divisions of the enterprise at that time. I worked several years in that technology sector as a CFO of FormFactor, a NASDAQ company, a global leader in probe cards for the semiconductor industry. And also worked with capital ventures in the Silicon Valley, mostly in renewable energy and the smart grid.

Four months ago, I joined Smiths, inspired by Andy's vision about the future, about the growth potential, driven by technology and driven by talent of people, also globally around the world. So I've spent the last four months travelling around, reaching out to our more than 6,500 employees, meeting customers, visiting manufacturing sites. And I've been amazed to see how our key customers are looking at John Crane as the company of reference for our industry.

There is this old saying from IBM, which my customers repeated several times, that they don't get fired by buying from John Crane. I also was totally taken by the culture of the company: deep, broad, strong culture of customer care, a true spirit of service and problem-solving. Innovative minds around technology and engineering, which was very equally spread wherever I went. This is, in my view, the key assets of John Crane.

Global Leader in Flow Control for Rotating Equipment

So let me share with you, in a few words, why I think – what is so special about John Crane. We are the global leader in flow management – in flow control for rotating equipment. Our customers own and operate very critical and complex facilities around the world, which are the live feed of energy to the world. They are providing power to billions of people and they are producing drugs and medicines, processing food. And when a piece of equipment breaks down, it is catastrophe for them. So anything that we can do around predicting failure, around rapid response to help them understand the cause of failure and repair swiftly, but also anything that we can do in increasing their operating performance is really the key of the value we bring to the customers.

Been in business for 100 years

We have been doing this for 100 years. John Crane has been the leader in bringing technology for that period of time. And we invented pretty much everything out there which is in the seal world in use today. Thanks to our extended 200 service centres and manufacturing plants around the world, we are able to really provide proximity service to the customers and rapid response. As a matter of fact, the most important value to the customer, as they told me, was the fact that for them it's not John Crane, it's Ben, it's Gary, it's Nicole, it's Mukesh or Abdul, those individuals who are really living on the premises with them, and the knowledge that those folks are supported by the entire company to deliver service. This is this bond of trust that enable us to leverage not just more reliable product but also more high-value services.

We have the largest install base of devices around the world. And why does that matter? Well, it matters in two ways. First of all, it's understanding how we got there. Our customers are a complex bunch, especially at greenfield stage. When they decide to build a new plant, we have to deal with end users, we have to deal with EPCs, we have to deal with OEMs and all of these interacting in a complex mechanism. Our route to success is really to cater to the specific needs, whether this is harsh environment, very high pressure, efficiency or emission control. We are able to really provide them bespoke solutions, and by and large are very successful at winning the contracts that we want to win. This is, for us, the key into the market. There is this old saying in the oil field service that you have to be on the rig to be able to be a player, and that's exactly what this is about. Once we have won the first-fit contract, we are able to transform this into a multi-decade aftermarket business.

Accumulated worldwide expertise

Why would the customers choose us is there is this bond of trust that I talked about. But there is also the fact that we make them benefit from the accumulated worldwide expertise we have and accompany them through the journey towards best practice. This can take 20 years. We know every one of their turbine, pump and compressors better than they do, and we have to pace that transition. Because of the length of these contracts, we are also able to deploy new generation of technology along the way, which are truly transformative. And I'm going to talk about in a minute.

Long-term customer relationships

So this leads to very high retention rate and extremely long-term customer relationship. As a matter of fact, I was in Bahrain the other week, meeting with one of the oldest refineries in the world: 1932, created by Chevron, it's now owned by BAPCO, Bahrain Petroleum Company. And meeting with the Head of Maintenance, he told me his father was Head of Maintenance and his father's father was Head of Maintenance. And he showed me pictures of the 1950s, black and white, of John Crane seals that they had installed back then. So actually I told him, actually, when I was five years old, I would go to my father's office in BP. And he showed me the map of the world's refineries and explained to me about this refinery.

So what I am trying to say here is this has been built over time. Relationships have lows and have highs but the customers always come back to us because they know we are always there for them.

Our engineers

Our revenue is about two-thirds aftermarket repeat service and it is provided by a population of over 2,000 engineers. We have the reliability engineers I talked about, we have the application engineers, the commissioning engineers, the engineers in the lab, in the manufacturing. And my observation is that John Crane's ability to attract and recruit, train and develop, and most importantly motivate this workforce is truly a central differentiator of who we are.

So, we have this fantastic business model whereby we create a very high barrier to entries through the combination of first-to-market technology combined with very broad, very deep expertise. And customers come to us and this gives us, over many decades, a lot of opportunities to upsell, to cross sell, hence to drive growth through technology and high-value services.

Growth Strategy

Grow the core

Now, this is a great business model and we have to position the company for growth again, looking at the future. The strategies around growing the core, creating more value and, in everything we do, drive operational excellence. Because we are such a complex company, 200 centres around the world, for this to work we've got to be really good at execution and keep continuous improvement on an ongoing basis.

In 'grow the core,' we have really refined a superb business model for the oil and gas. It is so good that the temptation, sometimes, is not to be hunting enough for additional opportunities. So, actually, by using SES, Smiths Excellence System, we are developing a method of systematically ploughing through the accounts, ploughing through the geographies, looking at high-tier opportunities, a market that belongs to us, and which is in competition's hands. I believe there is tremendous growth potential in our very core; we just need to be re-energising the workforce. It's not just a sales effort, it's also a core product development effort that we need to keep ploughing at.

This business model we have translated into other verticals over time. And everywhere we see an industry where you have criticality in equipment and complex root-cause analysis that requires service. This is a place where our business really fits well. There has been tremendous success over the years. Non-oil-and-gas is now about 45% of our business; it grew last year by 2%, as you know. We just have to do more of it by selectively applying the recipe, like Bill explained, around business strategy, around value proposition and, compared to the oil and gas, in the non-oil-and-gas we have still room to grow.

The third part, using that same logic, is looking at those regions where we see growth potential, either because we are being underrepresented or because, as it's the case in Asia, we see a huge shift of our customer-based activity going to China, India. And this will continue to go that way.

Create more value

Creating more value: so, over the years, through intimate relationship with customers, we have built that past and current knowledge of our customers' plans. And what we see is that, in the journey to create productivity for them, they are asking us for additional things. And there are opportunities there to have a more holistic approach, selectively, through bolt-on services. To

give you an example, the company bought an asset management consulting boutique out of the North Sea and we call this **JCAM** now. And we are applying the **JCAM** expertise to audit and propose holistic maintenance plans for units which are operating in very harsh conditions. That's an example where we can expand the serviceable, addressable market.

The concept here is really to provide end-to-end services that deal with criticality of equipment and for which the customer needs our expertise – not individual expertise only but also leveraging across our worldwide experience and knowledge across so many accounts that we have.

Digitisation is potentially disruptive for us. We have now integrated the fully capabilities of the forge. Disrupted means we have to act fast. And I'll talk a little bit of that later. More broadly, we have to continue to investing in adjacent technology, whether they apply to the broader scope of our services that we are looking at or whether they can be applied for our own processes.

Drive operational excellence

In everything we do, we have been leading the way by adopting the Smiths Excellence System, and I'll talk about this over the remaining of the presentation. We deploy advanced manufacturing technologies by being at the forefront of being curious and proactive in looking at various things. Like you have seen our employee of the month outside, the famous **Co-bot** – we need to give him a name, by the way. We're going to – or her – we're going to call her Wally. We're thinking Wally is, for us, a game-changing technology, which not only will help us significantly reduce the lead time and the manufacturing cost but also redefine where we locate our manufacturing around the world.

And finally, we will continue to optimise our effort of arbitrating where we're manufacturing around the world, with constantly looking for efficiency and cost, faster delivery time and enhanced consistency of quality.

Smiths Excellence System

Now, turning into the Smiths Excellence System, it covers six pillars. For us, it is a comprehensive framework which helps put the company together. John Crane has been fairly decentralised in its historical past and SES really helps us being more effective as a whole. And it is not an option. It is not just as grow the core and grow the value. We've got, strategically, to do it if we want to keep leading the way in our industry.

Technology

So I'll talk about a few examples, first around technology. We see the technology pillar as key in nurturing innovation, as well as streamlining our research and development processes. This will result – this results already in better research, as well as faster product development and more effective product introduction. So enough, actually, kudos to Tedd Smith – all those good results are not mine, they are from Tedd here, who was stewarding the company through stormy waters.

The result in FY2017 is that the team has worked with the broader Smiths at adopting best practices in R&D around the divisions of Smiths and came up with a unified methodology. This helped us be faster, more effective and because we're unified, better understand how we can leverage the other division capability. I talked about the forge but there is a lot to learn from connectivity and definitely some synergy on things like 3D printing.

Actually, digital solution, Samit really said it already, we are in the process of reviewing the breadth of the product offering. The capability of the forge enables us to actually see a possible path to market, which is much faster. And it's not just the capabilities from the forge. It's actually just we have been benefiting from individuals coming from Detection, for example, beyond R&D but also in a marketing field, who know how to develop those products for us. So we've seen here in this i³ coordination huge cost but also time-to-market gain in digitisation.

Advanced materials

Advanced materials: this is all about fit-for-purpose material science; we talked a little bit about that earlier. And this will be really another factor to increase the high barrier to entries, because it's going to be very hard for our competitors to replicate.

In FY17, by using the SES methodology, we have been more effective at bringing to market our new Aura gas seal family of products. These are the products which are the most high-tier, that operate in the most challenging conditions, temperatures of 200°C, pressures of 10,000psi, RPM of almost 17,000, and where the rotating parts are actually having a tolerance of a twentieth of a human hair.

We also, as a derivative of this line, have just introduced the Aura 120NS, which is specifically designed for the gas processing industry and gas pipeline. And it really addresses need which is about reducing emission control – gas emission control. We see that as huge business opportunity ahead of us. In that case, as you well know, last month IOCs and some NOCs have signed a protocol to proactively reduce methane emission; this is a great business for us.

On the other side of the spectrum, catering to the food and beverage, water and mining industries, we have developed the single-use seal. This is a very low-cost cartridge with minimum options for dimensions, very standardised about metal grades and components, that, in the food industry address the growing risk of contamination. The single-use seal totally eliminates the risk of contamination and we expect a great success for that product.

In the water and mining industries, the concern there is, because of the abrasiveness, there's a lot of changeovers. The seals don't last very long. And cost of changeovers can be really high and are actually eroding the margins of our clients. So the single-use seals is very quick, very fast to install and to swap. And we've seen a tremendous first response from our client base.

Innovation doesn't need to be very, very high-tech sometimes. Additive manufacturing, we talked about the Co-bot. It's all about reducing cost, reducing lead time and increasing quality. I'll give an example about this in the next slide.

Production

Production. So, in our complex network of service centres and manufacturing, with customers screaming for shorter lead time and the profusion of designs that we have, we have a practical, physical issue of setup times. Our batches are very small – very, very small. And we have had the teams between design, engineering and manufacturing, team up together using the SES approach and come up with a solution that digitises – the 3D digitisation of all our designs on the engineering side, seamlessly going through to 3D CAD manufacturing, automated upload to the CNC machine. We eliminate human behaviour into the programming of the CNC. It avoids

errors, it's going to save, we think, 5–10% of working hours and it will reduce our scrap level by 25%.

Supply chain

Let me give you another example around supply chain. Same story: very complex network, 200 service centres, customers screaming, and variety of product that are conflicting with the idea of lean inventories. So under the brotherly leadership of Philippe, we have worked at three directions. First, aggressively standardise the parts, the references and the parts themselves; we are still along that journey. Second, we have put together a shared view of all our inventories around the world, creating a virtual clearing house so that people could share their parts. And thirdly we have been working with our supply chain, our suppliers to impose on them just in-time delivery so we could avoid, as much as we could, buffer stocks. We also are working in the movement, or the optimisation of the movement, of people and goods on the manufacturing floor, which will result in a further reduction of WIP. Under the stewardship of Tedd, last year the working capital inventory went down by 12%.

Creating the Future

So, for the future, we have this great business model – sorry, I'm like Chris – I'm a – little bit of water. We have what we think is a balanced growth strategy and the discipline of SES to make sure we translate these great business plans into superior results. Growth will come from technology differentiation. This is the core of our business model because we are so intimate with our customers. Because we are so engineering-minded, we are able to capture growth through bespoke solutions.

Technology differentiation

We will continue to explore and aggressively deploy disruptive technologies as relevant. And additive manufacturing is going to be the key between automation, between 3D printing and other technologies to completely redefine the competitive paradigm. Digitisation, for us, is a real addition to our strength. As Andy says, we have the greatest real estate in the industry: 3.5 million seals and ancillary products out there. The long-term vision is to make them smart, so Sense is our current effort to start on that journey.

The beauty of this is that, complementary to the unmatched network of customer relationships we have, more than anybody else in the industry, we will complement that with real-time big data harvesting, through our algorithm and through artificial intelligence and data, the big data, feeding the beast. This will put us in an even further competitive position, sustainably in the industry. Actually, I believe that artificial intelligence will bring us some views that we have not seen before. The traditional relationship of John Crane with its customer, which is mostly plant-by-plant, facility-by-facility trust building, is going to be complemented by a corporate-wide relationship with our biggest clients, who are more and more subject to higher return on capital.

Increasing digitisation

This technology can be derived in many, many ways commercially. Today we think about diagnostic and maintenance optimisation but my experience in the smart grid tells me that we will, over time, see many more ways of engaging with our customers using digitisation.

High proportion of aftermarket and services

A high proportion of aftermarket – this is our bread and butter, this is our business model. We will continue to strengthen it, thanks to the proximity and trust. We just need to expand our customer base; we shouldn't be shy about that. And we will continue to serve end users' evolving needs via new technology, thinking about end-to-end services.

Sustainably competitive and asset light.

The style in which we will execute will be all around being sustainably competitive and financially agile and asset-light.

Talent development: we are a people's business; it is a key driver. We will continue to expand our corporate knowledge and library of expertise and domain expertise. And SES will be the core engine about how we continuously will improve our processes so that this strategically sound plan can really result in superior results. So, with that, Andy, I will give it back to you.

Q&A

Andy Reynolds Smith: Thank you Jean. I was delighted to see how close the divisional chiefs are that they're now even sharing the same bottle of water, as well. You're in the right business, Chris, but some great presentations there, thank you. I particularly loved the way that Samit described the physical world as non-digital. All a matter of perspective I guess but there was some fantastic presentations there.

I'd like to open it up to the final round of questions, at least pre the cocktails and drinks, for any of the gentlemen on the stage, plus any of the other presenters today, including Philippe, who hasn't presented but you've heard a lot about. The Smiths Excellence System. And also Sheena, Sheena Mackay, our Group Head of People, HR, and she's been the architect of the people and leadership development plan, including some substantial moves on diversity and inclusion. We're actually joined by Gretchen, who is one of the few PLC Group Heads of Diversity and Inclusion, I guess. So any questions in any of those directions, starting right at the top with me and Bill, please feel free.

William Turner (Goldman Sachs): Hi. Hi, William Turner from Goldman Sachs. One business that we haven't talked about much today is Flex-Tek. So the first question is, is the reason why that we haven't spoken about it is because it doesn't quite fit in your 75% pie? Or is – you've made an acquisition there recently, so kind of like just a bit of mosaic theory there? And then the second question is, what is the output for that business and the strategy **how** markets are performing, like, incredibly well, so?

Andy Reynolds Smith: I expected the question but the way we have tried to construct today is less around, "Let's talk about five divisions," and more around, "Let's talk about excellence, let's talk about excellence and new product launch. Let's talk about refocusing how we create value through acquisition and so on." So, Flex-Tek wasn't left out for any other reason than we really themed this around some core stuff.

Flex-Tek, incidentally, is the highest-growth business in the group at the moment. Some of these guys are hoping to change that quite soon. Flex-Tek's been the most consistent deliverer of results and we've just completed an acquisition in Flex-Tek for the first time in many, many years.

So the lack of Flex-Tek specific presentation was not intended to send any signal. You saw it mentioned throughout the year. And Tedd, I don't know if you'd like to say anything specifically or...

Tedd Smith: No, I mean, I think we're on course to do what we're supposed to do this year, so, we're pretty optimistic about that.

Andy Reynolds Smith: Yeah, I would just say that there's a great deal of things that some of the other divisions are working towards, particularly in terms of Flex-Tek's financial results. Good growth, great margins, really high ROCE, really strong cash flow, and it's an important part of the business that we are continuing to develop as we push all five of them forwards.

William Turner: Great, great, that's good to hear. I have one more follow-up question. This is on John Crane. So, if you look at the R&D that John Crane has, it's substantially lower than the rest of the group. Can you explain kind of like why that is?

And then also, are you a little bit concerned given the facts you mentioned? Digitalisation is going to be disruptive and the OE business probably needs the biggest pick-up, that it's kind of been underinvested in the downturn. And where can that R&D go to?

Andy Reynolds Smith: Yeah. Okay, well, I'll give a very brief answer and then I'll let the experts speak. Yeah, Crane's R&D percentage of sales is 1–2%, in my mind far too low. I think Jean hit on the precise reason for that and that is because in the past, because Flex-Tek had been – excuse me, John Crane had been performing really quite well, perhaps there was a lack of aggression in thinking about expanding into other markets, into digitising. So we're now putting together, as part of the overall innovation framework, a much more comprehensive view, which will include a higher level of investment in R&D, in both new products, new materials, new coatings, expanding into digitisation. Jean?

Jean Vernet: Yes, I mean, I've worked with large R&D organisations through my career and my observation is indeed I think we are sub-optimal in terms of budget for research, at John Crane, research and development. I think the combination of having implemented SES as a best process practice, together with opening up to the opportunities ahead of us will result in completing our portfolio of developments and accelerating as well. We talked about digitisation. We cannot wait for ten years to implement a broad-base digital product offering. So the combination of a richer pipeline and a faster pipeline will probably bring us back in line with the peers and potential peers that we will be competing with.

Andy Reynolds Smith: Yeah. I mean, bluntly, I don't think it'll be at 6%, which Medical and Detection are at but one is too low and the plans are in place.

Alex Virgo: Hi, sorry, it's Alex Virgo, Bank of America, a quick one, just a follow-up, I guess, on – just a follow-up on the last question. You mentioned new products in John Crane, is that an extension of the product portfolio, as you mentioned there, with respect to digitalisation, or is that moving beyond seals?

Andy Reynolds Smith: No, I think we're – the team's looking really on two levels. Part of it is the digitisation piece: how do we move towards smart capability that can contribute to higher efficiency in an installation in a refinery, for example. The other piece of it is we really like the

business characteristics of John Crane. You kind of fit a seal that costs \$50,000-100,000 and over 30 years you replace it and refurbish it every two, three, four years depending on the environment. We really like that business proposition.

There are other mission-critical-style products that we continue to look at from an adjacency point of view, as we try to strengthen our position in some of those critical areas of refineries and other installations. So this is not just seals. In fact, there is a significant portion already that isn't just seals.

Jean Vernet: Yes. And I would add to what Andy just said that our foray into non-oil-and-gas verticals will come with fit-for-purpose products. And so it's not non-core in the sense that this is part of what we know how to do but it means completing the portfolio as well. We've got to be commanding in those verticals in the same way we are commanding into the oil and gas.

Andy Reynolds Smith: Yeah, I think the balance that we're trying to strike at the moment is really around pace because you can make any business better, we can develop any business, you can invest organically in bringing stuff to market but it does take longer. So the parallel piece of this is, as I said earlier, we do continue to look at areas of acquisition opportunity that could either accelerate and be complementary from a technology, geographic or customer point of view as well.

We had a question there, yeah.

Mark Davies Jones, Stifel: Hello, it's – hello, it's Mark Davies Jones at Stifel again. If we can just stay on Crane for a second. We talked a lot about internal improvements but in terms of the external demand conditions, obviously it's been very difficult for a long time. Looking into 2018, is there any sign of your customers, particularly in the downstream business, opening the spigots a little bit? Certainly my oil and gas guys seem to suggest the investment climate is getting a little better for that customer group. Are you seeing any of that and if so where, regionally?

Jean Vernet: So we have started to see, not just this year but, as Andy said, in the second half of last year, a slight improvement in aftermarket activity. Most of our customers had been postponing critical maintenance in the crux of the downturn and there was a little bit of catching up. Now, with the oil price above \$60 and the key is level but also is stability of oil price. Some of our customers are talking about dusting off some fees that they had postponed three, four years ago. Now, you won't see that coming right away because there is a certain inertia into the process itself but certainly, you know, the next two or three years, we should see some of those greenfield projects coming back. As a matter of fact, the petrochemical investment in new facilities, you will start seeing some of that next year, a significant step up from – I am not talking about John Crane, I am talking about the industry itself, a significant step-up in investment in new petrochemical facilities next year.

Mark Davies Jones: Andy, can I ask a very broad one as well?

Andy Reynolds Smith: Of course.

Mark Davies Jones: You said earlier that it's all about execution and delivering growth and clearly that's what a diversified company needs to do to justify itself. You're either a high-quality multi-industry company or you're a conglomerate. But beyond that sort of execution phase, if

we're thinking about the medium term, how do you feel about the portfolio now? Can you really run these five very disparate businesses in the longer term as a unit?

Andy Reynolds Smith: Yeah, thanks Mark. I think there's two pieces, really. First of all, many people have said to me, "What is it that binds Smiths together? Is it buying certain commodity groups?" We talked earlier about the way we run the business with a common operating model now to drive and measure performance, irrespective of end market. I've got a huge degree of sympathy for how difficult it is to run a diversified business when you do everything differently in every business, and measure it differently, and drive performance differently. It's really hard. Then you really ought to be moving in a different direction. I think the power of our operating model now is it does enable us to drive and measure performance in a consistent and common way, whether it's Chris supplying an infusion pump or whether it's Jean supplying a seal.

As I said earlier, it really then comes back to the parallel path of thinking on capital allocation. We're driving very hard to improve all of our businesses, to improve the market positioning of them, to improve the competitiveness of them, to improve the level of innovation in them. And that's good for all seasons. As we work through that, we are thinking constantly about what are further options for development and scaling the business and to create a bigger, better, more focused Smiths in the future. So we are thinking in parallel about those broader capital allocation decisions, which really boil down to risk, return and time. And we'll continue to do that. I won't lay out any roadmap clearly but we'll continue to do that because, over time, you can't do everything big.

Denise Molina, Morningstar: Andy, I just want to ask you – you've talked a lot about the top line, I just want to ask you about margins, actually and what you think about – if you could rank the opportunity for lowering your manufacturing costs, rank the low-cost countries, modularisation, automation, consolidation of your manufacturing footprint. Is that something that you're looking at?

Andy Reynolds Smith: That's a really good question, actually. I mean – but first of all Smiths isn't really a manufacturer, a high-volume manufacturer, although we do in some cases do that very well. We're essentially a designer, a seller and an assembler. We buy a great deal in and we design solutions for customers and we ship them mostly in quite small quantities.

Less than 5% of my total costs are direct labour. So, this isn't a business that chases low labour cost manufacturing footprints. You could, but the benefits are far higher in being a more innovative company, selling more effectively and growing more effectively. That being said, of course we will continue to refine our footprint, particularly as some of the technologies, like the Co-bots that you saw out there, start to bring some fruit. Most of that is about quality and repeatability, however.

So I think the way we're looking at this is it's about designing better, bringing stuff to market better and growing. And then creating a capable manufacturing and assembly footprint that works for us. So we need to drive productivity. We've got a very, very clear objective of enabling ourselves to drive productivity to offset inflation and allow us to continue to invest at the pace we need to in R&D without going backwards.

And that was the aim of the margin ranges that you saw today, to demystify that. We haven't talked about a Group margin range. We've had margin floors, as you know, historically and my message around that is, look, I'm at 18%. As markets return and as we start to grow, I expect to have to continue to invest in the business. Therefore I'm not expecting, in the short/medium term to move, as a Group, much differently than the range that Bill spoke about today. I'm not expecting to go backwards to fuel my growth, however. This is all about growth for me now.

Denise Molina, Morningstar: Can I ask one question, actually, it's on Digital, because I think – you think about algorithms and you're trying to – these forges are really interesting but if you – algorithms are really sector-specific, application-specific even. So I'm just wondering like if you have the kind of engineering resources, or the people in place, to do that sector-specific kind of engineering on the software side? I think what you have now at John Crane or the other divisions may not be as software-focused in terms of the engineering.

Andy Reynolds Smith: Okay, do you – maybe the two of you have a go at that.

Samit Basu: Yeah, so it's a good observation. The truth of it is that even though the algorithm – designing an algorithm for a particular application and a particular sector requires domain knowledge. The tools and the sort of nuts and bolts that you build those algorithms with are essentially standardised and they're very common. So, for example, Sondre Scattar[?], who works for me, he's my algorithms guy, he's been designing algorithms for 18 years. And when he worked with the – he's working with the John Crane team right now, digesting the data, working with their experts, so that he can understand what the signals in the data actually mean. And then he can bring to bear his expertise in algorithm design to actually construct a predictive algorithm specifically for seals. And he's able to do the same thing in Medical. So what we've seen is, is that even if you don't – as long as the divisions carry – and they definitely do – the domain-specific expertise, then we can bring the algorithmic tools to bear, it's really just that we need that partnership.

Andy Reynolds Smith: Yeah.

Jean Vernet: Yeah, totally agree with Samit. We are not dealing with new science here, it's a little bit the building blocks that Keir – the Lego blocks that Keir was talking about. It's a combination of getting the right balance of product. The real advantage we have is access to hardware, so if we can harness that data that nobody else will have access to, in aggregate, the tools of how to deal with it is pretty established. But the other part, which in my view is very critical, because we are dealing in a conservative industry, is how to best meet Silicon Valley with oil and gas, how to pace the commercial effort, find the right value proposition for our clients, educate them and really be able to segment, to productise what we can bring to them.

I mentioned earlier, we picked some brains from Detection but actually the combination of Richard, as well as Roland, we had discussion about this because you guys in Detection have been through this many years ago, so there is a lot to learn from that. But the technology itself is not new.

Andy Reynolds Smith: Any other thoughts before we close?

Closing Remarks

Andy Reynolds Smith

Chief Executive, Smiths Group

Okay, well thank you very much indeed for today. Just a couple of thank-yous from my side, before a couple of closing remarks. First of all, thank you all for spending the valuable time this afternoon to listen to our story a little bit more. It's something that we're getting more and more inspired by and you know, I hope you heard some things today that you liked.

I'd like to make a special thanks to the Smiths team. I'm not going to call everyone out individually but what we saw today, the way you told the story, and as they say, it had the added benefit of being true because, as it said at the end of Richard's video, this is today. So what you've seen today is today and what you've seen is the plans that are in place for the future here. So I'm enormously grateful to the presenters today, who just did an absolute crackerjack job. Thank you. And to the guys in the back; I cannot see you because I'm completely sun blinded here but just a fabulous job really, thank you. Thank you. Absolutely great.

We've set out to create something special here. And I hope you've seen today that we're thinking about this and we're now able to target our decisions, target our positions in markets far, far more effectively because we understand them better. We know what sort of businesses we want to invest in, we understand those characteristics and, most importantly, we've got a very clear eye when it comes to executing, to getting the job done.

What I would say about this team, though, the Smiths team, is this is a team that isn't afraid to look in the mirror, either. We have an ambition, we have a dream, we have a vision of what we want to achieve, to become a world-leading technology company and build on the great foundations that are now being put in place. But this is a team also with the humility to look closely in the mirror. They do understand that we're only as good as our last gig. And that's been the most refreshing thing for me, in my last couple of years, is working with a team that can see the future but knows it's darned hard work to get there. And it's step by step every day.

We really do mean business as we're taking this business forward. And I hope that in some small way, over the last few hours that you've so generously given your time to, that you've started to share in some of the capabilities, some of the things that we're doing to bring the story to life, and some of the confidence and momentum that is building in this business to deliver.

So thank you very much all. We'd be delighted if you have a moment to join for a couple of drinks before you head off, but thank you all very much. To my team in Smiths and to all of you, much appreciated, thank you.

[END OF TRANSCRIPT]