

**SMITHS GROUP PLC INVESTOR DAY  
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**CORPORATE PARTICIPANTS**

- Philip Bowman            Smiths Group plc  
                                         *Chief Executive*
- Stephen Phipson        Smiths Detection  
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- Bill Mawer                Smiths Detection  
                                         *President - Diagnostics*
- Cherif Rizkalla         Smiths Detection  
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- Mal Maginnis            Smiths Detection  
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**PRESENTATION**

**Philip Bowman:** Ladies and gentlemen, good morning and welcome to Wiesbaden for today's presentation by the Smiths Detection team. I'd like to thank you for joining us here last night and again today. I know that it represents a significant commitment in terms of time. But I hope that you find it all worthwhile and I suppose probably most of us enjoy being away from the office for the odd day and not having to look at the torrent of red on our screens.

On joining Smiths Group a little while ago, it was clear to me that detection is a great business. It's one of our world leading businesses, the other one being John Crane. And Smiths Detection is more than twice the size of its nearest competitor, having been built from a very small base over the past seven years or so. It enjoys this leadership position because it owns some very strong technologies and has consistently invested in research and development to remain at the leading edge of our customers' demands.

Another aspect that sets this business apart is its presence in all the main markets. For example, it serves airports, cargo screening, military, the emergency services, amongst others. And none of our competitors businesses have this sort of scale or this sort of coverage. You'll hear today how we've benefited from our ability to transfer technologies to different applications.

Smiths Detection has a strong track record of growth. Its growth is fundamentally driven by threats to which governments typically respond by setting regulation or legislation. We work closely with governments in developing technological solutions

to help protect against these threats and better technology will often bring operational improvements, such as greater throughput of containers at ports or shorter queues for passengers at airports.

I've also been struck by the strong route to market that this business has. For example, our largest single customer is the US government. Our knowledge of their needs as a customer coupled with our ability to leverage technology has enabled us to continually refresh our product offering to them and to meet or indeed exceed their expectations of us. And this has built us a strong reputation for strong quality engineering and a strong reputation also as an innovator.

Another competency in Smiths Detection is its product engineering capabilities. In essence, this is the ability to take complex scientific analytical procedures, often developed in the laboratory, and package them in equipment which has a very simple user interface which enables relatively unskilled operators to obtain consistent, reliable results time after time.

Furthermore, our engineers are expert at making this equipment rugged so that these sophisticated laboratory tests can be applied reliably in the harshest of environments, such as in war zones. Overall, this is a great business with continued growth opportunities, even in these uncertain times, which make for an attractive investment case.

So against that backdrop, why are we holding this event today? Our focus is on providing you with a much closer look at Smiths Detection. And I should also say that today is not a day to talk about current trading, as we are not issuing a trading update. The objectives for today's session are to outline the business strategy for detection and to examine some of the dynamics and drivers of future growth.

The strong growth experienced to date has brought fresh challenges, such as dealing with the irregular nature of the order flow and managing the working capital demands. And we'll explore some of these issues in greater detail this morning.

The success of this business is its technology and its lifeblood is the R&D investment which we have consistently grown to drive sales. We will update you on some of the latest R&D developments and there'll be an opportunity to examine some of our latest products at first hand.

We're here at Wiesbaden because this is Detection's largest manufacturing site. Some of you may have been to the site before, but a great deal has changed in the past two years. The presentation suite that I understand was used on the last trip has now been turned into much needed office space, which is regrettably why we are holding these presentations at a hotel. In addition, we have just completed a brand new 4,000 square meter production hall which opened last summer and we wanted to show you the quality of our production facilities and how they've been expanded to meet demand.

Importantly, we also wanted to give you the opportunity to meet more of the management team. Most of you will know Stephen Phipson, who heads up the business, and I'll ask Stephen to make the introductions in a moment for those of you

who did not get a chance to talk to his colleagues informally before and during dinner last night. At the end of the presentations, we'll have a question and answer session, which I will moderate. And without more ado, Stephen, over to you.

**Stephen Phipson:** Thank you very much, Philip, and good morning, everybody. I just want to first of all introduce you to members of the team and then we'll go through the objectives again. First of all, we have Bill Mawer, who looks after our diagnostics business. And I will be doing the majority of the presenting today and then we'll ask the guys to come in and do their specific parts of it. Cherif Rizkalla, who heads up the security and inspection part of our business, and Mal Maginnis, who looks after the military and emergency response part of the business.

We're going to run through this presentation. We're going to have an opportunity for Q&As at the end of the presentation. There will be a coffee break in the middle so that we don't completely do death by PowerPoint this morning. And the Q&As will be headed up by Philip, who will chair that session for us. Then we're going to take a transfer over to Wiesbaden so we can give you a tour of the facility and we can then show you some of the new, exciting products that we have. And we'll have lunch there and then we'll have an opportunity to part, we think, on time between 1.30 and 2 o'clock this afternoon.

If I go back here. Let's talk about the investment case again and so we just talk about this in some more detail. Philip mentioned this is a market leader and a growth business with high barriers to entry. This is a government regulated business. We'll describe to you today the dynamics that underpin that and we'll describe to you the actual framework in which we grow our business. And you'll understand through that process the barriers to entry that exist in this marketplace.

Leading edge technology is key to what we're doing. The R&D pipeline, as Philip mentioned, is absolutely fundamental. And being able to deploy that effectively into these environments, we will be able to explain that to you today in a little bit more detail so you understand what drives that technology drive in the business.

We believe there's a positive outlook. We have to think of what the timeframe is here, so longer term timeframe for governments. They are concerned with events, they are concerned with the changing nature of the threat that's out there, and we have to tailor our R&D programs to suit that. And we'll describe that to you.

We have a diversity of markets. If you compare this business to its competitors, we're focused along a broad range of different areas of the security market, whereas most of our competitors focus on one particular technology set, or the airports for example, as a single market.

Margins in this business are set to remain strong, but the sales volumes, as Philip mentioned, will vary. It's a contracting business with government and it depends on which cycle of government spending we're in, where the technology is, and what the general market conditions are, what kind of events we're trying to prevent in the future.

We believe there's significant value creation opportunity in adjacent regulated markets. And we'll describe to you today some of those new and exciting opportunities, particularly the one that we are talking about in the diagnostics area.

And our growth range, as we said, our target for this business is between 10% and 12% a year. We take this over a three-year period, so it can vary quite considerably within that. That's a typical government cycle. And our margin target is between 17% and 20% in the business.

What does it look like in terms of our performance to date? If we look at last year, we achieved sales of GBP509 million in this business. That showed a 12% growth on its prior year performance. Trading profit of GBP93 million, which was a 2% growth. We invested a lot of money in R&D last year. We continue to do that through this year.

And our operating margin was around 18%. And we can see there a consistent pattern of growth right from when we started the detection business. But underpinning that, underneath that, you'll see quite a lot of variability in the pattern of order flow and contract wins that we actually obtain in the business.

The best way to describe this, the acronym that describes it most accurately, is CBRNE, chemical, biological, radiological, nuclear and explosive detection. It's used by governments around the world as a description of a highly regulated security market. We focus on this. It's the classified part of it.

Most of the threats we're looking for are subject to some kind of classification by governments, so our relationship with governments has to be, by nature, a very close one. We're nearly double the size of most of our competitors. In fact, when -- the exchange rate -- most of our competitors are American. When the exchange rate was different we were nearly three times the size of our nearest competitor.

But we consistently remain the largest single competitor in this market space for these government regulated systems. We're not competing in the space that's involved in regular commercial security, so we're not doing access control systems, we're not doing video CCTV networks. We're really concentrating this business within the framework of government regulated security.

As a result of that, because of our close relationship with governments, most of the time we're taking a prime contractor position. So we're a small prime is a good way of thinking about Smiths Detection. 85% of our sales are dependent directly on over 100 governments around the world, so we have to maintain those close relationships in many different countries and in many different environments.

And that's a challenge for the business and one that we've become quite expert at in many cases. This is a real advantage of Smiths Detection over its competition, is its route to market, its global spread and its relationships it has then with the government regulators around the world.

What does the market look like? If we look at the total landscape of security, what does it look like? It's been subject to many definitions because most of the time

security was embedded within defence contractors or infrastructure contractors. But over the last couple of years and particularly since 9-11, there's been a lot of work by external market research companies in trying to define exactly what the security market looks like.

We're a little bit outdated here. It's actually in US dollars and it's \$140 billion is the right number. And we have a rather optimistic exchange rate on this particular chart, which is somewhat different now. But if you think about it as \$140 billion to \$150 billion market, it takes us right from the left-hand side of the chart here, from guard dogs and fences, CCTV systems, et cetera, through to the sector that we actually access, the government regulated CBRNE part of the business, which is around about 4% of the total security market. And this is the focus of our attention and this is where we intend to continue to grow our business.

Within that detection sectors market we have sensors, which is the core basis of what we do, we have the ability to integrate those sensors together and we'll show you examples of that. We can then network them into wider systems. And eventually this business is moving towards total system capability, delivering that capability to airports or to critical infrastructure rather than just delivering boxes that can find bombs or chemical weapons.

We are known as an airport business. You will see most of the brands in airports. You'll see Smiths in just about every single airport in the world. There's around about 4,000 commercial airports. We have equipment in the majority of them. But transportation, or that aviation sector, is around about 40% of our activity.

We have a significant ports and borders business where we do cargo screening. We'll demonstrate that to you today. We have an important part of our business in the military and first response, emergency response area, which we will describe to you. Critical infrastructure is a catchall for things like sporting events and insurance driven type markets, which are just emerging now. And then we have a few other areas of non-security we're able to take our technologies into those markets and obtain some advantage there.

If we look at last year, around about 40% of our business was with the United States. As Philip mentioned, this is primarily with the United States government and this does vary in terms of scale year on year. This year we're looking more towards more business with the American government than we did last year, for example.

The EU accounts for about a quarter of our business. And the rest of the world, the other governments around the world, the balance. So you can see a truly global spread in what we actually do. We have eight manufacturing centres and today you'll see one which is our largest one. In fact, I think it's the largest Smiths Group manufacturing site if we take all three locations in Wiesbaden together. And we have sales to about 160 different countries around the world.

We produce our research and development programs in six different countries and we integrate those together in our vertical organisation structures. About 2,300 employees and a large population, a large group of engineers and scientists in this

business to be able to produce the kinds of technologies we need to counter the threats that the governments are interested in.

So quite a different mix in terms of a manufacturing company. Our strategy is not to be vertically integrated in manufacturing. We actually integrate systems. We take subsystems from subcontractors and integrate them in our factories. We concentrate on software and we concentrate on developing that capability rather than the primary manufacturing.

We have one or two instances you'll see where it's absolutely important we control those core processes and those are integrated in the plants. But generally speaking, we're an integration facility, is the way that we run this.

This chart illustrates where our service centres are around the world and our manufacturing charts -- manufacturing sites and our R&D sites. You can see that most of the manufacturing is centred in the European Union or in the United States or Canada, so it's that sort of bias to the business.

It's worth making the point here about low cost manufacturing. Governments in our business are very reluctant for us to manufacture these places in unfriendly government territories. They approve our facilities, they approve our people, and it does limit our ability to move the actual final assembly of a systems and products into low cost manufacturing areas.

We do, of course, outsource the primary components in the subsystems, but in terms of the final integration, and particularly the software side, we are subject to classified rules of government. Our sites are normally cleared sites and so we have to produce those in countries where the governments feel comfortable.

How we're organised. We've been through a couple of different iterations of our organisation, from regional structures to where we are now. We now have a system of global verticals. We have our security and inspection businesses, which covers, if you like, the non-defence part of security, headed up as a vertical. We have military and emergency response.

We joined those two businesses together because in many countries around the world, you find the emergency response forces are responsible to the defence agencies. It's not in all countries, but in certainly a lot of them. So the routes to market are similar. And we have a sales operation based in Singapore, which covers our Asia Pacific sales to places like China, Vietnam, Thailand, et cetera.

We also will describe to you today a couple of strategic investments we have in Smiths Detection for the longer term. One of them is diagnostics, which Bill will describe to you, which is really a development from what we we're actually investing in our biowarfare area inside our military business. And we have an investment in Cross Match Technologies, which talks to the biometrics part of the market.

We then have all the normal functions. The one thing I will point your attention to is government relations, where we have to spend a lot of time and effort lobbying governments, being involved in government committees, providing for leadership, in

some cases, in terms of the counterterrorism strategy of the governments. And so that activity within Smiths Detection is fairly unique within Smiths but a very high priority in terms of the way that we go to market and the way that we help governments form opinion about the right kinds of technologies to deploy to prevent future events.

We believe there are growth opportunities in all of our markets over time. We think the security issue remains high on government agendas. And I know that there's concern that we don't have many of the large public events anymore. That's because a lot of this technology is out there preventing these events happening. There's a constant evolution of the type of threats that governments want to prevent and we're at the forefront of providing systems to be able to provide that protection to the critical national infrastructure.

So it's a high political item on the governments' agendas, continues to be. If you look at the investment for the Department of Homeland Security going forward, you will see that even with the change of administration there's a continued desire to invest in this area. So we believe it's a long term high agenda item on the government's agenda.

There's a continuous technology drive here. I think one of the benchmarks to judge the performance of the business, and as Philip rightly said, is its R&D pipeline, how successful those new products are coming through. You'll see some examples of those today. And a lot of this is about more functionality and integrating different types of capability together in new systems, more integrated systems.

The profile of the business is changing; contracts are getting larger. As the business matures and as regulation matures, we're starting to see contracts becoming larger. We've particularly seen that recently in the ports and borders market where the United States government last year legislated that by 2012 100% cargo screening would be mandated.

We don't think it's going to quite get to 100% but it's certainly encouraged a lot of governments to start to invest in the infrastructure to be able to comply with that kind of code going forward. And we see those drivers increasingly affecting the size of contracts; they're getting larger and larger. Rather than buying two or three systems, they're buying complete infrastructures for a port, for example.

The other change we're seeing in our business is a move towards integrated systems. And it is about delivering capability rather than delivering boxes, so people are more concerned with a more integrated system. For example networking of machines together in an airport to provide one physical layer. So we are developing some of that capability internally and of course we team with other contractors that can bring that to the party if we need to do that.

As a result of the larger size of these big projects, the dependency on growth [dismiss] detection on winning these large projects is quite important. So we follow that very, very closely when we review our business. And if you look at the pipeline of that, it actually is very, very critical to the way this business grows in the future.

So the variability in our sales will be driven by the scale of these large contracts going forward.

The economic downturn will influence the procurement in some markets sectors, slowing some of the growth rate, particularly as we see a different structure in different countries. And if I can illustrate that, in the United States the US government for an airport will buy -- will regulate the equipment, they will purchase the equipment, they'll deploy the equipment and they'll operate the equipment.

If we take the United Kingdom, we have the regulator regulating the equipment, we have a private operator making the decision to invest, which would be people like BAA for example, and then we have the regulator controlling the way that technology is used and the upgrades to that technology. And in some cases that will cause delay in the procurement of those projects until the government absolutely insists on a change-around of technology or new events means that new types of systems have to be deployed.

Obviously this is an attractive market sector. As the scale of the business grows and as the size of the project grows and the nature of it being fairly high profile on the political agenda means that competition is getting more aggressive. So I wouldn't pretend that's easy at all. The trick there for us is to continually be able to innovate and provide new systems and new capability.

And we expect in this time, as this market is full of small companies which will find it difficult to fund their operations going forward looking for growth. And so we expect this market to consolidate further, particularly in the current environment.

Let's just take it down a level now and look at these different sectors within our business and understand some of the drivers. If we look at the transportation area, the aviation security part in particular, it's an extremely highly regulated area. The machines vary by regulator. The capability that we're looking for, the types of threats will vary by the regulator. So to remain close to them and understand what those threat risks are is extremely important.

Governments tend to be event driven, so they tend to change things or improve things when they are faced with an event to prevent that event happening again. So being at the right place at the right time is important, understanding what the threat list looks like is important, understanding what's concerning governments is important in developing the right technologies to be available to prevent events happening in the future.

We're starting to see now a much more scientific approach to this. In fact, people are not just concerned about finding the right sort of threats at airports. We're also concerned about the passenger experience, we're concerned about throughput, about making it efficient, about, where possible, making it so that it's not an obvious security regime and trying to smooth that flow. You'll have seen evidence of that in Terminal 5 in Heathrow, for example, where we've got automatic conveyer lines installed for the passenger checkpoints.

There are many examples of programs around with different governments to try to ease the flow. The driver there is that if you look at it, there is a number of new airports and terminals being built around the world but, generally speaking, passenger traffic doubles every ten years. The infrastructure is simply not in place to cope with that if you continue with the same sort of checkpoint regime.

So the deployment of new technologies to speed the throughput and make the experience better for the passengers is a very important one, particularly for private airport operators who tend to be fined if they have people queuing in security lines for too long. So there's a great driver there to try to improve the efficiency of these systems in transportation.

We also have other challenges in transportation. If you think about metro networks, London Underground for example, or other metro systems, you're dealing with an enormous amount of people. You can't possibly have 3 million people going through checkpoints every day. So the development of technologies that are able to remotely screen people as they go through to ensure that they're not carrying threats is another driver for the business going forward.

In the ports and borders market, this is a somewhat different one. Largely unregulated, this is really a customs business or has been a customs business, where customs authorities were concerned with the discovery of contraband in containers, particularly seagoing containers. The old way of doing that was to open the containers up, send dogs in, and look for contraband. And of course the deployment of high energy x-ray allows them to scan these systems without the need to open the containers.

There's a change going on around the world. The agenda of customs is being merged with the agenda of security. We often see now border protection agencies and customs agencies coming together under one agency. The United States is a classic example of that. So increasingly these systems are being called upon to look not only for contraband but look for security threats.

And as that transition happens over the coming years, we expect this sector of the market to become more and more regulated, which means that we'll be much more involved in actually determining which kinds of technologies that are more appropriate for the kinds of threats the governments are interested in.

Up until now, if we look at the customs area, that's been an easy one for governments to delay. It's not the counterterrorism strategy, it's not highly political. Yes, it does make it more efficient, but if there's a large structure -- large infrastructure project out there, the governments feel much more comfortable about delaying those kinds of projects than they would do on the security agenda. So moving towards more of a security market in the customs area helps us in ensuring that business grows into the future.

If we take our defence business, it's a completely different dynamic. We have long term cycles. Ten years is not unusual to develop a new product or a new capability. Typically in an airport market, a new technology takes around three years to get

deployed. So that's the difference between the sort of length of time that we're involved in the development cycle in the military market.

In the CBRNE world, the principle customers are the Canadians, the United States government and the British government. And between the three of them, that triangle has been absolutely at the forefront of determining what kind of chemical and biological detection capability that the armies of the world actually require.

We've also had some fluctuation in budgets but, generally speaking, this is a much more stable business in terms of growth. We see a long term view of where the defence area is. CBRNE tends to be a fairly safe budget area within the defence budget, so we feel quite comfortable about where the defence spending will affect the growth of the CBRNE business as far as the Smiths Detection is concerned.

So let's take a look at CBRNE in a little bit more detail and what that actually means. We have a number of core technologies in our business which address each of these different areas. In the chemical area we use IMS, IM ability spectroscopy. We're a world leader in this particular area, our trace detection business, and we use chemical trace to look for chemical weapons in the military area.

We also use Fourier Transform Infrared, another technique that you'll see today, where we can identify strange materials or materials that we are unclear of exactly what their origin or composition is, and it's particularly useful technology for first responders and hazmat teams and that kind of thing.

In the biological area we have a lot of our systems based on PCR type technology. Today, Bill will explain to you a new variation of that that we've been able to develop with the University of United States.

In the RAD and nuclear area we concentrate on high energy x-ray spectroscopy. We're also looking at other areas of the radiation detection area which we can bring into the business. This is an area where we think further investment in Smiths Detection is warranted to access a growing market.

On the explosives side, we have automatic explosive detection systems based on x-ray, including the high energy part of the business. We have new technologies like millimetre-wave imaging and you'll be able to see just how that's performing when we do the demonstration over at Wiesbaden. And we have another variation of our trace system which will be the sort of swab system that you see at the airport where they take swabs from your bag, which is produced in Toronto where we are again a world leader in that particular area.

The competitor set, I think the first thing, the most important thing from this chart to take away is that we do not have a competitor with a position in every one of these technology sets. They tend to concentrate on one or two particular areas and we don't have someone that's addressing across the piece as we do.

Most of the competition is American. There's one or two exceptions to that, particularly the Chinese company, Nuctech, which concentrates on the x-ray part of the business. And you can see it's rather a fragmented market in many respects.

So again, the idea of consolidation going forward does definitely apply to this market sector.

DHS is one of our major stakeholders in the United States, the Department of Homeland Security. It has a total budget of around about \$50 billion. And you can compare that in scale to the defence budget of around \$550 billion to \$600 billion, so a relatively small budget in terms of American government spend.

There's a number of different agencies within the Department of Homeland Security. The three ones of interest to us, three of the five that are interesting to us that are of particular importance, are the TSA, the Transportation Security Administration, which governs the transportation networks in the US and the regulations around that and is the procurer effectively of the systems that go into the airports. So every time you go through an American airport and see Smiths systems, that's a TSA regulated, purchased and operated system in the US.

For us, there's new trends in there now. The automatic explosives detection capability at checkpoints is very important going forward. And there's a number of new developments happening now with new technologies, which again we'll be able to show you later, that are being deployed in the US.

Customs and border protection. This is one agency in the world that has put together the security agenda and the customs agenda. Cargo screening systems have been our major sale there, large high energy systems, and we remain the major supplier to CBP on cargo screening systems.

DNDO, the Domestic Nuclear Detection Office, is an agency set up to protect the borders from threats of nuclear trafficking but in particular dirty bomb materials. And there's a lot of development going on there in terms of portable systems and portal systems that you drive through to protect the infrastructure of the US.

So it's a good agenda. The budgets are approved. The budgets going forward are expected to grow around about 5% a year. And it remains high on the agenda of the American government to make sure that the infrastructure is protected.

If we look at the US defence part of the business, the chem/bio market in the US, we can see a continuous pattern of growth here. The DOD is the largest procurer of these types of systems, representing around about 70% of the global market. We deal with an agency called the JPEO, the Joint Program Executive Office, which is across all the different services in the United States armed forces and provides the capability for chemical and biological detection to them.

So we have a very, very good relationship with these people going forward. We enjoy a very close R&D roadmap with them. We enjoy joint funding. And that relationship is set to continue further into the future. Mal, when he talks to the military part, will describe that in a little bit more detail to you.

Let's talk about the threat. Let's talk about some of the fundamentals that really drive our business. And in fact it's probably worth reflecting just for a few minutes on how

we've got to where we've got to now in the airport market, which is the one that we all know very well.

Again, coming back to the fundamental point -- that this is an event driven business, if we think back to the '60s, hijacking was the problem there. The events of interest to the governments was hijacking. There was many reports of hijackings. And as a result of that, the first metal detector archways were put in place so when you walked through an archway, the original intent of that technology was to find people with weapons and guns and to stop them getting on planes and hijacking them.

Then of course we started to x-ray baggage to make sure people weren't carrying weapons on the plane with their hand luggage. So again, that was another event driven technology deployment. I suppose one of the most significant events in government thinking was Lockerbie. Lockerbie was an event, and it's been well reported, where electronic radios and systems were used to disguise explosives that were hidden inside them. And of course that caused the tragedy at Lockerbie.

So as a result of that, a large program of automatic explosive detection for checked baggage was started by governments. And in fact, the DFT in the UK was one of the leaders in starting to formulate the regulations for that kind of process.

Then of course we had 9-11. 9-11 caused an enormous deployment of systems. And much more of a standardised approach to the way that we have baggage and passenger equivalents around the world so that when you fly on an airline, you can be sure that your bags are being checked properly and that people are going through a minimum level of screening when they go through a checkpoint.

Of course the local regulators sometimes want you to take your shoes off, sometimes want you to take your laptop out of the bag. But generally speaking, the minimum standard is a minimum one across the world. So you can see that a number of different events drive the development and the deployment of these types of technologies. And obviously the government wants to make sure that as many of these events as possible are anticipated and taken care of before they result in any kind of public tragedy. And that's been driving our business ever since 9-11.

There are concerns out there. What's currently on the risk matrix? This matrix is used by many different governments around the world and it evolves with time. The current problem that people are concerned about is the risk of a dirty bomb attack. So a lot of investment. I think publicly if you look at the DNDO budget in the United States, it's around about a \$2 billion budget. It's not insignificant.

And this is to develop systems that can protect every border crossing from people carrying dirty bomb materials into the United States. There's similar programs around the world with different governments and it's driving growth and driving technology deployments in that particular area.

There's an increasing fear of chemical attacks, particularly in critical national infrastructure. We see that in particular in metro systems, where people want chemical sensors involved in subway systems and then integrating those sensor

networks together. And we'll show you some examples of that today later in the presentation.

Of course recently we had the liquid explosive problem in London, which has driven a lot of R&D work to come up with automatic systems to be able to determine those liquid explosives in people's carry-on bags and also the actual components of those liquid explosives. So we have a lot of work going on now and we hope in the next few months to be able to make progress with those governments in regulating new types of technology to be able to be deployed so that we don't have to take our liquids out and put them into trays separately from our baggage.

The other thing I would say is that the terrorists are quite organised. They're becoming more sophisticated. The information about terrorism is much more widely available. And this is driving a lot of work in terms of the human factor side of the business, the deployment of these systems, what we call the concept of operations, the way these systems are actually used. And so we participate in those programs with government.

And of course there's a grave concern about weapons of mass destruction. I don't think -- we think it's very unlikely -- you can see on this matrix on the top left there, extremely unlikely that there'll be a nuclear bomb going off by a terrorist. But it's quite likely, though, they'll detonate some plastic explosives alongside radiological material and cause a dirty bomb incident. Although that won't result in mass casualties, it will certainly result in enormous amounts of disruption.

And these are the major fears that the governments have at the moment. So you can see here this drives our R&D program in the business. And working closely with government, we're able to determine exactly which kinds of technologies are suitable to be able to mitigate the effects of these kinds of potential attacks.

This chart is a process chart that talks to our route to market. This business is more complex in many ways than most of the businesses we have in Smiths Group. And it starts here with a perception of threat. So our involvement with security agencies and understanding that perception of threat is key to our long range R&D planning and our research part of our business.

We then talk about government regulation. Our part in that is to lobby government to make sure that the regulations can actually use practical and applicable technologies and they can deploy quick -- be deployed quickly and effectively. Once the regulations are set, we then work on our R&D program and develop these technologies to be able to be deployed into the real life environment.

Very often a lot of our technologies were scientific projects in research establishments only a few months beforehand and now result in some improvements being deployed within some sort of infrastructure. You'll see that when we talk about millimetre-wave imaging when we go to Wiesbaden.

We then have to go through a certification process, which is normally a long and arduous testing program, to make sure that these systems can actually find the kinds

of threats that we're talking about. It's not untypical for that process to take us three years to get full certification with a government.

Then there's a contracting process, which is a complicated government contracting process. Varies by governments around the world. I would say in general our contracting processes are tending more and more towards the defence model. So think of it in those terms but in a smaller scale of procurement. But that is a public process normally, so in a lot of countries you'll see that posted on the internet in terms of tenders and you'll see the results of those being public as well.

Then we have the deployments, the ability to actually install the equipment, get it actually working in the environments that we have there. And then after a short period of warranty, we enjoy service and support revenues.

And then of course we start all over again. We think about the evolution of the technologies, we think about upgrades, we think about new threats, and we then think about the deployment of new technologies into the environment. So you can see a rather long process that we have to manage and we have teams of people focused on each sector of this particular type of process.

If you look at private industry, when we're dealing with private airports or we're dealing with critical national infrastructure, for example, very often that's a truncated process, a shorter process, but nevertheless has some of the same key elements that we see in the government's direct contracting process. And so we use the same kind of capability that we develop for the government contracting process when we actually go and focus on the private industry side of the business.

We've talked a few times this morning about the variable sales phasing. If you look at these charts, the one on the right-hand side is an actual chart of monthly order intake from last year. And you can see the large variation in size of order intake that we have from month to month. This is due to government contracting.

We actually put into our backlog confirmed delivery orders and as they come through, we -- they often are quite a large volume. And you can see it creates quite a different variable sales phasing characteristic in this business. There's not much base business. The base business can be characterised as service revenues, which is around about 10% to 15% of the business, depending on which part of the business we're talking about, and a certain degree of smaller system deployment.

So really what you're looking at here is a continuous pipeline of new large government related projects coming through the business at any one time. So we determine the health of our business by the flow of those projects. And then the timing of those projects depends on where the government budgets sit, so that varies quite a lot from one period to the next. And the mixture of those contracts varies quite a lot from one year to the next in terms of our own fiscal year planning.

Okay. Margins, we have to think about how to control the margin performance of the business. As contracts get larger, of course there is tighter pricing requirements here. A lot of this, as I said, is public, so there's a lot of scrutiny involved in terms of

these projects. And of course we need to demonstrate to our customers that we provide them with value for money.

So the way that we push against those forces of downward margin pressure is of course the main -- the main one is the development of new products, being able to bring new products to market quickly and maintain better margins on the new products and the more mature markets. But also is a good protection for the business against competitive threats going forward as well.

And also, inside the business, taking care of all the normal housekeeping of low cost sourcing, where we can, of the components in the business and making sure we optimise our manufacturing facilities for the leanest possible way of manufacturing these kinds of complex systems.

So let's look at a couple of examples that we have. aTiX, you'll see aTiX. It's our advanced threat identification x-ray system that we're deploying at checkpoints at the moment, a new system for us that's been very successful in the United States and the UK. In this particular product range we focus very highly on the sourcing of the componentry into the system to make sure we're actually optimised there. So, for example, the cabinets, which form a large part of the system, we are outsourcing from Eastern Europe in this case and being able to take advantage of that cost advantage there.

We're also thinking about the design of these systems, making them modular, being able to replace certain parts by more cost effective systems that are able to withstand the rigors of use. And of course paying particular attention to the way that we lay out our manufacturing facilities. And when we walk around Wiesbaden you'll have the opportunity to see the evolution of how we used to build systems in small batch volumes and now we've moved more towards a lean manufacturing concept in the plant.

Making detectors is part of the -- core part of the business. And here we had many tens of people employed in assembling detectors by hand. And we've been able to automate that process and think of new technologies to be able to bring to bear to make that manufacturing process much more efficient and again today we'll have the opportunity to have a look at that and again paying particular attention to lower cost sourcing of the raw materials that we use within those systems.

And then of course if we think about our large high energy system, HCVM, which is Heimann Cargo Vision Mobile, one of our large mobile truck based systems, we are outsourcing the majority of the subsystems now that go into that -- into that complete system. And we're able to make the manufacturing process much more efficient and cope with the variability better than we did a couple of years ago. So we're making significant progress, we believe, in the actual manufacturing process associated with really being able to complete variable contract demands from governments and being able to cope with that variability in the manufacturing program.

Working capital in our business is changing, mainly as a result of these larger contracts. You can see two examples here of when we get no advance payment, the effect that has on working capital in our business, and then the other extreme

where governments are generous enough to give us a 30% advance payment. And obviously the working capital requirement is a lot less. It varies from government to government as to whether you get advance payments or not.

And of course in any one particular year that working capital requirement will vary, depending on which government is contracting with us on the major projects. So there's quite a lot of variability there in coping with the working capital demands in the business and obviously we're keen to take advantage of those large contracts. So we'll continue to see this particular trend in our business going forward.

The payment terms vary by customer. Governments tend to be quite good bets in terms of payment terms for us. So we are quite fortunate in that respect. But again, they can impact the working capital requirements if they tend to be extended payment terms. And I would say that in terms of our negotiations with customers, the -- as this working capital requirement is recognised, this forms an increasing part of our negotiation in contract terms.

So we are working very hard and diligently to ensure the customer understands what the demands of the business are and we try to work through with them ways of mitigating this going forward. But it does vary a lot, depending on which country and which government we are speaking to.

The strategy of our business is focused on manufacturing centres of excellence, the eight different manufacturing plants. Each of them basically have a core competence. And Wiesbaden, that you will see today, is the centre of x-ray manufacturing and what we call imaging. So using a range of different imaging technologies, but x-ray in particular as the core competence in the business.

Paris is concentrating on high energy x-ray, the large systems that can penetrate 12 inches of steel and are used in the cargo scanning area of the business. Toronto is a particular world expert on being able to detect explosives using trace technology, and so they're focused on that. In Watford, it's the centre of chemical and biological detection. Believe it or not, it is absolutely a world leader in that respect.

Edgewood in Maryland is very, very good at integrating these systems together. We produce many vehicles -- many government vehicles there with fully integrated chemical and biological and meteorological systems built into them. And in Danbury we're extremely good at chemical identification. So we've been able to really focus these plants based on their level of technical expertise.

We need to do that because the engineering talent that we need is very, very focused on producing these particular types of technologies and they need to stay focused on that. You can't have generalists here. These are all world class specialists that produce these kinds of systems.

I mentioned before about the limitation on moving production. There is the linkage between R&D and production. We have to get new systems and new upgrades very quickly into manufacturing, so keeping the R&D collocated is important.

We talked about where this is really an assembly plant rather than a vertically integrated manufacturing strategy. And of course I can't stress enough that many of the things we're producing are classified, so we have clearances associated with the manufacturing plants. And increasingly you wouldn't be able to do that in certain countries around the world which are associated with low cost.

United States, the trend there is toward more and more of our defence manufacturing being located in the United States. The government feels far more comfortable, let's put it that way, with us manufacturing our products in the United States for US DOD use than importing them from other areas. So we are in a program of increasing our manufacturing our presence in the US to support that and support the DOD and the Pentagon in particular going forwards.

Another large project that we've got in Smiths Detection is regarding the business process systems. The ERP systems undermine the processing and transaction part of the business. Smiths Detection is actually a conglomerate of different acquisitions by Smiths Group and, as a result of that, we have 14 legacy systems in the business, making it extremely difficult to optimise the different transactions between different parts of the business and quickly get visibility about the requirements for working capital and inventory and so on and so forth.

So we've embarked on a program to integrate everything onto one system, a large ERP program. We have a budget here of about GBP22 million of investment. To date we've spent about GBP15 million of that and I'm pleased to report that we're sort of about three-quarters of the way through. And so far so good, it's working very, very well.

We do expect benefits from this. The ability to make our transactions much more efficient, the ability to control inventory across the group rather than individual locations, the ability to pull together the sourcing requirements of the group we believe is going to give us benefits and working capital efficiencies of around GBP8 million per year in terms of cost savings going forward.

Capital projects are important, particularly the investment in the facilities that we have. In Edgewood we've been going through expansion. That's the top picture here on the right-hand side of improving the facility in Edgewood. We now have 130,000 square feet sitting out there in Maryland, which is going to be completed this year. And this is primarily for vehicle integration for the DOD.

Wiesbaden you'll see today we've now added 4,000 square meters to what is now a 40,000-plus square meter manufacturing facility over three different sites in Wiesbaden. And it's a new facility that's focused on our explosive detection systems and a complicated build and installation of those products. That was completed last year.

And in Alcoa, which is in Tennessee, we're adding capability there to produce our mobile cargo scanning systems for the customs and border protection agency in the US. So being able to source the componentry there and build the systems locally is a key part of our commitment to the United States government that was completed last year.

And we're pleased to say that that's actually proving to be very valuable going forward in our relationship with the US government. So we are -- we invest in our businesses, we invest in our facilities in line with where the growth opportunities are with government contracts. That's the key point here.

The other lifeline that Philip mentioned at the beginning is about research and development. And typically we're spending just under 6% of our sales on R&D. There was no letup in this investment. I'm pleased to say we're moving forward with this and we continue to invest at similar rates this year.

We also enjoy customer funding, so the government will fund certain parts of our R&D programs. If we look at last year it was an additional GBP9 million of funding that came in from government. So just under 2% of sales to add to what we're doing in terms of R&D and in terms of IP sharing and IP development.

So for us, another key factor about the success of this business and another metric to judge Smiths Detection by is its continuing spend in R&D and the ability to convert that spend into real products that we can deploy with the government. So it's important.

I think the other thing to mention here is there's a virtuous cycle. If you go back to our competition, they're much smaller businesses and so they're not investing in R&D at the same rate. And so they tend to come out with fewer new systems and new ways of dealing with these threats than we can. So there's a virtuous cycle of investment there for us for the future in maintaining our lead in the market in particular.

So some examples of where we've been spending that money. In x-ray screening, the cargo screening area, we've got a new version of our cargo screening systems, which we'll be able to talk to you today. We've got airport checkpoints, explosives detection systems, the system that we call aTiX, the one that you've been through at Heathrow, which enables you to keep laptops in the bag and in the future will enable you to keep liquids in the bag as we develop the software there. So this is a very important R&D program for us.

In the chemical and trace area, the ability to have handheld systems, miniaturising systems constantly and being able to have systems that are deployable in the real world environment is key to that going forward. We have a lot of interest from governments around the world in millimetre-wave detection. There's a new generation of threats at checkpoints now which are non-metallic. And the ability of the checkpoints to be able to pick them up is going to rely on imaging in the future, not just metal detection archways, which don't pick up non-metallic items or are less effective at doing that.

So there's a lot of interest around governments to start looking at imaging systems. There's been a lot of development work. We are, we believe, ahead of the curve here. We have a new generation of systems which we are calling Generation II. You'll be able to see that today, a real time system. And not only is it space saving and efficient, but you can build it into the infrastructure so that you can start to have

unobtrusive screening of people as they walk past a wall, for example, in an appropriate place within some sort of infrastructure. In particular this will be used to start with at airport checkpoints and integrated into the checkpoint regime.

Biological detection, we're going to talk to you in a little bit more detail about that today and where that's going for us. But in particular we've found very, very strong applications in the veterinary diagnostics area and clinical diagnostics area for our molecular diagnostics technology. And we think that's very exciting going forward. That's at an early stage at the moment, it's pre-revenue, and it's an investment we believe that adds considerable value to Smiths Detection proposition going forward.

So you see here a range of different new products that have come through the R&D pipeline. And as we walk around later today we'll be able to show you proudly some of those systems in operation and let you experience what they can do, particularly the ones that undress you as you walk past them. They will be quite interesting we think for later on this morning.

So let me move now to diagnostics. And let me ask Bill Mawer to come up here and describe to you what we're actually doing in the molecular diagnostics area going forward. Bill?

**Bill Mawer:** Thanks, Stephen. Just a few slides to talk about this exciting new opportunity. You remember back in 2001 a series of anthrax attacks in the US. In the period after that, we developed a handheld system for our emergency response customers with a view to giving them a machine that would let them test for anthrax in white powder incidents in the field.

A little bit after that, in order to both improve the performance of those systems and to reduce the royalty burden, we licensed some very clever technology from a group in Brandeis University up in Boston. And it's a technique called PCR, which is really about amplifying and detecting DNA. And under the terms of that license we were able to take that technology and deploy it into other markets globally as we saw fit. And so we looked at where this technique could be applied.

And cut a long story short, we started building a diagnostics activity around that technology platform and that's what I'm going to talk about today. And this particular audience might legitimately ask, well, why is a security company in diagnostics, and I'll give two answers to that. The first is that this is by no means unique.

We have a business that uses x-ray machines in food processing plants to detect impurities there. We have a business that provides chemical detection systems into the pharmaceutical industry. And in each case, we're taking our core competence and developing and ruggedising technology into markets where that provides differentiation.

And the other thing I'd say is that in large part to the market we're addressing here in animal disease testing certainly, in pandemic preparedness in human health, the business model is very much like that of our core security business, it's about ruggedising technology and providing it to governments to help them detect and mitigate risk. And so the business we're talking about here isn't so different. When

you get into the pure clinical diagnostics area, it does move somewhat away from the security market and I'll talk a bit about how we plan to address that.

So the market where we are most advanced with this strategy is that for animal disease. And this is not the vet that you take your cats to when it's ill. This is government screening programs for notifiable diseases, foot and mouth disease, avian flu, blue tongue and there's a list of a dozen or so diseases that are important to governments because of their potential economic impact.

And historically the way that detection and management of these diseases has been handled is that if a farmer has a sick cow, in the Netherlands, let's say, he calls a vet in, he runs a test, doesn't like the look of the cow. But what he does actually is collects the sample. He doesn't have the means of really running a test on the farms.

So he collects the sample, he sends it to the Institute of Animal health, which is foot and mouth disease experts in Fulbright, two days later he gets the answer and he can do something about it. And in the case of foot and mouth disease, that time span is a problem, as we know from things that have happened in the past.

And so what we've done is developed a laboratory standard test that a vet can run on the farm next to the animal and provide a laboratory quality result, on the basis of which he can take the appropriate action. And you'll see this and I can demonstrate it outside while we're having coffee.

It's a typical Smiths Detection piece of kit. It's rugged. It can be decontaminated by throwing it in a bucket of bleach, which is not typical for this type of technology. And it has its own communications and Bluetooth. So in those -- and GPS so it knows where it is and results can be communicated back to base. And we've developed a foot and mouth disease test for this. We're close to completing an avian influenza test and collaborators and partners are developing other tests that can be run on this same machine.

In terms of maturity, this is a very exciting period for us, this next few months. Later this week we'll be delivering an instrument to the Institute of Animal Health for them to conduct testing on the instrument. They've already done a lot of validation on the actual foot and mouth disease test itself. And then next month we'll be sending two instruments and 300 tests to Turkey with the UN Food and Agriculture organisation for field trials.

And we've done a lot of work in developing the marketplace for this, both through talking to the international regulatory bodies and through talking to the national veterinary authorities in the US, Europe and Asia. And we're confident that the market out there is really ready for this test and we expect to have a successful launch later in the year.

And there are other applications for this same platform outside veterinary diagnostic. It is a generic field portable DNA test and there are opportunities to license it to other companies for food production, food imports and in other areas.

The second device we're developing uses the same technology platform, so the same DNA amplification process and the same hardware, but takes it into a different market to solve a different problem. But really it's the same kind of challenge. Again, in a hospital scenario, in MRSA testing, for example, it's a 24-hour test. It takes place in a centralised laboratory.

Now, you think in the UK, for example, the NHS, in accidents and emergency unit they have a four-hour target to get from the patient walking in the door to them being moved out of [A&E] into the rest of the hospital. It is taking you 24 or 36 hours to know if that patient's an MRSA carrier. That creates the problem.

So again, we've used the same technology to create a test that's simple enough for a nurse to use at the point of care, provides a result in an hour to an hour and a half and provides not just a test for the presence of MRSA but quite a lot of additional diagnostic information that will help the hospital handle that patient and determine treatment. This platform can be extended, so instead of just running five tests simultaneously will actually be able to run 25 from a single controller, allowing it to be used in different settings with higher throughputs.

The MRSA test is designed running in our lab. Next week we're going to be sending it in the form of the chemistry, not in this instrument, to one of the major teaching hospitals in London that's going to do some preclinical work with us. And behind that we're developing a test for clostridium difficile, which is another bug that's been in the newspapers recently, actually killed more people in the UK than MRSA last year.

And again, as with foot and mouth disease test, we're developing a test that's going to get the system through certification and validation. But we're looking to make this a somewhat open platform where we can have other people, experts in the field, indeed other companies, develop tests in our format to run on this platform. And our focus is initially on healthcare associated infections, such as diseases I've already listed, and then moving into critical care.

Our partners in Brandeis University have in fact done some exceptionally interesting work using this technique for cancer testing as well. And obviously this market is a little bit different than some of the other markets we address. It needs a sales force that can sell direct to hospitals. And in this particular area, speed -- because speed to market is key, we are looking for a partner to help us develop that route to market and accelerate the introduction of the system. So you may see some developments on that during this year as well. Thank you.

**Stephen Hipson:** Thank you, Bill. So that's an example of one of our strategic investments and initiatives going forward where we're contributing significant R&D resources.

The second one is Cross Match. The way we got to Cross Match is that when we acquired Heimann, we had a biometrics business in East Germany that was part of the Heimann Group and we examined strategically what to do with that business. That was at the point where biometric businesses were very high multiples, very expensive, and the route to market was not that clear.

So we ended up merging that business with a business in North America which is a leader in the criminal and government regulated fingerprinting business. In fact, Cross Match Technologies, as you go into the US and you put your fingers on the scanners as you go through immigration or your whole hand on the scanners nowadays, all of those systems in US-Visit, which is the name of that program, are provided by Cross Match.

So we, as a result of the merger, have 34% of this business now. It's sales are around about 90 million. It's a significant player in that part of the market and it's a producer of the core technology, the optical sensors part of the business. And we're very pleased to have that as part of the Group going forwards.

**Cherif Rizkalla:** Thank you, Stephen. So I am going to walk you through a bit more detail in the security and inspection division. So as Stephen mentioned earlier, the security and inspection actually address three key markets, which is the airport security, we saw a good example of what airports look like these days, critical infrastructure, as well as the ports and borders.

And we deliver to each one of these markets our core technology based around millimetre-wave checkpoint x-ray, explosives detection systems for checked baggage, the whole sensor management, which we're going to see good examples a bit later, as well as cargo x-ray for the ports and borders and explosive trace detection. Now, I am going to describe some of these technologies and these markets in a bit more detail.

But first I'd like to take you through the characteristics of this sector in general. The market in the security and inspection is truly driven by threats and the perception of threats. And events around the world have a significant influence on both threats and the perception of threats and they impact the security and inspection market in one of three ways.

First, by simply increasing the general level of threat. For example, if you look at the Mumbai event or Indonesia or Bali in the last few years, they've increased the market because the general impression that the threat level had increased. So you will find more critical infrastructure that's being protected because of those events.

The other example is the Madrid bombing in the rail. Well, the whole rail infrastructure was fairly -- was not really protected, so that market was created and now there are a lot of railways, Amtrak for example in the United States, that are procuring equipment to secure those trains.

The second way that it has an impact is -- that these events have impact on the security and inspection industry is by increasing the list of threats. The example of the liquid explosive event in London points to that. So liquids prior to that event were not an issue on airplanes, but they became an issue. And now we need to develop technology and install technology at airports to address that new threat.

The third way it impacts is by shifting the way that we actually defend against known threats. And the biggest example is the 2001 -- the 9-11 events. Prior to 9-11, historical data and the whole concept around security, at airports for example, to

guard against suicide attacks is that there was a strong correlation between the probability of a success in a suicide attack and the time between its launch and its execution.

So the best way, the most frequent way that suicide attacks were launched was to strap explosives around someone, make him walk 20 feet, pull and blow himself up. That had a very high probability of success. If you had to walk 40 feet, that success rate started to fall and fall significantly.

And you were counting this in seconds, not even minutes. So, for example, checked baggage, how were we secured against explosives on an aircraft prior to 9-11? It was very simple. You did a positive passenger bag match. So if you check your bag, you have to be on that aircraft. That was how it was done.

The reason is because somebody packing explosives in their bag at home, driving to the airport, checking their bag, going through security, waiting to board the flight, well, the probability of that person knowingly boarding that flight was very, very, very low. What happened at 9-11 is that you had 15 people boarding a flight, driving to an airport, getting on a flight, taking a connecting flight, breaking into and taking control over four aircraft and crashing them. This was not seconds; this was minutes.

So all of a sudden the whole theory behind how we were protecting just was thrown out of the window. Now the fact that somebody could actually go with explosives strapped around themselves with their checked baggage, go through a checkpoint, have a double espresso at Starbucks, and actually blow themselves up on that plane became a real threat. So it completely changed in more than one way the way that security was addressed.

The trends, because of these events, of this market has gone towards significantly larger contracts. So if you take the example in the United States prior to 9-11, the airlines were actually responsible for purchasing the equipment. The regulator would give them very loose requirements and they were responsible for purchasing them. So you had a stronger base business but less peaks and valleys in our business because contracts were just smaller.

Now, in the US, for example, the TSA procures all the equipment, so much larger contracts. Increased regulation because there's a requirement now to be extremely consistent in the security approach, whether it's in one specific country from one airport to the other or in general across many countries, in the EU for example, well, you need increased regulation.

The buyers are looking for what? Greater speed of detection. Why? Well, one of the reasons is I talked about the increased number of threats, what we consider as being a threat item, nothing ever comes off the list. In my 20 years in this industry I have never seen anything come off the list.

So as you're increasing threats and you're increasing passengers, in the long run we are increasing passengers, then you have to have a greater speed of detection. You

have to give more tools to the operator. And that really drives technology into this industry.

Fewer false alarms. One of the greatest impacts on throughput is the false alarms. How do you resolve them? Well, the best way, the way we're moving forward, is providing more technology in a more integrated fashion.

And increased throughput. Well, we saw the example of what lines looked like. Well, the only way to address throughput without increasing the space requirements, and space is limited in airports, is through technology.

Also, a requirement for a steady innovation stream and increased levels of system integration. I'm going to come back to that a bit later. All this, of course, very attractive, so we end up in a situation with an increasingly competitive landscape.

But we remain -- in that landscape we remain as global leader, 50,000 x-ray units are deployed, Smiths Detection x-ray units are deployed in 167 countries. That's a significant install base, which means that we are, as new technology comes, we are the incumbent in many of these airports and therefore the natural choice for replacement.

We have about 20,000 trace products installed in our ports worldwide. We are recognised as the technology leader in x-ray and explosives trace detection. That is extremely important for many reasons, one of them being we have significant influence on regulations. The regulators come to us to discuss future developments. So our closeness to them really puts us in the driver's seat when it comes to future requirements in the security field.

And we have the broadest range of technology. Stephen talked about the list of competitors. It is an impressive list of competitors, most of them being American companies. And the reality is that if we have x-ray technology and we're competing against three x-ray technology manufacturers and we have trace and we have chem and we have all these other great technologies, the reality is that if we're competing one on one against each one of these competitors, then our true advantage isn't significant.

Our advantage comes from the fact that we have a broad range of technology and that we integrate them together. So as the threats increase, no single technology could address all the threats. So the approach in security is the layered approach, where you need multiple technologies to address multiple threats and multiple technologies addressing the same threat increasing the probability of finding that threat before it becomes a problem.

Let me talk a bit more in detail about each one of the markets that we're -- that I listed before. First, the airport. So three main elements of security are needed at airports. The checkpoint, including the staff going -- working at airports, the checked baggage, so the baggage that goes in the belly of the plane, and air cargo, which is a bit of a new one. Let me go through those in more details.

What's the description of the aviation market? Well, it's really the screening of bags, cargo, airline staff to detect weapons and explosives. It is a highly regulated market, more regulated now than it ever was in the past, which means that the product approval process is extremely complicated and therefore the barrier to entry is that much higher.

There are different processes in the US and the rest of the world. Now, that does complicate our lives a bit, but what we try to develop is solutions that address both markets at the same time. the customer base, government regulators, airport operators, and our key customers, our biggest customers are the TSA, the BAA, the German Ministry of Interior, and other companies that integrate our technology in the checkpoint environment.

Market trends. New technology for screening of people. I talked about earlier the suicide bomber with explosives strapped around himself. This, prior to 9-11, was not considered a big threat. So metal detection was really the norm for people. Now it is no longer sufficient and there is a requirement to move towards full screening of individuals. And we're going to talk about one of our new technologies a bit later in this.

Automated explosives detection for liquids. Well, we've all heard about this event in London and the trend towards increasing the detection of liquids. Focus on improving passenger throughput. That is going to remain a trend for the foreseeable future. Increased system integration for the [late approach to] security. And increased focus on air cargo, which remains a weakness in the whole security.

Talk about hand baggage and passenger screening a bit. Passenger traffic is a bit down now, even significantly down compared to last year. But the long term trends are that -- is that it is going to double in the next ten years again. It has been historically doubling every ten years. It's going to continue that trend, even if there's a current dip.

Space remains limited. So we need an increased throughput at existing terminals. And you're going to do that with innovation. New airports and terminals being constructed worldwide in the emerging world, China, India, other countries as well, more and more air traffic is going to drive the demand and the growth.

New threats. Well, things like recently found detonators that are not made of metal. That really is an issue right now. Metal detectors, conventional metal detectors no longer find that and they're much more difficult to find in handbags. More data requirement and integration of technologies. So what are we doing for that?

Strong ongoing internal research and development, so we continue to drive innovation in conjunction with the regulators to make sure that the products that we're bringing out are truly responding to the requests. We also push technology by -- through innovation and go to the regulators with our new technology and say, well, here's a new toy that you could actually request now in your security process.

I talked about moving from single products to more complete systems, integration, communication between the technology and partnerships considered for non-core

technology. So we are partnering and you'll see the example of the Echo, which is the millimetre-wave, which is the result of a partnership with Agilent. And we'll work with airports, airlines and governments to drive the technology.

I want to present you to two new products that have been released. This is the aTiX, Stephen briefly talked about that earlier, which is the new checkpoint security system. We launched that about a year and a half ago, in 2007. And that product has really had tremendous success.

What it is normal conventional x-ray to screen carryon bags has one x-ray generator and therefore one view. And if you hide items like very thin sheet explosives behind a laptop, for example, well, it's much more difficult for the operator to find that. Well, this technology has four x-ray generators offering four different views. And we reconstruct the volume of what's in the bag to automatically detect explosives and offer more visibility within the bag.

So the direct impact of this is, for example all BAA airports now allow passengers to keep their laptops in the bag, increasing throughput. Now, this is a trial basis for an 18-month period, but we think this is going to continue. And at the same time we're working towards the identification of liquids. And this is a three-phased R&D program. It starts by identifying liquids in the bag, then identifying explosives that are in these liquid bottles.

In addition to that, if you've been through Terminal 5 you've seen the iLane, which is once again a process to increase the throughput. It's all the conveyor systems that comes at the end of the x-ray unit and that automatically brings these bins back to the front.

So this is just an image of the four generators and this is a good example of sheet explosives hidden behind a laptop automatically detected by this. So we have in excess of 500 of these already deployed, especially in the UK and the US.

People screening. So I talked about the increased risk, or the new risk post 9-11 of explosives being carried on people. But there are other threats that have come along. For example, plastic guns. Well, they're not detected with the conventional metal detection systems that we have. So the reality is that these are found only by random search, which is not a good way of ensuring security.

So, this is a millimetre-wave technology. It is safe. It's non-irradiating technology. It has live image presentation so you actually see the person moving as you're imaging them. You will see that when you have the tour of the Wiesbaden facilities, you're going to see this technology.

High resolution image, simple and rapid passenger processing. So the throughput of this is extremely important and you will see how quickly you image and see if there's any concealed threat. Minimal footprint and privacy issues is really important. And you will see how the resolution of this product, and we do have an image here, so resolution is very, very high and with that comes all the privacy issues. We are working on algorithms to resolve that problem.

Hold baggage. What happened post 9-11, if you remember, in the next days after 9-11 there was an immediate requirement to inspect 100% of checked bags for the reason I talked to about earlier. Now, somebody carrying a bomb -- knowingly carrying a bomb in a checked bag became a real threat, whereas before it was not perceived as a real possibility.

The United States moved immediately towards that and deployed the only technology that they considered as being acceptable, which is computer tomography based systems. Why was that the only technology that was accepted at the time? The reason is very simple. Similarly to the position that we are now, which is to drive the requirements by working closely with the regulators, the CT manufacturers had done the same.

And we were not in that position seven or eight years ago, we weren't in the position where we are today. So back then the requirement was actually -- were actually built around computer tomography so that was the only acceptable system in the US. Today, most of these systems are sitting in lobbies and that requires significant manpower to be able to screen 100% of the checked bags in the United States.

So there's a strong movement to put these systems in line and there is an openness now to, because of the influence we have with the regulators, to look at the type of technology that we have presented, which is called AT technology, advanced technology, and see if that is what is going to be integrated in the United States for checked baggage.

The EU is very different with three standards already established. It's going to be three standards. We are in standard -- our products now respect standard two. We are working to developing projects to reach standard three.

Air cargo. This is a rather new market. In 2003, I'm sure you remember, there was a gentleman by the name of [Charles McKinney], my friend Charles I call him. He decided that travelling between Newark and Dallas was too expensive and he didn't want to pay for the ticket. So he shipped himself, crated himself up and shipped himself. It was cheaper.

What that showed is that although now all of a sudden we're checking 100% of checked baggage for explosives, a guy could ship himself on that same aircraft totally undetected. So it's quite amazing how that area, the whole air cargo in passenger aircraft is a big, big hole in the security market.

And only 5%, currently only 5% of packages that are put on a passenger aircraft, we've checked all the checked baggage for explosives, only 5% of these packages are checked for explosives. That's not a lot. And there's new US regulation, for example, to do 100% by 2010, which is next year. This is a significant market opportunity for us.

The big challenge is that checked baggage is one specific size or there's variations. What's in it, pretty standard. When you look at what goes on air cargo, it is completely different from one shipment to the next. And the complexity of bringing

one single technology to address all that, it's quite difficult. And you need to do all this without disrupting the flow of commerce.

So opportunities? Well, we have existing technologies and we have, for example in the US, a whole list of our technologies that are approved for air cargo use. None of them are ideal, but for now that's what they're going to be deploying because there is really no single technology that's going to address that issue.

Ports and borders. This is the screening of cargo. It used to be that we were screening cargo [chiefly] at ports, at borders, only for manifest verification. That was the main reason, drug interdiction, manifest verification. Now the combination of security and customs applications is really what's driving this.

It's a very high growth area for us. The United States, for example, has a requirement to inspect 100% of incoming cargo by 2012. They do less than 5% right now. It's a significant growth area. It is so big that it is not even realistic for them to do it. What they have been doing for the time being is really focusing on targeted containers from specific areas.

And the biggest threat, as Stephen mentioned earlier, is the dirty bomb. So the radiation dispersion devices is really what we're looking for. It's a crowded and competitive marketplace. But once again, the products we offer are at the high end of the spectrum in terms of quality, in terms of performance, and we offer integration with our other technologies. And you're going to see an example a bit later, very specifically in that space.

Market drivers, well, the pre-shipment of US containers. There's a program called the Secure Freight Initiative. And the objective of this program is to inspect seagoing containers at the port of origin before they even leave for the US. We have about 30 systems installed at foreign ports, purchased by the US government to inspect cargo coming towards their country.

High throughput requirement. This is a big issue. If you imagine that less than 5% of containers in the US, for example, are currently inspected, they want to go to 100%, and that has already been an investment of several hundred million dollars, if you don't increase throughput significantly, that task is going to become absolutely impossible.

And we're -- they're searching for a reliable automatic explosives detection. Nothing out there exists right now that could accurately and reliably find explosives in very large containers. And radiation/nuc detection, very, very important in security right now.

Very large market, as you can see. The market size about GBP0.5 million last year. As crowded space, a lot of competitors. We remain the leader, followed closely by a Chinese competitor by the name of Nuctech, and other smaller players in this industry.

So how do we work against the competition? Well, through innovation, through integration with our other products. So we're still viewed as the quality higher end

product. And our work is to be out in the market and to be educate our customer base, not only to show them how better our technology is, but also what that actually does in the security process.

Does it increase throughput? Does it allow them to better detect the threats? So we link directly the technology that we develop to the impact it has on the security process. One of the examples is the new HCVP, the Passthru system. I'm going to - - so what that does is it allows to scan between 160 and 200 containers per hour, which is significant compared to the eight to 10 that we did in the first system that we installed.

High resolution imaging and also other features, like discrimination. So if you want to look for explosives or drugs, well, the material signature, they're all organic. If you're looking at a fruit shipment, for example, of grapefruit, well, that's going to appear in an orangey shade. Everything kind of in the middle, so if you look at aluminium, PVC, liquids, et cetera, they're going to appear in a green shade, and the metals are going to be blue.

So this is a great, great new tool, a breakthrough option that we're presenting now to the marketplace that allows the operators to really know what they're looking at and gives them more probability of detecting a threat before it's too late.

So our investment indeed in this space has led to significant market penetration, for example in Russia we have more than 50 systems deployed there at various ports and border crossings. And this will continue in a significant manner in the years to come.

I'm going to talk just a few minutes about radiological and nuclear detection. Stephen talked about the CBRNE. Well, the only areas that we don't have core technology in-house is the RN, the radiological and nuclear. This would indeed complement our offering. And in the US, as I mentioned earlier, that is extremely, extremely important.

We expect the market to be north of GBP700 million across all our core markets. And we have the route to market. So bringing that new technology onboard would be quite easy from a channel perspective.

We did work on some initial capabilities with partners and we launched a product in 2008. That was following a contract award from the DNDO, the Domestic Nuclear Detection Office. And the good thing about that new technology is that it identifies, its an identification system. And that's very important.

Why's that important? A shipment of bananas actually emits radiation. And if you want to avoid the National Guard tackling down a five-year-old who has a banana in his lunch, then you need to be able to know what's in there. And this new generation of technology allows to do that. So we're working in that market. We're not yet owners of any core technology but we have products that have been released in that space. I'll now, Stephen, turn it back to you. And thank you.

**Stephen Phipson:** Thank you for that, Cherif, that detailed review. I just wanted to speak a little bit about critical infrastructure. So Cherif has been speaking about the highly regulated part of security and inspection and the transition of that regulation through the customs agenda.

The other areas of activity for us involve what we call critical national infrastructure. This is major events. This is corporate buildings. This is all the other areas that need some degree of protection. In this area, regulation is a very, very early stage. The regulations around the Olympics are quite well developed, but further down the chain in terms of different sporting events, they are still to be formed and still trials are going on for the deployment of different types of technologies that are more suitable for screening tens of thousands of people at one stage.

We also have another driver here potentially, which is the insurance market, which is looking towards regulating from an insurance perspective some kind of protection, particularly in large office buildings going forward. So it's highly fragmented. Lots of opportunity. We participate in many of the major sporting events in providing security systems for them. And there's a product we have called Protect.

One of the big threat items in terms of metro systems is the risk of chemical or biological attack. So we have a number of metro systems which have already integrated chemical sensors into their network. And our task here is to provide that capability and also a layer of integration so that we can link that to the CCTV network.

So you see here products that we produced for those transit authorities in the northeast of the United States, which shows an integrated platform of chemical sensors, the CCTV network, on our software. We have real-time sensor data coming through here so the operators can see what's going on with all the sensors throughout the network.

Very important for the first responders is live weather data. The issue is if there's a chemical attack, what you have to be cognisant of is where the cloud of chemicals is actually heading towards so that responders can be deployed into the right area. So we need accurate data there.

We integrate together the concept of operations that has been agreed with the authority the way they will respond. If it alarms, what are you going to do? Standard operating procedures for that particular authority. And then we integrate into our software the recommended actions to take and we'll give the operator hints and tips as to what to do when an alarm actually sounds.

And of course you can see on here what's actually going on. So the alarms look like this. Chemical agent alerts. There's a single event, sometimes false alarms. But then if it starts to go to something more severe, we talk about which type of agents we've detected in the network, where it is, the CCTV cameras are trained automatically to that part of the network so the operators can see what is actually happening.

Then we have a map of where the trains are in the system. It suggests which trains we should be stopping in terms of that. And this one is a prediction algorithm telling you where the cloud for the incident will be so that the first responders can be deployed and then put into the right place to deal with the incidents on site. This is increasingly becoming of great interest because this is high on the threat list with transit authorities and so we're seeing a lot of interest in other authorities around the world.

We have a number of these systems deployed now. So it gives you an idea about a layer of integration, not just the sensors. A couple of years ago we were about just delivering boxes. Now we're about delivering a much more integrated sensor network with functionality built into the software.

So in conclusion on security and inspection, I think we've illustrated to you today there is a continuing threat out there. It's evolving and regulation is evolving to deal with it, as we get closer to an ideal protection of the national infrastructure. We have great opportunities, like sporting events, which are enormously unregulated and presents a great opportunity to provide a regulated physical security layer.

We see opportunities in places like Iraq as well, new emerging markets where funds are now available for the rebuilding and the provision of a security layer in those types of countries. And of course, as we said before, there's new threats coming through all the time. Liquid explosives is just one of many that we've witnessed over the last 18 months or so.

We see great opportunities in regulation. Regulation actually creates this market, so staying close to what's happening in regulation is important. We see the way that that's evolving in checkpoints with explosive detection systems and the new performance standards that are being employed there, trying to look for smaller threats and different threats as we go through time.

We can contribute to changes in restrictions. We can allow passengers to keep laptops in bags. Hopefully we can get to the point of allowing passengers to keep liquids in bags. These are of great value to the different regulation authorities so we can demonstrate value from a product development point of view.

We see a great opportunity in passenger whole body screening, the imaging of passengers because of the new threats that have been developed over the last year. And Cherif described some of those to you, such as plastic detonators and the ability for us to provide systems that can detect those effectively to the travelling public.

We are looking at the driver from the United States on 100% cargo screening. We've said today that we probably don't think we're going to quite get to 100% but it's certainly going to be a lot more than it is now. And that creates over time a good opportunity for growth in the business. And we see significant opportunities in the radiation screening area of the business. And Cherif described to you that we do not have that core technology currently in the business, so for us it's an opportunity for investment in the future.

We're going to now cover the military and emergency response part of the business and I'll ask Mal to come up here and run us through. Thank you.

**Mal Maginnis:** Thank you, Stephen. Welcome to the military and emergency responders, my part of the business. Stephen explained early this morning that this is the second of our major business verticals. We decided about 18 months ago to bring the military and emergency responders together and there's some good reasons why we did that. We see a natural convergence between the military and the emergency responder market, as you see military moving more towards some part of homeland defence and emergency response being deployed in some of the operational areas with the military.

However, I would stress that they remain different, although converging markets. For example, the military have extremely long development timeframes and very strict testing regimes. The products can remain in service for very long times, ten to 15 years. We have -- for example, at the moment we're still producing in good numbers our first generation chemical detectors while also introducing into service our third and fourth generation detectors. So the market remains long and continuous over that period.

The emergency responders, on the other hand, are much faster to market and a shorter lifecycle in product. So while the military may be ten to 15 years, you may find the emergency responders somewhere around a three to five-year period, sometimes stretching out to ten, depending on the technology. So there is convergence with the markets and we can take advantage of that from our position of strength. But there are still differences within the market.

So let me look first at how the military works. There's no surprise that we are fundamentally linked to the government, but I think we are much more closely embedded with government than any other part of the detection business. If you look at this pyramid, the foundation of the business is the technology. And our [life] scientists and engineers are deeply involved with the major government laboratories.

So, for example, the typical ones, DSTL at Porton Down in the United Kingdom, ECBC in Maryland, America, Dugway in America, [Suffield] in Canada, [Salisbury] in Australia, various laboratories in India, Japan, Germany, France, Holland, et cetera, our engineers are deeply involved with the government engineering and development side. That's a fundamental core strength of our business as the largest and incumbent player in that market field.

It is that research that takes us into our products. The products are the core of the business. We must have the world's best products to be able to offer it into the military and first responder programs. It's not the other way around. It's not find a program, aimlessly beat and tender and then hope to develop something. The time cycles will never allow you to do that.

So while we see a lot of frantic activity in other companies, ours is a much more deliberate process driven by the technology with the government agencies, product development, and then into the major programs. And its success shows that that's the right approach.

And the final thing is we get seen by the government as a strategic partner. There's absolutely no doubt that the governments view Smiths Detection military as a strategic partner in the CBRNE field.

So, what do we do with our -- what is the military detection capability? We have, as you all know, a very strong track record of supplying chemical and biological warfare systems to the market. I think a lot of you tend to feel that we're very good in JCAD. This becomes the one shot system that we have. We are much, much broader than that.

People also have a feeling that chemical is big and mature, over the hill, done and did. I can tell you that it is certainly not. The most exciting and largest part of the market remains chemical. When we started in this field, we were detecting 13 serious threats. Then it became 27. Now we have non-traditional agents. We've also got toxic industrial chemicals that are being used as agents.

So we're up to either 40 and 50 actual targets that we're trying to identify. That means that enhanced chemical detection is a major market driver going forward. Better detection, lower detection levels, less false alarms and greater accuracy for the warfighter. So the chemical detection side remains absolutely critical and we're in the best position for that.

The second area of major growth is integrated systems. And this is not about taking on the giant systems integrators. This is not our job. I would not take on the gorillas in the marketplace in that space. We are, however, developing absolute excellence in systems of sensors and we can provide that to the systems integrators. We are developing that as a great part of the market.

We've also developed a very specific vehicle and multi-sensor platform group within the Company and I'm going to describe several in a moment. But that also is a very exciting part of the business. We can leverage our multiple products into a system and then deploy them on the various platforms, from chemical laboratories to MBC type detection vehicles.

On top of that we have our other sensors, the biosensors, explosive IED and RAD detection and x-ray screening. These are all useful tools within the military suite. But they are less critical in market size and value than the big three, which is enhanced chemical, integrated systems and multi-sensor and vehicles.

Okay, so, where are we at the moment with major contracts? You're all well aware of JCAD. It's the most public record program we have and it's a very large strategic program for us, without any doubt at all. We're in serial production on that at the moment around -- it's a public record of around 12,000-plus sensors a year, tremendous serial production. We are the largest chemical sensor producer worldwide.

But on top of that we have quite a few other major successful programs. Profiler, which I'm going to discuss with you in a moment, is a meteorological system on that for the US artillery and a very successful program. We're doing large chem/bio

protection systems for the US military. And in the UK, we have light role team deployable [CVRN] vehicle, various programs in Germany with an LCD introduction, and a lot of other major contracts.

And the opportunities going forward, even while we're rolling out JCAD I, which is called the American JCAD increment 1, we are currently in the final competition stages for JCAD increment 2, which is an enhanced detector doing exactly what I talked about earlier, more detection requirements, lower detection levels, a better detector. And we're in the final stages of that competition at the moment with General Dynamics as the opposition.

We're also doing major work on chemical standoff. This is an interesting one. Everyone looks at chemical standoff and turns around and says, wow, that must be some big laser falling from the top of a hill, finding something chemical down range. This is somewhat of a fantasy in the market.

What chemical standoff means is getting the earliest information to the warfighter we can. At the moment, if he's wearing a JCAD and he gets a warning, he suits up. It obviously would be to an advantage to get him that warning quite some time before he has to do that.

So the chemical standoff is everything from deployed unattended sensors communicating back as part of this system of sensors, to unattended aerial vehicles, unattended ground vehicles, all the way back to the individual, linking all the individual sensors into a system, and then also using some long range standoff capability. But it's a combination of all those systems and it's a fairly exciting area for us.

We also see significant growth in Asia Pacific and the EU where we're leveraging our position at the moment as the strongest incumbent worldwide. So what's the changing market in the military? You read a lot in the press about there's going to be problems in the budgets going forward, lots of other issues with the military market. Stephen mentioned it at the start. The CBRNE market tends to be relatively niche and is normally quite protected. The growth in threat of chemical continues to worry the military and so they'll continue to invest in that area.

The shift in the American programs from Iraq to Afghanistan to other threats will have some impact on programs. But as far as I could see, the enormous investment that they've done to date in the CBRNE development means that the programs will continue. There's no doubt that it remains an absolutely technology driven market.

My number one issue every day is are we on the right technology roadmap, are we producing the right product for the next five to ten years, not for next year. It's too late if I'm thinking about next year. And the opportunities at the moment for us, our incumbent position and our close relationship with the major laboratories means our continuous R&D growth is absolutely core and will be successful.

We're constantly renewing our emerging technologies and interesting, we've been combining our technologies from the emergency response and military side, which is giving us some advantage. And obviously broadening our offerings across the

general market space. So overall the changing market, there are some challenges there but the advantage in the military is the length of development time, the length to deploy and the barriers to someone coming in new.

So I wanted to talk to you a little bit about a good example, which I don't think many of the investor community are aware of. This is an integrated system program we've been running for more than ten years in our Edgewood facility. And the picture on the top you see is the Profiler system. The Profiler is the meteorological system supporting to field artillery, provides data to the [gun line] to give them greater accuracy on the ground and a better chance of hitting the target.

We've been producing these for over ten years. We're in three concurrent phases of this program. We're rebuilding the first ones we did, we're rebuilding the ones coming back from Iraq, and we're developing and building the newest version. So it's a great, steady program of about three to four vehicles a month that we produce.

The overall value of this program has been over \$125 million. Again, public record that is, but it shows you how large that is when you compare it to other programs, such as JCAD, which people tend to focus on. So this is an excellent area. It also gives us a unique capability of integrating sensors. The team who does all this integrate multiple sensors every day, so we're taking their expertise out into the rest of our market area.

We've also been involved in the next generation, called Next Generation, of the meteorological program, a very innovative name for the program and called Next Gen to make it short. And so we're involved in with the actual design team for Next Gen and in normal cases the Americans will then put that out to what they call a build to print tender. So we'll have to compete for the major program, but I'm confident that with our experience and our incumbency, we have a strong position.

So this is a very exciting area in our business which most people don't see very often. But we are absolute world leaders in it and we're leveraging it into the rest of the business. I thought it would be new for some of you.

So, let's move on to the emergency responders. As I said, a converging market, but different to the way we do the military. The most important issue is the emergency responders are walking out there every day using the equipment. So every day there's a phone call, a [spill], a problem, a concern at a factory, [at a training station], down the road, whatever, the emergency responders are out there with this kit, for real, using it every single day. So the equipment has to be fast, reliable, accurate, rugged, et cetera. There is no chance for us to fail on this type of equipment. And that gives a real focus to our developers and the product people.

It is true laboratory science. We're taking FTIR out of the laboratory, mass spec out of the laboratory, Raman out of the laboratory and putting in the hands of your everyday hazmat type person. And it has to work. so that's the real focus for us. We've been very successful FTIR for our Danbury factory. We're no doubt the world leader in this emergency response area. And we've been seriously adding new technologies such as Raman and we're about to introduce mass spectrometry.

Now, the interesting area, as some of you will be asking, why did we bring -- what advantages have we got out of bringing the military and the emergency responders together? Apart from getting rid of an executive, is there any advantage to actually bringing all that together as one group? Well, there'd have to be some advantage to that.

And the advantage is pretty straightforward. Prior to that we were always looking at the green people producing big, green boxes. It's what the military loves, big, green, heavy boxes painted [green khaki] black. On the other side we have the team who are all about flight and [concern] so it's all about hazard yellow, satsuma orange, all those sorts of weird colours. You try to sell an orange box into the military and they'll think you're strange.

So a very simple product approach we took was convert the different products by colour into the various markets. So if you take all of those weird yellow and orange products, turn them into green khaki, suddenly the military go, that's a very good product. But when it was yellow they wouldn't touch it. When we tried to sell LCD into the police they said no, we don't use military equipment. You make it blue and they go, that's okay, we'd use that.

So a very subtle product change and product shift makes the complementary market viable. And in the LCD side you'd be surprised how many [we sold into the] emergency response market. It's now the major chemical detector in that market space and we produce them in yellow, blue, we've produced one that's clear, all sorts of strange things we've produced because the market is available and valuable to us. So it just shows you how valuable the complementary part of the two businesses is together.

And one of the products you're going to show -- see this afternoon, the one on the top there, the HGVI, we have very interesting names, Hazardous Gas and Vapour Identifier, that product is a combination of emergency response and the LCD product inside the one box. So we're seeing the way our products can come together from both sides of the business.

So the key part in emergency responders is producing these rugged, effective and reliable products every three to five years and our product roadmap gives us that opportunity. You see four products there that we've released. You'll see some of them over at the factory this afternoon. And we see significant growth in opportunities in the EU and Asia Pac at the moment. And 95% of our business is based in the Americas. There's no logical reason why we can't leverage that into the rest of the world and we are doing that right now.

So, in conclusion, the critical parts for military, chemical detection is the largest part of the market. It will remain the largest. It has significant growth and challenge because of the changing threat. Collective protection has been very successful for us with large program at Edgewood and we'll continue to leverage that, if we can, into other markets overseas. And we believe we will be able to do that.

Integrated systems to me is a significant and major part of our growth. The system sensors and platforms [with sensors on it] supported by a single concept in Smiths

will be a real success driver in the next five years. And explosives, trace and x-ray detection will all be complementary to what we're doing. And the final part of bio and RAD important to us but people need to understand that the actual market spaces are smaller but certainly will remain important. Thank you very much. Stephen?

**Stephen Phipson:** Thank you very much, Mal, for that. I'd like to just sum up now with one final chart just to review quickly some of the key messages from this morning's presentations. I think we've tried to demonstrate to you that Smiths Detection is indeed the market leader in its space. We think it's a growth business because of the way the regulation is evolving and the evolving threat. And we believe we've demonstrated this morning to you that there are high barriers to entry to get into this business, so the competitive set remains fairly stable going forwards.

The business is underpinned by its leading edge technology. The R&D roadmap, the R&D investment in this business is its lifeblood. And one of the metrics to measure success here is the continuing investment that we have in the research and development roadmap of the business.

Overall in the longer term we see a positive outlook. We see the influences of 100% cargo screening. We see new requirements for passenger screening coming up. Governments think, though, in three to five-year periods, so they're a much longer term view than it would reflect sometimes in our financial statements. We believe that underpins a long term view of growth in this market space going forwards.

We have some resilience, we believe, because we've got a diversity of markets. If we compare this to many of our competitors, they don't have a large defence business and a large civil security business. We have the opportunity to have both and we have opportunities now to go forward into new market areas, like the diagnostics area.

We believe because of the technology set and the barriers to entry the margins are set to remain strong. But again, as I said, the sales volumes will vary depending on where we are with government contracting in any one period.

I think we've shown you some good opportunities of value creation today, particularly with the new products and particularly with the diagnostics investment and what we're doing with Cross Match, our strategic investments going forward. And these are what we call adjacent but regulated markets, the same kinds of sets of drivers and dynamics that we see in our core security and inspection and military business.

And our target for this business in terms of growth is a 10% to 12% growth range at the top line and 17% to 20% margin realisation. And we look at that over a three-year period on average, I think is the message to you.

So I think now we are just about on time. We have an opportunity for some questions and hopefully we can provide some answers to that for a few minutes. And then we will get in our transport over to the factory to show you the facility. So, Philip, I think, you're hosting this part.

## QUESTIONS AND ANSWERS

**Philip Bowman:** Stephen, thank you very much. We are a little bit later than we'd expected to be so we will have to, I think, be fairly quick. But you will have the opportunity clearly to ask questions of Stephen and other members of management as you go around the plant over the course of the next several hours. So anyone want to -- yes, please, on the end.

**Nick Cunningham, Evolution Securities:** Thanks very much. Looking at Stephen's slide 11 from quite early on in the presentation, there was a -- I picked up a somewhat cautious tone. And there's some key words which set off analyst senses, if you'll forgive me, the competition's becoming more difficult, market dynamics are becoming more challenging, contracts are becoming bigger, which suggests risk to us as obviously R&D demand. So the question is how nervous should we be? Are you sending us a message that perhaps it's going to be difficult to maintain margins in future? Perhaps there are going to be more capital demands in the business, return on capital might be more difficult to sustain.

**Philip Bowman:** I think I would just simply respond to that before passing to Stephen and say I don't think there's anything new in what we're saying today over what we said to the market at both really the interims and indeed at the prelims last year where we said as governments become more sophisticated in terms of having broader strategic plans for dealing with whether it's border security or other security areas, the contracts are getting larger.

And the what I would describe as lumpiness is an increasing feature of this business and it's becoming much more like a contracting business in that regard. So I don't think it's a different message and I think we were pretty explicit with what we said at the prelims. But, Stephen, do you want to add a little more?

**Stephen Phipson:** I think obviously that's absolutely right. The other thing we're trying to get across, the other message we're trying to get across is that this business is maturing. It's a very, very immature area still. It isn't what I would characterise as an industrial market yet. You can see by the high level of regulation, lack of standardisation, et cetera.

But as we go through time, those features are coming into the business so it's starting to be more regularised. And so these features of increased competition in certain areas, the contracts getting bigger, starting to bring in procurement techniques from the DOD rather than just ad hoc purchasing, different demands on the business to respond in a more professional way and us to improve the business and manage it in the correct way.

So, yes, there are some more risks than there were before but it's as the business transitions into -- or the market transitions into a more industrial market that we see these more regularised things taking place, I think. That's what we're trying to get across to you.

**Nick Cunningham, Evolution Securities:** Just to follow up briefly on that, you've been very clear that margins sustainable, the business be lumpy and we sort of accept that. We've seen that in the past anyway. But the particular question I

wanted to address was about return on capital and about the capital requirement of the business. Are we going to have to accept that you're going to need to inject more capital into this business and perhaps the [road he] goes down a bit?

**Stephen Phipson:** I think it depends very much on how large these contracts get. We've been able to manage that ourselves so far. There are also opportunities to think about changing the business model, not just the capital equipment sell but perhaps we can transition into leasing arrangements or build operate and transfer type arrangements, these sorts of things. And as this evolves, yes, we could see the requirements to go up and the use of capital to be more focused on that.

But we will transition the whole business model in the process of doing it, so it won't just be about setting capital projects. We'll be able to add value in other ways to mitigate the effects of some of those return on capital pressures on the business. But it's changing. I think the message you need to take from this is that it's a changing piece and we -- our job is to manage that effectively for the best returns for our shareholders.

**Nick Cunningham, Evolution Securities:** Thank you.

**Philip Bowman:** Okay, other question? Well that's very straightforward. In the middle. Over here, please.

**David Perry, Goldman Sachs:** Stephen, my question's just about the 10% to 12% growth. And we got a lot of information today that was helpful, but I'm just struggling to put my arms around it and see how you come up with the 10% to 12%, whether it's based on replacement cycles or how you take on the transport side air traffic and escalate it up to get to your overall growth. Can you just sort of take us -- talk us through your thinking on that, please?

**Stephen Phipson:** What we're seeing in this period is a lot of replacements and upgrade technologies going in. So we're looking at enhancing. Post 9-11, if you take airports for example, we had traditional x-ray machines deployed at checkpoints. Now we're starting to see a whole new range of explosives detection systems being deployed at checkpoints.

Going forward that gives us an opportunity for accelerated growth in that segment for a period and then it will back again once those things are deployed. Likewise in cargo, we will start to see more and more governments coming in as we get closer to the deadline with larger requirements.

And so what we look at is -- that's why we try to keep mentioning this three-year period because all of that doesn't happen every year. Some years some of those projects move forward very quickly, some years those projects don't move forward at all. And so over a period we'd see that 10% to 12% growth because of the replacements and the upgrade of new technologies. But we can't categorically say that we see those in individual periods as far as Smiths is concerned.

**Philip Bowman:** I'm sorry, I obviously cut somebody off before, but I couldn't actually see them with the lights in my eyes.

**Sanjay Jha, Pali International:** Yes, sorry.

**Philip Bowman:** Sorry, no, I can't see you at all. You're right below a light.

**Sanjay Jha, Pali International:** Okay. Just a couple of questions. First of all, you talked about competition. Just want to understand why you win some contracts and why you don't. Is there -- what's -- is it the technology? What are the other issues that you face?

And secondly, you talked about governments taking over the procurement of the equipment. How is it -- I mean is the government now taking from the taxpayer? Is it sort of fees on the airport authorities or airlines?

**Philip Bowman:** Stephen?

**Stephen Phipson:** Okay, if we take the funding side first, as I said, there are a mixture in the different market sectors of different ways of funding. The customs side of the business, the ports and borders and security side is always funded by governments and this is from central procurement effectively, federal budgets if you want to call them that. The airport side is a complete combination. It depends on which country we're talking about.

So the United States, that's from the DHS budget, that comes centrally appropriated. You can see that on the internet. You can actually look at the money they've appropriated. You can even see exactly which programs they are going to spend money on in any one year. And part of our job is of course to influence, to inform and to be involved in that process of allocating funds in the government towards those procurements.

In other places, other parts of Europe for example, the government will set the standards and then the private operator will be required -- in order to license an operator to operate an airport, they will have to have these minimum standards of equipment deployed and they're able to choose from a very, very short list of types of systems which gives them different benefits in the airports. So that's funded by the actual airport itself, by the operator itself in those cases.

So we have a mixture of funding. So what will happen there if you're a large airport operator and you're seeing a decrease in demand, you might try and put off some of those investments until the government says, hold on, guys, you've got to upgrade and you've got to put these new systems in. So there's that kind of tension going on in the private side. But in many countries around the world it's a centrally procured government initiative funded effectively by governments. So by the central budgets. And you did have a first point. What was the first point? I've gone on too far on the second point.

**Sanjay Jha, Pali International:** (inaudible - microphone inaccessible)

**Stephen Phipson:** Why do we win?

**Sanjay Jha, Pali International:** Or why do you lose?

**Stephen Phipson:** Well, I tell you, a large part of that business is relationship business at the end of the day. You'll notice that the classified nature of the technology development work of it means that you have to have a close relationship. There's also fairness. Government procurement is a very transparent system. And normally when we deploy a technology, there has to be two sources for it. You can't just be uniquely placed to deploy technologies. There has to be an alternative. Part of government contracting rules.

And there has to be transparency on the pricing. And the way that -- sometimes we win those arguments, sometimes we don't win those arguments. But there is a balance of fairness in the market to ensure that there is more than one supplier for any given technology out there.

**Philip Bowman:** Yes, on the left-hand end, second row.

**Avi Hoddes, UBS:** During the presentation you talked about (inaudible) outsourcing subsystems that (inaudible). Could you tell us kind of what are the other typical end markets for [the guys that you] subcontract to? I'm just worried about if they are exposed to more cyclical markets where they could run into difficulties and whether you are essentially monitoring their financial health.

Then my second question would be on the nuclear detection segment. Should we read into the presentation that may be an area where you might want to engage in some M&A to boost your portfolio?

**Philip Bowman:** I'll answer the second question very simply, which is I think we've said publicly, certainly I did at the prelims, and I've also said quite frequently that we are looking where opportunities arise to strengthen our technology within the detection business. And certainly the nuclear and radiation detection area is one that we are actively looking in. That doesn't actually mean we will do anything, but certainly it's an area that we are looking at. And we'll continue to do so to strengthen our portfolio because we see it as an area of potential growth. Stephen?

**Stephen Phipson:** On the first point, which I think is really about security of the supply chain that we've got in the business, that most of our subcontractors are suppliers to the electronic OEM -- we're an electronic OEM house, basically -- and they provide systems to similar types of markets, to electronic OEMs, which does present some risk, there's no doubt about that. We are constantly monitoring our major vendors now to make sure their financial health is suitable to sustain our supplies going forward.

They have PCP manufacturers which are supplying to the telecommunications industry. We have cabinetmakers which are supplying to a variety of other sort of metalwork type engineering OEM businesses. And so for us we have a very close eye on the health of these businesses. And also we have besides that the ability to pull some of those really core technologies in-house if we need to do so, if we see a real problem in the supply chain. So we believe we've got that under control.

**Philip Bowman:** Stephen, thank you. Given we have to leave here by 11.15, I will take two more questions. Yes, on the left-hand end again.

**Sandy Morris, RBS:** Okay. Nick, I think, was kind enough to slightly dance around this question. Sorry, it's only Sandy from RBS.

**Philip Bowman:** Yes, sorry. You're right beneath another light.

**Sandy Morris, RBS:** Yes. So the context of this is having gone bust twice, please don't think I'm trying to [lose in glass houses]. But I can understand how the business is lumpy. I think that message has come over nice and clear. I think what we need to sort of just get a little grasp of is you can't easily in most parts of this business make for stock, I would say, at least not without tying up a great deal of cash, judging by the slides that we were shown.

So if a gap does surface in orders -- between orders in a major business, then the potential movement in profits could be very large from one half to the next or one year to the next. I mean is that a fair conclusion? And I know you're not warning, but it's just that I think it's important we understand how the business works.

**Philip Bowman:** Yes, I think -- Stephen, do you want to pick up on that one?

**Stephen Phipson:** I think that's quite right. The potential is there, absolutely. I mean we try -- we are able to make subsystems not for inventory but in a continuous production fashion. The standard x-ray machines, for example, are the standard x-ray machines. We make thousands of them a year. We just then do the final sort of configuration for customer at the end of the process.

So there is an opportunity to smooth the production flow even though we've got lumpy order intake. But you're right. In any one given period we may see a gap which would if that were to happen, have a significant effect on the results of the business in a particular period, yes.

**Philip Bowman:** On the other hand, you get the reverse of that. There will be some periods where you will have a feast as opposed to a relative famine. But I think the message is we are able to make a lot of equipment for inventory which can be standardised. It depends a little bit what it is.

But the message very much is, for example, if I take a different example we get a -- we get a significant contract. We have a fixed delivery date for that contract. We will have to build the inventory to actually be able to meet that delivery date. And if, for example, it's payment against site acceptance test, we would invoice at that stage.

So it would be carried in our balance sheet until then, unless Stephen and his team do a really good job and, as he said earlier, negotiate to get better payment terms. And as the comment was made, that's an area we're focusing on increasingly as the nature of the business evolves. Final question, over there, second row.

**Kerstin Landau, Allianz Global Investors:** Maybe it's a simple question but we touched on the competition and how the world is changing. But very simple, how

much of your percentage of your revenues you really have technology advantage that nobody else can deliver so you win these contracts purely on technology and it's in your hand and how much of your business is -- and when you call it commoditised, but where you have real competitors that means (inaudible) competition and price and then your payment terms come into point?

**Philip Bowman:** Stephen. It's a tough question.

**Stephen Phipson:** I will give you a view and ask Cherif to give you a view as well because I think that might be useful.

I think the message -- one of the messages is that we do have advantages. These are not simple technologies, so every one of them has got some advantage over its competition. And in some cases the competition has advantages over us. But I would say that, generally speaking in government procurement, it is very unlikely that you're ever going to be in a single source situation.

Very often the governments will wait until a second source is there or they'll encourage a licensing arrangement or something to be able to satisfy what is legislation in terms of fair tendering process. So, yes, our advantage is in things like resolution and probability of detection, painting boxes green enough for JCAD against General Dynamics and those people. But there's always the opportunity, if it goes wrong from a government's perspective, for them to source with somebody else. I think that's the key principle.

**Cherif Rizkalla:** The way we have been going to market is really in, I would say, three different steps. First, we do bring core technology up to a level that's much higher from a quality and as well from a performance point of view.

Secondly, our strength is in the significant influence that we have on the regulators because we're viewed in the marketplace as the true leader, the technology leader, the market leader, and therefore we do have influence on the regulator.

And thirdly, by the integration of technologies, we move up the chain and therefore reduce competition. As Stephen was saying, we rarely reduce it to zero because what would happen is then pricing could become a real issue and you could command unreasonable prices for the products. But these three legs is really what makes us more successful.

And our job on the front end of the business is to reduce as much as we possibly can the price in the equation of what we're buying because -- of what the customers are buying because we are rarely, if not ever, the price -- the most price competitive. We offer more value. And our job in the market, and this is the reason for our great success, is to educate our customers for them to view why our products are better and what benefit it gives to them. And that is never the only criteria because then you'd have no competition.

But what happens is that the bigger the part on quality, reliability and performance, the smaller the part on price, the greater our chance of success. And the equation isn't always that we're the winner, but the better we do on the front end of the

business, going out there in the 160 countries that we're active in, the more our success. And this ratio has continued to increase in the years and we have driven requirements in many countries, the US, the UK, Germany, et cetera, where price is still an issue but much less of an issue.

I'll give you a very specific example. In the latest checkpoint deployment in the US we are exactly three times the price of the competition. Three times. And nevertheless we have obtained 50% of the installed base in terms of numbers. So this is a significant achievement. So we're not the only ones there, but we are three times.

You were asking about growth earlier. Well, a checkpoint of the past was one metal detector, one x-ray unit, and that's about GBP30,000. The checkpoint of the future, the ones that we're deploying today, are GBP100,000 of x-ray, GBP30,000 of trace detection. Now we're talking about people screening at about GBP75,000. So all of a sudden you go from GBP30,000 for one lane to GBP250,000. So there's -- that is an enormous growth factor and our position is extremely strong in driving the technology and driving the requirement and reducing the influence of price by really, really showing value in our proposal.

**Philip Bowman:** I think the only other observation I would make is I don't think any of us have stood up this morning without talking about research and development. And I think clearly a significant part of the equation is the amount we are spending on research and development and maintaining our position at the leading edge of the technologies going forward. And I think that is clearly crucial and that's part of the reason clearly that we're able to succeed along the lines that Cherif was saying.

Ladies and gentlemen, I'm sorry that we haven't got more time to continue this session. Thank you for your attention. I hope you found it very useful. And I hope very much that you enjoy the factory tour. Thanks very much.

