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Verisk Analytics, Inc. (VRSK)

Investor Day

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MANAGEMENT DISCUSSION SECTION

Stacey Jill Brodbar

Analyst, Verisk Analytics, Inc.

So, good morning, everyone. I am Stacey Brodbar. I am the Head of Investor Relations here at Verisk and it is my pleasure to welcome you to our 2018 Investor Day.

We are thrilled you are here, thrilled to see a full audience and really appreciate your interest in Verisk. We've got a jam-packed agenda, so I don't want to take too much of your time, but just a few administrative things to take care of, the first of which of course is our all-famous forward-looking statement. So please note the disclaimer on the screens and on the webcast. Some statements made in today's presentation may relate to future events or to future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance, or achievements to be materially different from any future results, levels of activity performance, or achievements expressed or implied by these forward-looking statements. Other factors that could materially affect actual results, levels of activity, performance, or achievements can be found in Verisk's periodic reports filed with the SEC.

So with that out of the way, just a few housekeeping items. We do have demonstration kiosks outside in the product demonstration area. There are seven solutions, some of our newest solutions from across the verticals. If you haven't had a chance to see them, they'll be available during the break and for about 30 minutes after we conclude today. It is definitely worth your while. So head over there. Thirdly, you may have noticed that we are no longer providing printed versions of our Investor materials presented today. This is really in keeping with our Green initiative. So we've decided to move away from that practice. That said, all the materials are – from today's presentations including speaker bios and the agenda are available in the Investor Relations section of our [audio gap] (00:02:00). And just finally I have attended countless Investor Days over my career, but obviously always as an audience member. Seeing this from the inside, I now realize how much hard work and long nights it takes to pull this all together. This was a team effort from across the Verisk organization and I want to send a huge and heartfelt thank you to everybody across the organization, from the people in the business unit, the executives giving their presentations, our finance and accounting teams, corporate marketing and event planning.

To all of you in this room today and listening on the webcast, thank you, thank you, thank you. And with that, welcome again to everyone and I'd like to turn this over to Scott Stephenson, Verisk's Chairman, President and CEO.

Scott G. Stephenson

Chairman, President & Chief Executive Officer, Verisk Analytics, Inc.

[audio gap] (00:02:54) Stacey, good morning everybody. Thanks for coming out. Good to be here with you. We always look forward to this [audio gap] (00:03:00). We have a lot for you. So I'm just going to jump right in. This is the slide which, with a little bit of modification, is what I actually open most of our board meetings. It's an attempt to summarize the things that we care about the most. We do enough things at Verisk that you can't boil it down to like one thing, but it is a relatively tight list of [audio gap] (00:03:27) care about.

So let me just walk you through this. At the top level, I mean, as those of you who have followed us know, we are really focused on growth and growth in our context comes primarily from innovation. We do a lot of different things across the three verticals that we serve. We have literally hundreds of families of solutions and in order for our

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business to grow at or above 7% – in the 7% to 8% range that we talked about with you in the past [audio gap] (00:03:59) We need lots of things to perform. We need lots of things to grow. And so, a lot of our attention goes to do we have the engines of innovation happening in each of the business units, is our go-to-market proving to be effective, etcetera. And so, that is – that underlies everything that we do.

And an overlay on top of where we sit is our push to become yet more effective in non-domestic market. And you've heard us talk a lot about the importance, particularly of some of the things we've gotten done in the UK over the last couple of years inside the insurance vertical and that is proving to be very constructive. I think of it as sort of the long and steady march inside of Verisk. It's sort of a solution family at a time and a national economy at a time; it's sort of how the business advances, but it is a committed part of what we're doing and it is working. So, we've sort of got the foundation of everything that we do and have done up until now.

There's another level of thinking, which relates to the theme that not all solutions are created equal. Some of them face larger market opportunities. Some of them are closer at hand in terms of our state of development or the markets' preparedness to buy the solutions. And so, we want to be very alert to what is it that really can sort of takeoff in the near term with respect to growth.

And so, we try to look at all of the innovation that we have going on and qualify a few things for what we call enterprise venture status. And when we pull a solution family into that category, what we're really saying is that we are expecting to spend at unusually high rates to try to build out these solutions, that we have particularly high expectations for these solutions, and that we are going to watch them and interact with the leadership teams just even that much more closely as these projects advance. Some of the things that we've talked to you about in the past, one is remote imagery, which is what we call Geomni. Another is what we call Power Advocate, which is essentially helping energy companies get a handle on the cost and the movement in cost inside of their supply chains and then subsurface is the complement to all of the commercial analytics that we've traditionally done in the energy vertical.

And the reference to the four and the five here is simply saying that there's not anything close to an infinite set of these things that we would be pursuing, but there will be additions to this list and of course with time, you would expect the list to even be a little bit dynamic. But this is really about focus. It's about capital allocation. I'll come back to this point in just a little bit.

Technology plays a very important role inside of our company. We manufacture data analytics and so above all else, it's important that our data analytics method and infrastructure be first rate and always improving. A couple of the themes there, one is, you see the reference to the mainframe here. So like – actually a lot of companies that have a certain amount of history, we still do have mainframe computing inside of the mix of computing infrastructure that we make use of and sort of the red X there is simply intended to say that we are working purposely at this point to reduce and ultimately, hopefully, essentially eliminate the mainframe in the mix of computing platforms that we make use of. And it's easy to sort of speak ill of mainframe computing, it's actually very stable and served the company well in the past. The issues are it's not very agile. It doesn't actually travel very well with you as you try to move across national boundaries. And actually the cost factors are not productive. And so we have – we still have several of our solution families that rely upon the mainframe and so we kind of need to do this big orchestration in order to get everything moved off of the mainframe more or less at the same time so that we can then enjoy all of the advantages of no longer having that as an expense. The complement to that is a strong movement into cloud computing. And you'll hear from Nick Daffan, our CIO, in a little bit.

He and his team have really done a great job of creating sort of some very secure on-ramps onto the cloud on behalf of all of our business units so that they can essentially grab some of these methods that have already been

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put together for them and then migrate their applications to the cloud. And Nick will actually share with you some use cases. One of the interesting things, if you try to sort of think about the likely productivity of doing your computing in the cloud. One of the interesting things is, it's kind of hard to find in the public domain case studies that talk about, okay, we used to do it this way and now we're doing it that way. So we've actually had to generate our own and we're still on this journey, but some of the parts of our business that we've already migrated, as Nick will show you, very constructive in terms of unit cost, and that is both a CapEx statement as well as an OpEx statement.

One of the things I like to do is to spend time with the CEOs of our customer companies. And I would say as – maybe I'd go see maybe 30 CEOs a year or something like that, and I would say as recently as three years ago there was a lot of concern among my peers in our customer organizations about the cloud. They didn't really know what it meant. [indiscernible] (00:10:16) concerned about security, et cetera, but you could really sort of call the turn about two years ago because I think what was happening was their CIOs were walking to their offices and saying, hey, boss, we're doing these new things, and oh, okay, so we're moving into the cloud too. So, the environment now is very constructive with respect to leveraging the cloud. We'll talk about that more.

Another thing that matters a lot for us and this also relates to the point on the bottom row about the avoidance of data breaches, your data methods are probably at least as important as your physical security if you want to keep your data stores really secure because you work on your perimeter defense, you monitor your own system, you respond very quickly when you see intrusions, et cetera. But at the end of the day, highly motivated actors can keep probing your defenses is the way I would put it. The ultimate guarantor of your security is the way that you manage your data is such that even if they were to penetrate, there's nothing there that they can make use of, and that's what tokenization provides. It's over and above the sort of encryption methods that we talk about a fair amount. So, that's something that we're working on across the company.

And then lastly, you've heard us talk a lot about WoodMac 2.0 and in the kiosk demonstrations, please go by and talk with our colleagues who work on the Lens platform. Lens is essentially an expression of 2.0. 2.0 is root and branch change but it's also how then we take our content and make it available to our customers. Lens is kind of the customer facing dimension of WoodMac 2.0.

Just last week, I was in Houston talking to a couple of CEOs and talking about this work that we're doing, and my report to you is that the energy industry is really ready for the digital revolution. It's kind of an interesting thing. Energy companies have been awash in big data for a long time because if you gather seismology data and they all do, these are very, very large data sets. But for all of that large data, on the other hand, of the three verticals that were in, far and away the energy space is the least transformed with respect to commercial decision making being based on modern data analytics methods.

But the executives know that it's time. I mean they really get it. And so, we are out there basically proposing that the things that we do in our other verticals and insurance and in financial services with respect to data consortia and the aggregation of data, we're out there proposing that it's now time to do this in the energy space and we're getting a good response for that.

The next level down, operational excellence. So, if you followed our story, you know that we're a productive organization, our margins tend to be very constructive and yet we're always looking for ways to get better at what we do. And so three themes here for us. One is what we're referring to here as global talent optimization. So just earlier this week, I was actually reviewing along with Vikas Vats who is here today, who is our Chief Analytics Officer kind of a census of our hard core data science community. So – and we're really talking about data science here. So beyond that community there are a lot of people who do what I would call data engineering and

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we have a lot of technology people who make our computing infrastructure work and also write code in order to create the application.

But I'm talking about the hard core data scientists. The census of our data science community is that it's at least 95% in the United States today. And yet there's a whole world out there and there are good data scientists that are being developed in a number of places. And so [indiscernible] (00:14:29), this is actually the hottest market for that kind of talent where the prices are the highest.

And so we want to avail ourselves of the opportunity to do our work globally anyway, but also a part of that being to source the kind of talent that we need in our company. So, Mark will talk a little bit about some of what we're doing to [Technical Difficulty] (00:14:54) I think in very organic ways make our platform connect even better with the world of talent.

Then Lean Six Sigma, Mark will take you through this as well but this is kind of a little bit of a quiet revolution that has gone on inside of Verisk where we essentially said to all 8,500 of our people, if you would like to advance your own capabilities with respect to some of these methodologies that are very process oriented, how do you look at a core process, how do you tear it down, how do you think about how to make it better. And we've had a remarkable response across our company many, many of our people being interested in this and it's really helping us.

And then thirdly, there is the category of artificial intelligence generally and then the specific case of machine learning. And we are putting a lot of energy into this and it is making a difference that we now have solutions in the marketplace that are based upon harnessing some of these methodologies. And you'll just see more and more of this from us in the future.

And this is one of those places where you can just very, very clearly see where Verisk – the whole of Verisk is greater than the sum of the parts because it is around these kinds of methods. Actually, many of the things that I'm talking about here with respect to technology where by having centers of excellence in the middle of the company we actually benefit all of the individual vertical market organizations. But AI and ML, it's real, it's here, it's a part of what we're doing today.

And then a few other things that are kind of always on my mind. We just absolutely have to be secure with respect to our data assets. Those of you who have followed us know that almost all of the most proprietary information we've got has contributed to us directly by our customers and that is a position of enormous privilege and we take that very seriously. And one of our commitments is that we're going to keep that content secure. So we've worked very hard on that.

And again, being on that agenda, yes, you're thinking about physical infrastructure but you're also thinking about your methods. Actually you're also thinking about people. Actually, if you look at any number of the breaches that have occurred they were actually sort of human failures not necessarily systemic failures.

We think a lot about capital deployment, and in a minute I want to actually sort of relate that theme to the theme of innovation and growth and the way that the center works with the vertical market organizations that we give a lot of attention to capital deployment. We've been really benefited by having Lee with us here now. I guess we've just [indiscernible] (00:17:57) one year anniversary, Lee, and so we've, I think, in the last 12 months gotten a lot of good work done, observing on capital efficiency and ways of sort of segmenting, how we look at our business and driving these metrics deeper into the organization.

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And then lastly, just thinking about productivity more generally. We are a highly productive organization. We need to remain a highly productive organization that actually advances in terms of things like revenue per head and we are making progress. A lot of attention to that.

So this is the conversation that I have with our board. This is literally the way that we frame, each board meeting, we may pick some of these topics and go a little bit deeper in any given meeting but this is really our agenda. So in just a few minutes, what I want to do is just kind of comment on a couple of themes around all of that and then we'll just – we'll get one more implied place with our various teammates here at Verisk.

So one topic that comes up a lot is disruption. There's a lot of discussion about InsurTech, there's a lot of discussion about fintech. Everybody is aware that methods are changing, what does that all mean. So the first thing that I want to say is a variety of things that are not disruptive of our business. So for example, the regulatory environment is not disruptive of our business. The regulatory environment in the verticals we serve really isn't changing very much. Neither is market structure changing very much. In other words, the demography of our customer sets year-over-year or even multi-year period doesn't really change at any particularly high rates. There are occasionally mergers and acquisitions, but not a major part of changing customer demography.

Another thing that is not disruptive is technology. For the reasons I was just describing actually, technical developments are constructive for our business. They help us to be more agile. They're positive with respect to some of our cost factors, allows us to put more value into our solutions. And so, technical change – technology change is actually a good thing for us.

There is sort of a theme out there, I just want to grab this real quick and say I absolutely do not believe the following theses. I've been on stages debating with people on this. So, there is a theme out there which is in a hyper connected world and in a machine learned world doesn't all content become a commodity. In other words, the theory goes that every node is connectable if not already connected to every node, so all content is available at every node.

And then the machine is going to interpret the content for you. So regardless of how large the data sets are, the meaning of the data sort of can get instantly presented and therefore it doesn't at all just sort of become commoditized, and I think that that's absolutely wrong, absolutely wrong. And the reason is that we are a B2B company, our customers, our businesses and businesses are not like your 13 year old. Your 13 year old does not care about the security of his or her own data. They will trade anything for access to the network or getting that next app for free, et cetera. But in my experience, I've been with Verisk now for 17 years. If anything executives have become more persuaded of the value of data, and therefore at the margin at least they're a little bit reluctant to share their data.

Now, we have not lost any access to any of the data sets that we're privileged to get to work with. And in fact, we've expanded those horizons and we'll talk about that as the day goes forward. But access to proprietary content which grows up in the business world remains distinctive. And I think actually 5 years from now, 10 years from now we'll be an even bigger distinctive than it is today. So, I just wanted to sort of speak to that real quick.

There is sort of this thesis about doesn't technology change the underlying value of content, no, especially not in the B2B world. So, what is disruptive then in our environment? Well, so partly, the message here is there's not that much disruption with respect to what it is that we do today.

But what it does come down to is we do see emergent companies that sort of get borne with some of these newer methods and then would – essentially their pitch to our customers would be, well, if you give me the ability to try

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to help you with your data individually maybe I can help you get somewhere. So, this end up, first of all, looking like point solutions and there is a real dependency on do you want to work with me, are you willing to sort of bring me inside of the four walls? But there are – the cost of pulling together a few folks and starting to write some algorithms, et cetera is not so great. So, there's quite a long list of companies that are of that type.

So, I don't see that as highly disruptive of our business, but it is a condition in the environment that we serve. So, what is our response to that? Well, there are two. One is, we are our own InsurTech point solution disruptor. So, what you're looking at here just a couple of awards that we received in the last couple of months. The one on the left is with respect to the vehicle telematics data exchange given by Insurance Nexus. So we were considered to have best new solutions in that category.

And then over on the right, just last week, I think, it was, Mark, or the week before – The Digital Insurer Global Fest (sic) [The Digital Insurer Global LIVEFEST] (00:24:02) and our EPIX platform which is the solution related to energy for the insurance companies was picked as the North American innovation of the year. So, one of the ways that we deal with the disruption which is represented by emergent tech is to be our own emergent tech.

And then the other response to it is to actually be very aware of what these companies are doing and to hopefully be very thoughtful about what are the forms of innovation that we want to sponsor. But if there are circumstances where others have sort of run ahead and created something good we have to be very open to potentially partnering with them. Actually, sort of incorporating into our platforms what it is that they do.

And this is kind of the theme – one of the themes that I'm going to leave you with as we then turn and get more specific. And that is that there are many, many ways in which what we do is really think of it as the environment in which our customers do their work. And one of the things that I'm hearing from the CEOs is that they want – if anything they want a narrowing list of partners that they can turn to, to really help keep them at the leading edge. But part of what gives them confidence that we at Verisk are doing that is our willingness to integrate in some third-party solutions where it makes sense. And that is something that we're very open to doing.

And so the partnership point, and I'll come back to this, but the partnership point goes into two directions. So we have in some cases been willing to integrate our solutions in with others and we integrate the solutions of others in with our platforms. One of the things that's in this drive towards innovation that's very important is to actually be disciplined about looking at what is it that's new. And what you have here are really the three things that we think about when we're considering something that's brand new and we want to move into it. And the point here I would really draw your attention to is the upper right proximity to existing verticals.

So from time to time, we get asked, well, how do you feel about the lineup of verticals that you have, are you considering moving into new verticals. We feel that the verticals that we're in have plenty of room to run. The need for even more value from data analytics is evident in all of the verticals that we serve. One of the ways to grow inside of the vertical that we're already in is to take our business further in the direction of overseas markets. And we think that that's plenty good. And actually it's the leveraging of where we already are that provides sort of a differential kind of an advantage as we try to sponsor new things.

So we just went through our five-year planning exercise. One question I didn't ask and nobody asked as we went through this entire process across the whole company was, what's the next vertical. That is not the way that we think. We are very pleased with where we sit.

And on the convergence of being innovative in capital allocation, we try – as I said, we really work hard to be very disciplined about the way that we're deploying capital against new ideas, and to the point where actually we've

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become a bit formal about it and we have a process that we call Big Bold Ideas. So the way you should understand this is that anybody that's leading any part of our company I think really gets we're about growth and growth comes from innovation and being close to our customer. Survey starts with that.

And now there's a lot of ideas in terms of, well, we can do this, we can do this, we can do that. So those of us that sit in the center and have the privilege of working across all of Verisk get to see all of these ideas even in their very early stages. The question that we want to ask, going back to what I said before, is are there some which are more opportune right now than others because what we don't do, and Lee will expand on this when he comes up in a little bit, what we don't do is sort of block allocate investable capital to the different dimensions of our organization. In other words, we don't say, okay, you're 8% of our revenue therefore you get 8% of the CapEx. You get 8% of the potential M&A dollar in another dimension.

That's not the way we do it, because that's probably the way that is suboptimal and somewhat undisciplined about how you allocate capital. Instead, what we want to do is filter up the best ideas and ultimately come to a very short list of things which have the greatest potential where the company is concerned and then kind of overdo it. Those are the places where we really want to make sure that the capital is being most – most proportionally allocated. We do not want to spread our peanut butter evenly across everything that we do, nor do we say to the businesses, well, here's a lump of capital, what are you going to do with that. It's a much more interactive kind of a process. And from that, we think we are in a position to create the highest rate of return on the capital that we're investing in the business.

So, when we went through this process at the end of 2017 leading into 2018, some of the ideas that emerged from that – cyber is something we're very interested and Mark will talk about that. We've already talked about remote imagery. And then, we – you actually had a chance to see out in the kiosk some of the way that we're using estimating methods for turning them towards non-insurance purposes.

We've talked about the subsurface which is the sort of operating complements, all the commercial analytics we've already done in the in the energy space. And then for data, it's basically our own form of essentially – efficiently scraping data from public sources. Some of those we felt so strongly about that we call them enterprise ventures, others are great, maybe the potential isn't quite as big, and so they're still really observed at the level of the individual business units.

I am just going to move forward real quick. We are a people business. I really think that our company is now designed in platforms in a way that is so solid that it is down to talent. I think that the quality of our talent, the growth of our team, the growth of our people will probably directly interact with the growth of our organization. So, we think a lot about how do we amplify the talents of our team. We actually do fair amount of hiring each year and the thing that I really wanted to point to here is bottom-center panel. We do think hard about who are the folks that have the most potential inside the company and we track very closely how well we do in terms of retaining people inside of the company, and our record is good.

Let me close with this real quick. As I said, I probably get in front of 30 CEOs of our customers each year and there are a couple of things that I feel like I hear back from them very consistently across all three of the verticals. One is, this point I was on before which is, in the face of sort of a world of methods which is becoming more complex, their preference actually would be to narrow their list of vendor partners if those vendor partners can also keep them in front of leading edge methods. And so one of the ways that they recognize us as one of those vital few partners is our willingness to integrate on to our platform's technology that may have grown up somewhere else, so that they don't feel like they're trading off between having a deep relationship with us and

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having a vital relationship with all the innovation which is happening in the world. And we're very comfortable doing that. And again, that does go both ways.

So there are some occasions, for example, in the insurance vertical, our solutions are integrated in with a company like Guidewire, because they're doing policy admin and claims platform and we're the analytic layer that relates to all that. Everybody is trying to improve the quality and speed of decision making. That's essentially when you say improve the quality and speed of decision making, you're essentially saying add more value for your customers and that's the way we're going to grow. And by the way, almost every one of our customers think that they're going to grow faster than their competitors and it's by doing that. That's really what they believe.

They, our customers, want to make their processes more efficient. If you look at the three verticals, we serve, those verticals grow, but they don't grow at extraordinary rates. And so they're always thinking about efficiency.

And then lastly, for all the discussion about [indiscernible] (00:33:49) methods and analytic methods for all of the money that gets spent on information technology, et cetera, most companies at the end of the day still feel very inadequate with respect to the value that they get out of harnessing data analytics to make their businesses work better. And so, one of the things they're always interested in is well what are we at Verisk doing, I mean we manufacture data analytics, our customers manufacture insurance products, they manufacture financial services products. But they know that underneath it all, they've got to be good at data analytics. And so, actually getting closer to the way we do it.

It's something that they find very, very constructive. And so we're very open to that as another source of value that we provide to our customers. Maybe not even one that we get paid for, but just their ability to observe on how do we go about it, really represents cement in the relationship.

So just a little bit of an overview of kind of where we're at. We're going to explore all these themes in much more depth. So again, let me just say thank you for being here and so on the topic of operational excellence, let me call up, Mark Anquillare, our COO.

Mark V. Anquillare

Chief Operating Officer & Executive Vice President, Verisk Analytics, Inc.

Good morning. Thank you for being here. So, Scott provided kind of this enterprise wide vision direction, what's important. And as a part of that, we highlighted operational excellence. So, I'm going from an enterprise perspective share a little perspective on operational excellence. It's a topic we're dedicated to and we spend quite a bit of time on. If you think about the themes we have throughout the course of the year, we have a strategic planning process which is closely tied and linked to the budgeting process.

We talk about talent and we talk about operational excellence. So, those are full day meetings with 10 business units. And from an operational excellence perspective we have a show-and-tell best practices that we do across all business units a couple of times. So, it's a topic we're on, the theme that we try to share and have knowledge share across the enterprise with the goal of making us better holistically kind of the [indiscernible] (00:36:04).

The themes that we'll kind of talk about, the topics that are important to us, Lean Six Sigma, global talent optimization, machine learning and automation as well as cloud migration. So, I'll get into each of those. Let me just highlight now as Scott did. Cloud migration provides and will provide great benefit to us, obviously there's this work that needs to go into migrate to the cloud and fully benefit from it.

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And Nick Daffan will share perspective there. So, I'll leave that to him later in the day. So, let's spend a little bit of time on Lean Six Sigma. It is a way to focus on a culture of continuous improvement. That's really what we're about, a culture of continuous improvement. What we're trying to do is really create a view to and for our customers to make us better in their eyes to help them out, right.

So, the Lean aspect is really the elimination of waste and going faster, Six Sigma is about quality and kind of helping this limiting variation. But don't think of this as the GE manufacturing model. This is a light version. It's not the bureaucratic version. It is about trying to create opportunities across the organization for people to improve their own job for both – provide their own processes and help customers. And it's kind of like the karate kid getting ahead of this level of belt. So, you go from what is a yellow, green, black belt. So, you kind of move your way up the path.

Our focus is really on the customer and how we can kind of make this happen. One of the beauties of this and the kind of all the operation was some of the things were kind of grassroots, people got engaged in it, kind of bubbled up, and others we kind of said, now, this is where we're going to go and we kind of from the top down say this is our direction.

This was a very natural and organic grassroots [indiscernible] (00:38:11) somewhere here and kind of brought this opportunity to ISO, so kind of started in ISO and it kind of had this spreading sadly in my analogy like wildfire, and it was something that we had a very good reception too. People wanted to advance in their careers. People wanted to be a part of this. And today, we have 2,800 yellow belts. They're trained. They're active.

What we're trying to now do is continue to make this happen and extend it. And that extension is people looking at what I'll refer to as green belt projects. It's like 93 of those are trying to [Technical Difficulty] (00:38:54) they're approved, there's real savings. And across the organization, this is extending in, extending out. It's still early days because a lot of what I'll refer to black belt projects that are available to us or still kind of picking the lower hanging fruit. But what we see and what we expect is we have 50 FTEs that would be really quantified savings or cost avoidance and our goal is this isn't the balancing of investment first margin, this is a way to take and redeploy people into new products, markets and [indiscernible] (00:39:39) to grow.

So, as I mentioned, we're going to probably now kick into a higher gear with some of the black belt projects. We've done some early work with RPA, robotic process automation. We think it's very promising and our opportunities are very big. And we're pretty impressed with where we are and where we're heading.

That 50 FTE will only grow into the future. That's the kind of gift that keeps on giving. I'll give you a couple of examples. As you know, we have a pretty large field team. This represents those folks who go into big buildings, commercial buildings and they will be taking a look at the information about the building and the ability to prevent and suppress fire. So, we kind of compare the higher performer to what I'll refer to as the lower and middle performers and kind of come up with the best process, best practice [Technical Difficulty] (00:40:33) we're able to identify areas where we could improve process and in doing so we became more efficient, we became more effective. We're actually on those type of [Technical Difficulty] (00:40:46) about a 23% improvement, and it led to about 12 FTE savings.

Example two, we've kind of did some work where we noticed one product area from a Q&A perspective how they were doing testing was probably not as optimal. They want this prioritized. They want this categorized. In the world of agile, they were probably a little less focused as [Technical Difficulty] (00:41:11) and in trying to improve process, we found additional savings.

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Now, I recognize that these seem individually [Technical Difficulty] (00:41:22) maybe modest, but you have to understand that in aggregate [Technical Difficulty] (00:41:28) going on [Technical Difficulty] (00:41:32) things that our team always likes to highlight is these are hard savings which we actually put a little rigor to. There's also a lot of self-benefit. There's customers that are happier. There's employees that are happier. And that kind of makes for a good [indiscernible] (00:41:48).

So now let me transition from Lean Six Sigma over to what we refer to as global talent optimization. We are clearly focused on growing our international revenue. We'll talk about that more today. If you haven't heard enough, each business unit, we'll talk about more again. But nonetheless, we are also trying to make sure that we can get the right talent and hopefully potentially maybe a more cost effective way across the world.

So our goal is really to try to attract talent, create some select centers. And the way we went about that is we looked at three different categories of talent and functionality. One, analytic talent, that's some of the data scientists, it's some of the financial or insurance analysts, could be some actuaries, that's Category 1. Category 2, technology as you've probably seen and heard this happen frequently from a technology perspective. And the third, it's really supporting our customers in local geographies and supporting growth.

So, what we did through again a lot of work and a lot of rigor across the enterprise is really try to focus on the way we can go about making this happen. So I'm going to work across the road and how we think about analytic talents, we have a view that new talent, this is not about replacing existing, it's not about kind of offshoring as you think about kind of taking the job in the States [indiscernible] (00:43:22). We expect to grow, we are looking to grow. And these are really more about addition to hire. Things can organically move obviously but at the same time, analytic talent, we have identified a couple locations. We have a decent size office in Hyderabad, India, we have a pretty large office in Bangalore, and from an analytics perspective we've selected a site in Eastern Europe [Technical Difficulty] (00:43:47) those three centers.

We wanted a team of at least 15 to 20, we are putting in place. So A, across the board, offshore, we also want to have some, I'll refer to as [indiscernible] (00:44:02) outsource contractors, so that if there's some spikes in productivity need, if there's some maybe [audio gap] (00:44:11) annual that wrangling that has to happen. So, there's about 280 people across the enterprise that will be kind of moving or hiring offshore and we would expect about, maybe better, but about a 3 to 1 kind of opportunity here. So, for one person in Jersey City, Lehi or Boston, we'd potentially be able to hire three offshore.

Similarly, technology, right, we are going to leverage the locations we have, Hyderabad, Bangalore, we also have a location in Spain. So, those are the three locations we opted for. There's about 350 people that we'll be hiring over the next five years in those locations. And finally, it's about supporting our customers, it's about being closer to our customers and it's about trying to create [indiscernible] (00:45:00) in a footprint offshore. In this case, about 200 people. So, 800 people, we think this will be a very good thing for us. We'll be able to source talent, we'll be able to do it more cost effectively and we think [Technical Difficulty] (00:45:14).

Third topic, machine learning and automation, I think most people know these definitions and understand what AI is. But a subset of AI is really machine learning and I think we have kind of been on the cutting edge for a lot of this and what I'll do is maybe provide you a perspective really from a use case perspective, right.

We're trying to use machine learning, which is kind of a system by which problems are solved and the machine kind of learns from itself through patterns and rules to provide real solutions to customers. We have been pretty good at providing kind of a good [indiscernible] (00:45:59) partner with customers. We've done some great things

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that Nick will share later on at the center around the big data analytics platform and how we interact with the business units.

But it's really been what I'll refer to as commercially focused. It's been customer focused. What we are now trying to do is pivot a bit and take all those capabilities that we've developed that have historically been focused on our customer and say, hey, let's focus a little bit internal to improve our own internal processes. Again, focus on operational excellence, try to be better and try to be more effective. And that includes RPA and some other opportunities here.

Let me give you a couple maybe examples, so that you can appreciate a little more about the things that we're doing in [indiscernible] (00:46:45). So, again, kind of working across the first two opportunities really are about what we have been doing with customers. I think everyone has seen and heard the [ph] TFs (00:46:57) got there, really provides a nice opportunity to see what the Geomni solutions are, but remote imagery continues to be a wonderful way to think about machine learning and computer vision to help our customers. It is a wonderful time saver and efficiency and that is probably kind of poster child use case of technology.

Secondly, WoodMac, WoodMac Lens again out there at the solution center, but also something Neal will talk about in a while, but what I'm trying to take what has been some wonderful data and really provide insights to that data through machine learning [audio gap] (00:47:35).

That reference cyber, we're going to talk about cyber and what we're doing there in a bit, but if you come up with a problem like cyber and you're trying to model from kind of the beginning, you're gathering as much data as you can. You're kind of relating to other I'll refer to it as rough estimates that are done throughout the industry with extreme events like cats, catastrophes, but we use a lot of machine learning to identify the drivers of cyber risk.

Our view is those views, that machine learning, obviously we have great access to insurers and reinsurers, but we fully expect that those type of capabilities and that type of product uses has use cases outside of just the insurance industry and we're excited by that.

We'll spend maybe a little extra time today, just kind of giving you may be a bit of an example. A claim happens and the automation of the claim, I'll refer to it as Right Touch Adjusting, needs to be automated. So, there's ways that everyone is going about this to be more efficient. We'll talk about Geomni again later, but what we are also trying to work with is a combination of machine learning, image interpretation, [ph] well-hedged (00:48:50) chatbots to interact with the claimant, meaning the policyholder when there's an issue, how can we gather information, how can we help them be responsive and higher customer satisfaction, higher digital engagement relates to being quick and [Technical Difficulty] (00:49:112), right.

There is also that sympathetic aspect some people like to talk to a person. We do completely recognize that, but maybe what I'll do is just kind of give you a little flavor.

[audio gap] (00:49:24-00:50:29)

[Video Presentation] (00:50:30-00:51:17)

So, a bit of a perspective, what [ph] was cost you (00:51:22) to probably do that type of estimate? It's probably $100 to $125 [indiscernible] (00:51:25) and literally through automation, you have completed it in probably less than five minutes. So, that's the kind of opportunities that we are working with. This is actually a live proof-of-

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concept with the customer working interactively. And what we are now trying to do is just kind of use some of those great examples to improve us internally.

So, as you know, we do some work with workers' comp. When you get to workers' comp, it's a lot of medical reports, you get a lot of doctors' reports. What is the way we can use natural language processing to [indiscernible] (00:52:04) categorize those injuries, what's happening within that case and classify things in an appropriate way. It helps our own internal people do their job quicker and more effectively.

We'll talk a little bit more later, but Mozart is a wonderful product that we've made great progress with customers. It is the archive of so much insurance language throughout the industry. It also allows our customers to build new. What we're trying to do is help ourselves understand all the various languages, all the, I'll call it, consistency and inconsistency among languages and be more effective in putting out that next [ph] policy form. And finally, as probably (00:52:48), most people are doing, we've always been very much focused on sales, we'll talk about that in a moment. But what we are trying to do is make sure that we are leveraging machine learning in an automation that we have to be most effective in front of our customers, to be servicing with their needs and to be kind of moving our pipeline forward.

So, what I hopefully provided today was a little bit the collective power from an operational perspective of Verisk and things that we're trying to do across the enterprise to be most effective.

So, I'm going to pause, because now I'm going to put my other hat, spend a couple seconds now really talking about insurance, honestly where I spend the majority of my time.

So, over the course of I'll call the next hour or so what you'll hear is from insurance business leadership about perspectives on the market, a little bit about competitive advantage that we have, growth opportunities, a little bit about wins and we'll also talk a little bit on operating leverage. So, those were our focus today.

Hopefully, you'll kind of think about the things that Scott started with and we're going to continue to cascade down and spend some time on those topics that kind of relate to the charts. So, I thought it was good to give a little perspective from an insurance perspective. This is the U.S. insurance market of about $630 billion, obviously, a little bit bigger from a personalized perspective and growth this past year of about 4.7%. That is a little bit better than about 3.7% the year before, led by personal lines, commercial lines going a little bit slower and the reinsurance market continues to be challenged. A lot of capital coming in, the capacity is there and that usually depresses the pricing and that's led to some industry consolidation, primarily among reinsurers, but also even the primary side of things.

I think everyone knows and is familiar with InsurTech and I would tell you that InsurTech activity certainly is posing some threat of disruption, but it also provide some opportunity to us, which I'll share. What we see happening from an industry perspective is it relates to data analytics. There's themes that are very important to insurance. It's digital engagement. It's about analytics. It's about automation. And you'll see that as we kind of view [indiscernible] (00:55:20) a provocative view about the industry.

So, let me provide a vision and maybe one that you're familiar with, but I want to just kind of describe some of the disruption and things that are happening and where we fit and where we're trying to go. So, two great examples, especially for the people in the room, if I was to look back at some time ago and you wanted to buy a stock, [indiscernible] (00:55:56) that individual investor and I'm looking to buy a stock, I'm calling my broker, my broker is kind of calling that [ph] trade end (00:55:52) and it's going down to the desk.

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Back in the day, there were some pink slips around, right, you're going to be hopefully getting your stock back, you probably [indiscernible] (00:56:01) along the way, depends upon execution and it probably clears three days later. And then, 1985, E*Trade comes about and everybody has it. A platform today, you press the button and you're getting execution within seconds.

So, that [indiscernible] (00:56:26) uses Expedia. I can book my travel, I can book my hotel. It's instantaneous. It's effective. And that transformation is happening inside the insurance industry, right. And that is both on the underwriting side of things as well as on the claims side of things. I kind of refer to it as the Pareto Principle, right.

There is a graying of the workforce in insurance. So, there's about 2.5 million employees in insurance. This is the U.S. state. And over the next two to three years, about 500,000 will be retired, known fact. Of course, you have [ph] a (00:57:11) turnover like anyone would have. So, there's a lot of turnover along with this retirement. And people need to understand how to best deploy my people, right.

So, what you need to do is you need to focus on the 20% of the most complex risks to underwrite or the more challenging claims, because that's going to have 80% of [ph] the effects (00:57:31). And the other 80%, I'll refer to it is the high-frequency/low-severity, you need to automate. We are uniquely positioned to drive that change, uniquely positioned. So, throughout the course of the day, you probably know we love to make predictions. We love to be a part of that, but a great quote from Ab Lincoln, right, the best way to predict the future is to invent the future.

So, we're going to describe a little bit about the things that we see on the horizon and what we're trying to do over the course of the day to be a part of that disruption is to be a part of that. So, first of all, like auto, you got online, you're able to get a quote pretty quickly. Now, when you get that auto quote, let me tell you the challenges with it.

In about 35% of the cases, that quote hasn't really been underwritten, because they don't want to spend the money on all the information that's required to underwrite it. So, in 35% of the cases, that quote is changed before it's bound. And we have one-third of the people hitting that website that is unhappy, right? That can't be good. What we see happening is both from a property prospective and a commercial lines, we'll call it people who are SME or small business, right, those type of policies are all going to be automated and we think about 80% of those will be, right. We think there's going to be a reduced dependence I'll refer to as insurance brokers, agents, a lot of more direct.

And as we kind of look to the future, we think there needs to be kind of a way to understand that risk. So, let's start with a car, right. There is a VIN, vehicle identification number, and you know all the features on that car. Across this value chain, we need understand more about the business or building, right. So, we've come up with this theme of a BIN, a building identification number. That's both residential and commercial structures across the world and you know all the COPE information, the construction, the occupancy, the protection, exposures around it, right, what's the replacement value. You know all the information about it. So, you, among other people, can underwrite that risk. And all that information, all the analytics about it, about fraud, about driving records, about whatever you want to bring into the mix, happens at point of sale, right. It comes forward.

What we're trying to do there, as probably some people are seeing and Neil will talk about is LightSpeed as a part of our thoughts there along with an underwriting station or workstation. At the same time, as you continue across the value chain, I think everyone sees it coming, but when we make the statement that the world of an insurer, reinsurer and capital markets player are going to converge over time.

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When you're talking to an insurer today, in some cases they're going to go and write the primary risk, they're going to a part of that reinsurance contract, the excess capacity and they're going to probably go and help capital market players come into the market and that is an important element. That could reach back and change the way insurance is transacted.

We think it's going to stay within the insurance infrastructure, but the role of that insurer, reinsurer, converges over time and how [ph] that all comes about (01:01:07) in the exchange where that happens will be very interesting, we're very much focused on it, especially from an AIR perspective, right. So, those are some themes.

Claims has the same type of analogy, right. What we want to do is we want to automate this process. The high-frequency/low-severity claims, let's first automate the process. We have a great tool coming up right now. We have the biggest insurers testing with some of our OEM customers out of IoT, to the extent that there is an accident, what's happening [ph] live (01:01:42), are you safe, do you help, [indiscernible] (01:01:47), do you want to initiate this claim, boom, it happens automatically, right.

So, there's a way to automate this from IoT/telematics that's at first notice. There's an analytics that happens. Let me take a picture of that car. Is it a total loss? Is there a repair cost estimate? Does it look fraudulent? Is it a meritorious claim or somewhat suspicious? All that happens upfront. And then, once that happens, we are able to process those quickly, right. It becomes a matter of – now, the other big problems in the insurance industry, there's checks going in a lot of different directions, right, there is a subrogation process to the extent that there's an accident and the other driver is at fault, the other insurance company is going to take [ph] hold the (01:02:34) – my insurance company, all of that is something that we're focused on across the board here.

I talked a little bit about the automation of claims with my chatbots and we'll talk a little bit subrogation later, but I just wanted to share a bit of a perspective.

Now, kind of moving to our business a little bit, I think you're familiar with this slide, I think you're familiar with our businesses and on the left-hand side, ISO, AIR, Sequel kind of making up the underwriting & rating segment. On the right-hand side, claims analytics, Xactware and Geomni, a part of the claims segment.

Our vision continues to be bringing these teams together, continuously trying to improve our employee engagement. We have great people. Those great people will take care of our customers and increase customer satisfaction and ultimately we'll accelerate growth. What I have seen over the last couple years is that team and that circle over there has become closer together. Both from a personal perspective, but more importantly bringing more solutions to market jointly and that has been a very rewarding part of my job.

So, we refer to this [ph] section as the layer cake (01:03:51). I'll continue to kind of use the same themes that Scott was on. I just highlighted the VIS objectives across, about employee satisfaction, customer satisfaction and growth, right. I'm going to skip growth initiatives, because that's where we spend our time today. I'm going to share a couple major opportunities and emphasis – points of emphasis across all VIS and then Neal and Mike will kind of talk about it from an underwriting and a claims perspective.

Let me do this real quick, technology wise. Scott touched on those. The one thing that is kind of specific to VIS is Sequel. We are very pleased with the integrations that happened. That's not just the administrative type of discussion, it's not about the HR systems and how we operate from a ERP and process, it's about product now. So, we have very targeted type of initiatives that will bring AIR seamlessly integrating with Sequel. We have opportunities with claims and the way we interact with our special investigative unit . And we have ISO working directly with people in very targeted areas with [indiscernible] (01:05:04) over the course of 2019.

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Last comment, I think I touched on it, industry trends, the combination of consolidation sometimes does provide a bit of a headwind to us and InsurTech, which provides a lot of people spending a lot of money, that's good and bad relative to us. I think more positive than negative and we will share that in a moment.

So, let me talk about each of those growth initiatives. Okay? I'm going to rattle through the three that were on the page. So, international, right, we have done a lot since we were last together. I talked about international a year ago. We have made some great progress with customers. We had done a lot in the industry, especially in the London market.

We had made great progress with some contracts with big customers as well as with Lloyd's and those acquisitions that you saw in 2017 are performing well. I was there last week, the teams were together, very engaged, a lot of very interesting and encouraging opportunities there.

GTO, I talked about it. From insurance perspective, we're all in. And you'll see over 400 people moving over the course of five years. And then, let me just kind of turn the dial a little bit on strategic focus, right. We're continuing to focus on markets where our customers are and I'll share those markets in a moment. We're focused more on commercial line. We will follow customers anywhere. We love the personalized efforts and opportunities. At the same time, we realize personal auto in the future probably going to be a smaller line than it is today.

We have more differentiated assets in commercial lines. So, we have been primarily on the commercial specialty and organically bringing in standard commercial. That would be the commercial auto and GL and commercial property type of efforts. Clearly continue to look to grow the standard or commercial standard type of business [indiscernible] (01:07:04). And we're always looking to customize and probably need more so than other businesses in Verisk to customize and make our products local. So, that's only the bit of an effort where we go.

As we talk about international, the other thing that has been great and helpful is the current acquisition we just announced on Monday. So, Sequel, obviously performing extremely well, but what I wanted to highlight is that if I was to think about where Sequel has been very good, it's certainly on the distribution side. It is clearly the administration and they have probably a little bit, if I was to try to focus then, it's – we talked about analytics, I think we're bringing a lot of Verisk analytics to Sequel.

But the rating engine, the actual heart and guts of the rating calculations, that's probably where they were the weakest, where they needed to invest the most. In Rulebook, just perfectly filled that void and added an analytic capability. So, there's a lot of like customers, two groups know each other well, we have gotten kudos from both their customers, our customers, we think it's a powerful combination, we think there's a lot of cross-sell opportunities and it will clearly accelerate some of our product developments. So, again, another check box across the [indiscernible] (01:08:31) international roadmap.

From an insurance perspective, this is how we view international growth. You'll notice a combination of UK, Ireland and Canada, where we've done very well. We think about markets where there's English speakers, where there's attractive growth in premiums, in a political environment, Germany, France is kind of mixed up and we kind of think longer term, India and maybe China [ph] to provide opportunities in of itself (01:09:00).

Just want to give you a little bit of a scorecard, we've made progress, we've talked about this [ph] March (01:09:07). I think we would then tell you that we have more to do in the UK, maybe more around the commercial standard lines. And Germany and France are kind are in our radar.

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Moving to remote imagery, again, we have an opportunity to change the way the insurance industry operates, right. And from the perspective of Geomni and imagery, it also has an opportunity to expand the [indiscernible] (01:09:35) insurance, but from an insurance perspective, this is a way one of our biggest customers says, I can double the productivity, double the productivity of my claims group. The combination of Xactware with aerial imagery populating those measurements into Xactimate and completely automating what [indiscernible] (01:09:57) take an adjuster going through the property, standing on a ladder and getting on a roof, they could do it from a desktop. Tremendous savings, bringing what, one customer says about 2.5 adjustments or claims adjustment per day to over 5.

It also supercharges the property [ph] characteristic status (01:10:20) for ISO in underwriting as well as improving the AIR model across the board [indiscernible] (01:10:23). And IoT continues to be something across the enterprise that's very, very valuable and focused. So, we are continuing to gather a lot of information. You noticed that we have about 4.3 million vehicles, 70 billion miles, we have customers that are testing it for model-ready data for their own modeling, we have people using our behavioral score and we are doing things on claims, as I mentioned before, around [indiscernible] (01:10:53).

What we've also started to do is extend into the property side of it. So, we have found that those people who actually use that have devices, central monitoring, alarm systems, there is a strong correlation to lower frequency of claims and all that very predictive and helpful to our customers.

So, I've highlighted the growth opportunities. Let me talk a little bit about sales, a little bit what's driving the growth across insurance. So, you saw this back many years ago, 2016, where we tried to highlight probably 400 products, we grouped them into 26 product categories, right, and we then took a look at our top customers based upon our [indiscernible] (01:11:40). And what you see here is the growth across all categories, from our biggest customers, top 10, to our smallest, where they're buying more product.

Now, remember, from 2013 to 2016 is three years, from 2016 to 2018, self-explanatory is two years, but we are making progress, we are focused and what I would like to say is our team is more deeply engaged with customers today than they ever had. And those conversations are more solution-oriented and higher in the organization.

Other thing I'd like to tell, it's a good story to tell, is that we're laser-focused on, yeah, the competitive environment. This is a competitive chalkboard. We have a lot of wins where we – people just come to us, we have a solution that's unique and I say we're going to work with you. In other cases, there are bake-offs, right. We have true competitive bake-offs. In the first two columns, with this entrenched competitor, that is where the other guys, the competitor is entrenched. It's tough to kind of get out [ph] an (01:12:46) entrenched competitor, but you can see we've made great progress where we've won, right, against those entrenched competitors, one more than [ph] lost, almost unheard of (01:12:58).

Second, two columns, where we were the entrenched competitor, and focused on those three, you probably are two. Two of those are because they used our product during what was the severe storms of 2017 and they decided to do it themselves on [ph] Excel (01:13:15) in the future. So, that's kind of what's happening there. And then, where there's no prior vended solution, we've had a dominant [ph] competitor (01:13:23) success.

Other thing I highlight is from InsurTech perspective, those new startups are focused on analytics, they're focused on technology and we help them with that. So, 55 start-ups with a 108 different product opportunities, within those 55, we've won 49 InsurTech opportunities. 3 of them were up above in that underwriting & rating line where it was competitive, but other cases, they came to us, because we are the [ph] defaulted way insurance in the box, let me

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get (01:13:53) in the business and also let me use some of the data that [Technical Difficulty] (01:13:58) framework.

So, to wrap up, I'd say very big TAM, very big market opportunity. This does not include some of the opportunities that go beyond insurance, which we'll talk about, but almost a $9 billion opportunity. We are on it. We're making progress and the team is now going to come and talk a little bit about their solution and where they're making progress and where they're focused.

So, let me introduce, Neil Spector, to the stage. Neil leads ISO, he's President of ISO, which is the biggest significant business unit inside of our underwriting & rating segment. Thanks.

Neil Spector

President-ISO, Verisk Analytics, Inc.

Thank you, Mark. It's great to be here with you this morning. And I'd like to take this time to talk to you about some of the growth opportunities that are going on in our underwriting & rating business. And one of the things I want to just emphasize before I get in this presentation is we have a lot of opportunities and I'm going to focus on five very large ones.

As Scott mentioned, the opportunities are big in our company, but we, as a management team, have certain ones that we interact with the most. And so, when you see these, keep in mind that our management team is very focused on these.

Start from a position of great strength, if you think about the ISO and AIR brands, they're really well-known in the property and casualty insurance business. We provide insurance programs for over 31 lines of business in the United States, the highly regulated environment, so those have to be filed and approved among most states.

And then, we have underwriting information that we provide across those lines for commercial and personal lines. And then, AIR provides the set of extreme event models. When you think about things like hurricanes and earthquakes and floods, where you don't have enough data in order to be able to price accurately and you really need [Technical Difficulty] (01:15:46) and you need to manage your portfolio. So, we start from a place of tremendous strength.

And as we think about the industry, both Scott and Mark talked about disruption, some of the disruptions that are taking place. Our strategy is really to be driving transformation, as Mark mentioned, kind of inventing the future. And so, we really are looking at the change. If you look around that every industry today use of data and analytics, mobile computing, customer expectations are changing so much and that is happening in insurance and we're in a unique position to drive it.

Within underwriting & rating, what we're doing is really helping our customers with advanced data and analytics to help with their operational efficiency, help them lower cost, help them drive growth and help them be profitable. And if you think specifically on the underwriting & rating side, we're helping them target in segment risk, we're helping them really better price and underwrite risk and really manage the portfolio while improving the customer experience.

I'm going to focus on five initiatives across the two groups and I'll get into each one of these. Some of these are themes that you heard from both Scott and Mark. Let me first talk about LightSpeed. And I'll keep a plug in the solutions demo lab. We have a demonstration of the solutions. I encourage you to look at it.

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Before I explain it, what I want you to do is I wanted you to take you on a journey. I want you to think about the last time you purchased an insurance [ph] policy (01:17:12), car, your home, apartment and I want you to think about that experience. You probably were either online, maybe you were talking to somebody on the phone or maybe you're in an agent's office. And the first thing that you probably remember about that is you were asked a lot of questions. And the questions that you were asked were probably not questions that you easily could answer right off the top of your head, right. You had to go out to your car and get the VIN number. You had to pull out your last insurance policy and look at the information on it about coverages, limits, deductibles.

And so, you probably didn't think it felt like a good experience. And most people I talk to dread having to buy insurance, because it's just a complicated process. So, imagine a world where you can answer three questions, name, address, date of birth and you can get a quote. You don't need to provide any other information. We're a small business, and just give their business name and address and get a quote.

The other statistic I'll give you is that most people who shop for auto insurance today find that the price they get initially a third of the time will change. And the reason that price will change because insurance company will find out information later in the process that causes the price increase. It's really bad customer experience. So again, think about those three questions that you get asked, but the price doesn't change. That's really what LightSpeed enables. So, we're enabling our customers to drive a significantly better customer experience, by bringing all the data and analytics right up into the quote flow instantaneously, so within seconds with only those couple of questions they can quote accurately.

Now, I as a consumer you can think about what that benefit is. But as an insurance company, we've actually had customers tell us on the personal lines side that using the LightSpeed solution they could increase their conversion of those quotes into policies between 50% and 85% additional conversion rate. And we had a commercial customer that was working with us on the small business side who said they saw a third more policies get quoted in their system and 20% more policies actually turned into policy. So there's tremendous benefit to this solution for both the insurance company and the end user who is either small business or consumer.

We launched this product for personal auto in the middle of this last year. And as you can see, we've had a number of wins. And the thing that's interesting about the companies that have come to us is we do have some large – think about the very large insurers in the market that are using our product. But Mark talked a lot about those InsurTech companies and some of those wins that he described are companies that have come to us because they're trying to improve customer experience. And so through this solution, they can derive their change into the market. So we have a number of InsurTech customers. And the number of evaluations in this pipeline is strong. What I'd tell you is that we are working on pilots with our personal property and our small commercial and expect full rollout in 2019 [Technical Difficulty] (01:20:00).

The only other thing I want to mention on LightSpeed is the underlying data and analytics, a large part of this is proprietary to Verisk. So while we do use third-party data in this process, some of the most important data that goes into this is not data that other companies [Technical Difficulty] (01:20:16-01:20:20).

Another thing I want to focus on is what I call digital engagement. And when you think about digital engagement I want you to think about two perspectives. One is how our customers actually interact with our products and how we can improve that experience to make it better, customer experience is – customer expectations are rising. The other perspective I want you think about it is, how do we observe our customer's use of our materials so that we can make it more valuable. When you're really digitally engaged, you can help by understanding how your customers need to see and what data they need to see and then what format. And this allows us to improve.

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I'm going to quickly run through six projects that we've got going on across ISO in the digital engagement. Now Mark talked about the Sequel integration and he gave some examples and he talked about ISO working with Sequel. They have an underwriting platform that they have in the UK that we can bring into the U.S. market and we can infuse it with ISO and Verisk Data. And what this will allow us to do is, in LightSpeed you have small commercial risks. They can be automated. So think about automated underwriting. But as the risks become more complex think about a building, like the building that we're in now, you're going to need human underwriter to underwrite that risk. And so this provides a platform that sits between the policy admin system, the underwriter, and the broker and allows the underwriter to gather all the information they need to write the risks. It's going to be a really powerful solution; we'll be launching this in 2019.

On the actuarial side, we've been providing actuarial data to our customers for a long time. Some of the feedback that we get from our customers is that the data is great, but it's not easy to work with and we really don't provide a lot of tools. So we're building a portal by which our customers can come in, access the information, customize and personalize that information for their company and really give them the tools. It's a much more modern delivery mechanism. We'll be launching this in 2019 as well.

And then one of the things our customers really use us for is really to find opportunities for growth. We have a number of products the ISO DataCube, the ISO MarketStance, the ISO Market Landscape. All of these kind of products help customers identify where do I want to grow, what lines of business do I want to grow in and how do I build my products to do that. Growth and profitability analytics will be an umbrella platform, it will be a – think of it as like a website that you can come into and in one place access all of those products. And we'll make it easier for our customers to use, we'll be able to add features more easily, and it will drive growth of those underlying products.

On the telematics front, Mark talked about our Verisk Telematics Data Exchange. So, we're getting information in from connected cars into this database and we can allow insurance companies to help consenting consumers who want to consent to a telematics program, monitor their driving behavior, and give them discounts for good behavior. And so that's one of the many use cases we have. But because we're doing that we understand how safe driving impacts both insurance and obviously lowering claims. And so insurers are starting to white label what we call driver feedback, which is they can take our information, our website white label it with their customer. And so as a consumer he can go in and see, well how am I driving and what types of things can I do to make me a safer driver and ultimately lower my rates.

ISOnet 2.0 is a platform by which our customers come in to access the insurance content that we provide them on those 31 lines of business that I mentioned. If you think about all those lines of business, you think about 50 states just here in the U.S. it's a lot of information to go through. And so, we've redesigned the entire platform to make it easier for customers to find the information they want, organize it in a way that makes sense, better search capabilities. But the other thing it does is it allows us to understand how our customers are using our data. So now we can start to look for themes of what information is most valuable, how do customers want to see it, and we can start to make changes in the platform to really help serve our customers.

And the last example I want to leave you with is the statistical [Technical Difficulty] (01:24:21-01:24:16). So for decades, ISO has taken data in from insurance companies and reported financially on their behalf to insurance regulators. Some of the feedback that I get from our customers is that, there's a lot of work on their side to put the data in the right level of quality to give it to us, so that we can [Technical Difficulty] (01:24:40). So what we've done is using modern methods, we're in the process of redesigning the whole platform and the data ingestion engine is complete. And what we do is we now say to the customer, just give us the raw data file, you don't have to worry about data quality. We'll do the data quality in our side. We'll format the data in the appropriate format

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and we'll do the reporting on your behalf. So what that results in is us getting more granular data more frequently and it makes a lot easier for the customer [Technical Difficulty] (01:25:09-01:25:14)

International, so international is obviously a very big focus for Verisk. Both Scott and Mark talked about its importance. I want to focus a little bit today on what's going on in underwriting and rating from an international perspective. I should start out by noting that AIR is an extremely global business within Verisk. You'll see here that they have models in over 110 countries. So, from an AIR perspective, it's really about continuing to expand models across the globe that we have and really go after a global set of customers. And what you see on the screen as far as the blue countries, these are countries where we actually have staff on the ground that are doing work on behalf of our customers. Obviously, the markets we serve are bigger, but these are the regional offices by which [Technical Difficulty] (01:25:55).

From an ISO perspective, we're trying to move from what was a very U.S.-centric business into much more of a global business. One of the challenges is that from a global perspective insurance is very localized. The way insurance is written is different in every market. So, you can't just pick a solution up and just move it. A little bit different than catastrophe modeling. So, what we've done is over the last several years, we've made key acquisitions in the UK and Ireland and that has really allowed us to establish a footprint in Europe that we can now build off of. And so we've organized that in a way where we can do cross-selling, we can do cross innovation among these companies and really started to organically develop solutions for the market.

Mark also mentioned that we have a good relationship with the Lloyd's market. Lloyd's of London market is a global insurance market. It happens to be in London, but it's a global market. We have tremendous opportunities to grow the business that we have there. And so that's going to be a large focus for us. [Technical Difficulty] (01:26:53-01:27:00).

I'm going to switch gears a little bit now and talk about two initiatives that are very focused on within AIR. And the first one was on Scott's list of Big Bold Ideas. If you remember he talked about some really Big Bold Ideas across Verisk and cyber was one of those. I'm going to talk more specifically about that.

So cyber is an interesting opportunity. First, you should know that cyber premiums are growing at 25% a year and we expect to see that growth well into the future. Compare that to the mid-single-digit growth that Mark showed for the U.S. property and casualty industry and you can see this is a tremendous opportunity for insurance companies to grow. But because of the nature of the risk, insurance companies have a lot of concern about how to price and make sure that they manage this risk [Technical Difficulty] (01:27:44) nature that comes along with cyber. So, what we've done is Verisk gets in a unique position based on our – where we stand on the assets we have, to provide what I would call a soup to nuts solution for insurers. Think of that as out of the box insurance program.

So, let's start with actually some programs that ISO has that we've launched over the last 18 months, where here in the United States, we launched a cyber-program and it's been filed and approved in most states. And so companies can actually come and say I want to rate cyber and now they have the policy forms, the advisory lost cost, they have the underwriting rules on array of coverages to actually write cyber. So that's the good starting point, I can get into the cyber business.

But now I'm worried about my aggregate exposure until AIR has launched two models; one focused on data breaches and the financial impact of a security breach. And the other is focus on cloud provider downtime. So if I've got my business on the cloud, and if there's a disruption, what is that going to do from an exposure standpoint? So that really gives you the ability to both write the cyber risk and manage it on an aggregate level.

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In addition to that, AIR and ISO are working together to build an underwriting product. So think about a underwriter that's looking at a cyber-risk and they can look in this platform at the business, they can determine what does the business do, what type of technology does the business use and what is this particular risk exposure to cyber. And so it's just another good example where our groups are working really closely together and we expect to launch this product in 2019.

And then lastly, AIR is working on the problem of what we call silent cyber. So silent cyber is when you have a policy that doesn't exclude cyber, let's say you're covering property, and there's a cyber event and because of that cyber event, there's property damage, you're going to be liable for that. So understanding across all of your policies for personal, commercial lines, what's your exposure to cyber for all those other lines of business that you write is really important for customers. The big problem in AIR is working on that and expected to launch [Technical Difficulty] (01:29:47-01:29:58)

Lastly, I just want to make a note around global reinsurance companies and you may have saw this on my international slide. So, AIR sits in a unique position. We have over 250 customers. We have an international business that we're looking to grow. Very large global reinsurers use multiple models for doing their [Technical Difficulty] (01:30:15). And so, most of these 30 companies, you see up here, when I say of large 30 companies, most of those are already customers of ours, but our ability to have our models be the primary model is a great opportunity for us [Technical Difficulty] (01:30:30). And so that's what we're in the journey. It takes a while to do this. This is a long sales cycle.

And what you see at the top of the mountain is names of three recent wins that we've had with very large. It's actually five recently that we've closed. So we've had some really good success recently in converting these customers. And one of the things that AIR is doing is they're focused on this technology solution that will make it easier for customers to [Technical Difficulty] (01:30:54) when you think about making the applications native for the cloud, when you think about API and web services connection, so that customers can more easily integrate into their environment. This is a great opportunity for AIR to grow at this [Technical Difficulty] (01:31:11).

And then, I'm just going to wrap up with a comment around operational excellence. So, Mark did a nice presentation talking in depth about each of these things. I just want to highlight a couple of things that are very specific to underwriting and rating. As Mark mentioned, it kind of grew up inside of ISO, so we had a little bit of the benefit of time for about the last 18 months. We've been doing Lean Six Sigma. So we have over a thousand black belts just within our business unit, 15 green belts. Those green belts are all working on projects that have benefits associated with them.

We have four dedicated black belts. So all they do are Lean Six Sigma training and projects. And we've got 30 active projects, but that's a rolling number because we've had a number of projects that have been completed and we've associated benefits. And to Mark's point, you get both hard benefits and you also get soft benefits. Lean Six Sigma is very focused on customers. So, most of the projects we're working on, customer is getting a better experience, they're getting something faster, they're getting something of a higher quality, there's some benefit to the customer in these projects.

In addition to that, we are focused on adding to our staff internationally from a talent perspective. The 200 people you see here are fit in Mark's categories, in the first two categories, the analytics team and our technology teams. So, over the next five years, we expect to add 200 people in probably two locations that will really expand our analytics and technology teams, do it at a lower cost and really support our international growth. So, these teams will support our U.S. operations, our UK operations and growth in Europe. And you'll see the two sides AIR

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already has a facility in Hyderabad in India where we have over 170 employees there. So we'll look to expand our capabilities there. And as Mark mentioned, we have selected a site in Eastern Europe where we can start adding staff in 2019.

And then lastly, I want to talk just quick about automation, artificial intelligence [Technical Difficulty] (01:33:10). As Mark mentioned, most of the efforts that we've had to-date have been externally focused. And my first example here is a little bit – I took liberty, so it is a little bit of externally focused used case because we have these two products, our ISO Risk Analyzer and our Roof Age product where we actually made the products better using machine learning. So, we came up with a better product by using those technologies. But the internal benefit was we got those products to market more quickly. So, the development lifecycle has actually shrunk using these technologies. So, that's the example I would give you from an internal benefit.

The second one is the example that when I mentioned that we rewrote the stat reporting system, so in the old world, we would get stat data from a customer. It could take us up to nine months to start to see data trends where the customer's data wasn't what we expected and we thought there might be a data quality issue. It could be that the customer was changing their book, but it could be a problem in their data. And feedback we got from customers is nine months is a little late to tell us if we got data quality issues. Using machine learning and artificial intelligence we've shrunk that down to days. So now when the data comes in, within days we can tell customer we're seeing something we didn't expect, is this a data quality issue or not. So [Technical Difficulty] (01:34:26) from an internal processing and also from a customer [Technical Difficulty] (01:34:30).

And then lastly, we're starting to deploy robotic process automation software. There are manual processes still within our organization. I like to think we run very efficiently, but there are times where we find people doing things, and so we're kind of looking around for opportunities to do that. One particular project that we have is we have industry database where we have a lot of manual processes and the data quality checks and this tool is going to allow us to automate the whole process.

So just again some examples, to Mark's point, I think each individual one are modest, but when you add them up across the Verisk, they become quite substantial. And I do want to highlight that while these will allow us margin leverage, we are really focused on growth and innovation. And so, we are looking to redeploy as much as we can to fund our innovation agenda.

So with that, I would like to turn over the presentation to my colleague Mike Fulton, who is the President of Xactware and he is going to talk to you about our claims. Thank you.

Mike Fulton

President-Xactware Solutions, Verisk Analytics, Inc.

Thank you, Neil. Well good morning, everyone. I really appreciate the opportunity to share with you this morning. Like Neil, I'm going to drill down a little bit more deeply on some of the concepts that both Scott and Mark touched on with us for an organization, but obviously as it relates directly to the claims organization.

You look at our claims strategy statement, and strategy statements can often be fairly wordy, but I'd like to boil things down into their simplest concept. And from our perspective, it really means this: our role is to partner with our customers and to partner with the industry, really lead them where needed, follow them where appropriate to help them to drive the needed changes within the industry. We are seeing within the claims industry some really rapidly evolving functionality and direction within that industry.

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Our customers for the most part have a fairly firm grasp on where they're headed. And what that means is further automation and efficiency. What they really don't have a good grasp on is what that destination ultimately looks like or how do they get there? And what that means is this, they know as they move into this world of automation that it's going to be disruptive for them. They know it's going to require major shifts in their workflow. They know it's going to require major reliance on technology. And they want to move as quickly as they can, as quickly as their policyholders are able or willing to let them go. We are in a unique position, Verisk is in a unique position because we can aggregate feedback across the industry, we can aggregate best practices across the industry, and as such, we're better poised to be able to implement and employ the appropriate tactical incremental features in a prioritized fashion to really help them to achieve that destination.

Mark touched a little bit about on each one of these during his presentation. I'm going to drill down on each one of them in turn. Let's start with right touch adjusting. Mark teed this up very well within his presentation. We talk about further automation and efficiency within the claims process, in our customers' minds they're really talking about right touch adjusting. And what right touch adjusting means is just employing varying levels of automation throughout the lifecycle of a claim depending upon the type of a claim, the type of loss, the complexity of the claim and even the policyholder. This is a major initiative within the industry today.

We look at the blue circle surrounding the basic steps within the lifecycle of a property claim and then you see the circle surrounding that starting with the no-touch claim, the low-touch claim, and the high-touch claim, we've really coined the phrase right-touch because there's just not a standard playbook that you can employ on a claim based upon the type and size and complexity of claim. Dynamic that has to be taken into account is the policyholder and what does the policyholders need at this given state in their life for a deeper level of interaction, deeper level of face time, deeper level of involvement within the claims process.

We are targeting this in a very purposeful fashion. And if you look around the circle at these particular functions throughout the lifecycle of a claim, for example in a no-touch claim, every one of these could be automated, resulting in absolutely zero-human touch by the adjuster. Moving into a high-touch claim, we still got to send somebody onsite. They've got to determine if coverage exists, if fraud exists and so on, build the estimate back in office. There's going to be some sort of a manual file review. And then obviously in a low-touch situation varying degrees of automation that are going to be employed by someone sitting at a desk.

Many of the functions needed to achieve this are in place today. Think of our ClaimSearch platform with its ability to detect fraud or detect other irregularities within a claim to help people process them more quickly. Think of the Xactimate platform with its gold standard building cost database. Think of our Weather Solutions which enable us to pinpoint if severe weather actually fell on that address at that address on the given date that the loss which was reported. And even in the event of a hail situation can report on the approximate size of the hailstorm, so that we can further quantify the loss in that fashion. Our Geomni solution which can provide before and after data information on the risk and what may have happened there. So, we've got the ability to detect surface area measurements, door and window placements and sizing, material identification and even damage. Our ClaimXperience product which directly connects the policyholder to the insurance carrier at varying levels [indiscernible] (01:40:10) at the deepest level that those two want to achieve.

The other thing that's really cool and where we're moving forward and Mark showed the video of this when we talk about delivering the question sets to the policyholder. We are developing these question sets today based upon the type of loss. So, think of this if it's a kitchen fire or a bathroom water loss or even a hail damage to the roof or the fence damage as we saw within the video. The questions that need to be presented to the policyholder differ for each one of those types of losses. Developing the question sets and then determining the best way to deliver those question sets for the policyholder and consume that information on the backend are critical to us.

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The chatbot technology is proving to be the most effective; natural it's very conversational. Even though the policyholder knows they're talking to a machine, it feels like that they're talking to an adjuster. The chatbot can direct them if needed over to a live body, when appropriate might direct them to a form or they might need to fill out that form. We saw with the uploading of a photo. We can actually forensically mine a photo and maybe answer 10 of the 30 questions that might otherwise need to be answered throughout that claim process. So many of the functions that we need are in place today with the products, but going forward into 2019, we're going to be stitching those together with the automation using that chatbot technology.

Subrogation solutions, we're really excited about the prospect of being able to leverage our ClaimSearch database and the relationships that we have today with over 90% of the P&C insurance carriers out there to really help our customers solve for what is one of the most ineffective and inefficient processes they face today in that subrogation. So, as a reminder subrogation is when insurance carrier is trying to recover the monies that they paid to their policyholder from another insurance carrier who is actually at fault. Verisk is really a connected system and we're a connected system to system with over 740 insurance carriers, risk pools, third-party administrators and self-insurers to our ClaimSearch platform. And as such, we're really uniquely positioned to connect all of these folks together through that subrogation solution.

2018, we launched a new adverse carrier alert to our subscribers to better connect them to each other. And going into 2019, we're excited about a beta test that we have planned for a new product. It's actually a new product to us called Verify that we recently acquired through our Validus acquisition as a UK product, bringing it over stateside, so that we can use it within our subrogation solution to help our carrier clients more effectively manage and take care of subrogation claims. [Technical Difficulty] (01:42:50-01:43:00) doesn't seem to be moving [Technical Difficulty] (01:43:00-01:43:05). Here we go.

Extending beyond insurance, Scott touched on this in his presentation, when he talked about Xactware construction. This is an area where we've established – we, Xactware have established a limited foothold in the past with a product that we called XactRemodel. And this is a big initiative for us going forward. Xactware really shifted beginning in 2019 to more fully invest in the XactRemodel product and other products related to noninsurance. Starting with XactRemodel, roughly 10 years ago we built this product and we've had some decent success with it but it's been limited primarily because we've only marketed it to existing customers. There's a fair degree of remodeling contractors that crossover between insurance restoration and remodeling. We've effectively just marketed that product in the past for those customers. Now, we're reinventing that product, so that we can target the larger remodeling market.

Latest intel shows, and it's actually data that there are more than 750,000 remodeling contractors in the U.S. alone. And while that group varies widely in the size of their organizations with roughly 40% of them fitting into the $250,000 or less annual revenue category, every one of them have the need for some level of automation in the creation of their estimates. As such, we're creating two products to fit that need and they can be used by either one of those groups sometimes both. But we've brought one – we're creating called XactRemodel Xpress, that's a very simple mobile toolset, inexpensive toolset that we'll be deploying to the lower end and the smaller remodeling contractors. XactRemodel Pro which is going to be targeted towards the larger remodeling contractors, which will be a more robust cloud-based solution. It will have full 3D diagramming capability, photorealistic design and even workflow management built into it. And the ability for that product to – or that higher end group of remodeling customers to utilize both the Xpress tool will also be there as well.

Moving down the slide a little bit to EstimateON and RepairWise. These are two sister products that are very simplified estimating, not unlike LightSpeed that, Neil mentioned. They require three data elements. [Technical

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Difficulty] (01:45:19) an address, you put in the type of job and you put in the size of the job, and it will give you a total estimate value based upon the median price within that particular zip code. And you've even got a sliding scale so that you can say what if I select the higher end of finish versus a lower end of finish; it will give you a low and high end range for that.

Really the only difference between EstimateON and RepairWise are the types of jobs that are included. EstimateON is targeted towards the real estate market. The realtor has to go out in their meeting with a prospective buyer or prospective seller and they want to talk about renovations or improvements to that home to help them make the home more marketable. They can utilize that product in that fashion. Latest intel shows that they are about 1.7 million agents within the U.S. We're very excited about that product. It's actually being conveyed at one of the kiosks out here today, very simplified. It's been available for three weeks. And I think we're pushing today nearly 400 customers with that product at this point with just very limited marketing. We've attended one trade show and we've had a Facebook ad that's going out for it. So, that's got some very positive movement in it.

On the RepairWise side, a sister product, effectively the same type of product, it's just targeted towards repairs needed in our home. It's targeted towards the home inspection space. So when a home inspector has to go out prior to a real estate transaction, they're inspecting the home, evaluating the type of repairs that need to happen to that home to make it available or bring it up to [ph] quote (01:46:50). They can provide the homeowner with the cost for those repairs.

Another piece that's nice about those two products is they will both have a contractor referral module built into them. We've already signed an agreement with a major national contractor network and we're talking to others, and this enables us to sell qualified leads to those contractors, so that they can contact the homeowner in the aftermath of that. And what's even better is that if those contractors are using XactRemodel, we can port the estimate from EstimateON or RepairWise over into that system, so it gives them a running start.

Inspection and Punchlist Manager, two toolsets that really help in the management of the contractors business or a commercial inspectors business day to day. It's a CRM type of tool. It's designed to help them manage their day-to-day business, their projects, their leaves, their resources, and so on. And we're continuing to invest in that product. So extending beyond insurance, this is something I believe is going to be very positive for us going forward.

From an international side, this continues to be a major initiative for us from a growth perspective and what we're showing with our map here is where we've got feet on the street or we got product ready to sell and/or revenue coming into the system. Starting with Europe, apart from the UK, we've got a presence and with a product ready to go in France and Germany. We have a presence with our Geomni team in Spain and we have a presence with product and people in Israel with our ClaimSearch team there. Our growth opportunities and our goals with regard to continued growth internationally in the European space and in other spaces is frankly is to not only grow organically through growth of existing products, but to pursue partnership opportunities as well as M&A opportunities.

We've also, as you may know, we've acquired several organizations in Europe, in the UK primarily over the last couple of years. We need to fully integrate those products and stitch them together and bring that organization more tightly together, which are going to give us some additional efficiencies. In Canada, we've been able to enjoy a strong market presence with our Xactware products historically there, which gives us great opportunity to cross-sell other Verisk products into existing customers. And we've got a great deep relationship with the Aviva

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organization, which is one of the largest insurance carriers in Canada that are going to enable us to move the needle on our subrogation product going forward.

In APAC, specifically in Australia and New Zealand, we have some opportunities in the queue related to our subrogation product and we're really excited about the pipeline that we've got in place with our pipeline and actually pilots that we've got in place with existing claims products.

Beyond moving forward with new technology, we are continuing to invest in existing technology that we have within our system today. Starting with our visualized ClaimSearch platform, Verisk continues to invest significantly in this platform. [Technical Difficulty] (01:49:50), as you know, it's got 1.3 billion claims within its database today. And as I mentioned earlier, it serves more than 90% of the P&C insurers in the U.S. [Technical Difficulty] (01:50:00) continue to onboard clients into our new visualized platform in 2018 which really provides more of a millennial type experience to really help claim handles – handlers, process claims more effectively, more quickly in a real time fashion. To-date, we believe we've got more than 36,000 clients have migrated to this new platform. And going into 2019 or by the end of 2019 we anticipate we'll have everyone transitioned over to this new [Technical Difficulty] (01:50:25).

With regard to Xactware's NextGen or X1 platform, this is a reinvention of our existing core products into a more simplified, unified set of products that will really be a global product in nature. We've coined the term NextGen and then we've got X1 because we're taking a dual product strategy. We're building a global product, but the prioritized set of features that our customers need in North America versus outside of North America are different. We're taking more of a dual product approach in building those two products separately and then we'll be bringing them together into more of a single global product within the next few years ideally. So not unlike building a tunnel under the river, start at both ends are going to meet in the middle going forward.

Operational effectiveness, not unlike Neil mentioned and as Mark got into this a little bit more deeply, I'll cover some of these initiatives. These are not all of them that we've got going across the board. But Lean Six, this has been a big initiative for us within the claims organization, we're continuing to drive that forward. A couple of key projects that we're working on or have completed in 2018, the automation of our Medicare Set-Aside process, this has enabled us to automate the process of reviewing medical records more deeply, identifying key medical terms, even identifying more free form unstructured medical data to identify concepts and so on. We've even employed some algorithms that can help the system more effectively predict future medical payments based upon prior injury data.

With our ClaimSearch quarterly compliance review, this is in the past been a very manual process. And as such like other manual processes subject to a fair degree of error occasionally. This is now been automated so that our team can more effectively audit those internal – the internal access and what might be inappropriate access to those datasets and further mitigate risk of compliance.

For GTO perspective, we've historically employed the use of offshore talent. Going into 2019 and beyond, we're growing this like the rest of the organizations specifically in the two areas not unlike what Neil mentioned with technology. So we've got developers and engineers and then on the data science side as well. Our goals are very similar from a growth perspective. Our current thinking is that within the next five years, we should have roughly 20% to 25% of the employees that we have in those groups moved into the offshore state. Again with regard to general technology and continuing to leverage that, we like everyone else on the planet are migrating services to the cloud. So migrating the hosting of those services and the access to those services to the cloud technology as it exist today.

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The use of graph database in repair cost estimating what that means is this. As someone is writing an estimate live, we have the ability to through the review of existing historic claims, existing historic estimate in that location based upon that type and size can actually recommend to that person real time, what are the next items they should be adding to their estimate, what are the type of items they should be reviewing based upon that type of loss. Again, that further pushes us into the automation state. Therefore with regard to RPA, operationalizing robotic process automation, this is something we're looking at across the organization, what example is that we've used that within our workers' comp products and services so that we can further automate what were before very manual processes, therefore, freeing up resources to be able to move them onto other customer projects.

So again, a few examples here of what we're doing from an operational effectiveness perspective. Certainly not a comprehensive list, but as we continue to look at this as an organization, this further allows us to gain efficiencies in that space, redeploy resources where we can, and further enable us to better manage and improve our margins.

So with that, I appreciate your time. I think up next we've actually got our Q&A panel with our leadership group. Thanks very much.

Mark V. Anquillare

Chief Operating Officer & Executive Vice President, Verisk Analytics, Inc.

Super. So I think one of the things we've always said is we've had great and deep domain expertise across Verisk. So what you see in front of you is over 100 years, we feel old but 100 years of expertise, ready to take some questions.

So, maybe I'm not sure if we're going to use microphones. Perfect. Yeah. Super.

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QUESTION AND ANSWER SECTION

Q

What have you just discussed about the organic revenue experience has been internationally this year, the organic revenue experience? I know there's a lot of acquisitions in there and great [indiscernible] (01:55:38) place on the opportunity. I just want to know what the organic revenue growth has been with [Technical Difficulty] (01:55:42).

Mark V. Anquillare
Chief Operating Officer & Executive Vice President, Verisk Analytics, Inc.

A

So, I think what we would tell you is that we are growing faster internationally than we are in States, which is [indiscernible] (01:55:52). Organic growth holistically is we're contributing to a – looking to [Technical Difficulty] (01:56:00-01:56:07) talk about this specific opportunities but that faster growth internationally is occurring both on the underwriting side as well for claims side.

Henry Sou Chien
Analyst, BMO Capital Markets (United States)

Q

Hey, guys. It's Henry Chien with BMO. I wanted to ask a follow-up or further question on international expansion. So, as I understand it is a key part of the growth strategy and part of that is through M&A. So, I'm just wondering if you could talk a little bit more about what are the assets that you need to carry out that strategy whether it's the types of data sets that you need or the distribution or maybe just in terms of the components. And maybe related to that, what really drives the valuation of those assets for you whether it's just the ability to scale them or integrate them. Just thoughts on that.

Mark V. Anquillare
Chief Operating Officer & Executive Vice President, Verisk Analytics, Inc.

A

So, there are a couple of different questions there, I'm going to – we'll answer that maybe across the vertical. For me, take it from a high level, as we look at the international opportunities from an acquisition perspective, I think we have a view that we continue to do more, want to do more and I'll refer to as standard commercial lines in the UK and Europe. So, standard commercial represents commercial property, general liability, commercial auto. We are very much focused on the specialty lines through Sequel.

What we're also looking to do is kind of bring a combination of organic growth and acquisition as we get into new markets. So, you saw Germany and France as being kind of the next stop.

Why don't you maybe talk a little bit about underwriting and we'll go to claims?

Neil Spector
President-ISO, Verisk Analytics, Inc.

A

Yeah. Sure. So on the underwriting side, I'd say two things. One is from a property perspective, we've got a lot of capabilities here in the U.S. and we've heard that they want – our customers want those [Technical Difficulty] (01:57:48) we've been able to build kind of organically and take some of our property solutions into the UK and Hong Kong and Singapore as examples.

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Other markets that would be attractive to us that we're actively looking at, for example, France and Germany, and to be in those markets you really need to be French or German. You need companies that already have a place inside the ecosystem of the insurance industry where they're a valued partner. And so those would be the type of companies that we would look at from an acquisition standpoint. So I think to get into a new country like that, certainly we'll be looking for opportunities [Technical Difficulty] (01:58:24).

Mike Fulton
President-Xactware Solutions, Verisk Analytics, Inc.

A

I would say something similar. From our perspective, we've had a couple of challenges in the past. And number one, we've had great success in North America. But throughout North America, construction techniques are very similar. Building costs therefore are – you can use the same methods to research and produce that building cost data as you move into other markets. Construction techniques vary and building costs therefore are different as a result of material and labor and things of that nature.

So localizing existing product has been a little bit of a challenge. And it's not something that can't be done, but we've been able to move that needle forward. And pushing that – driving that change into existing insurance carrier clients – not clients, it's prospects, excuse me, is a little bit slow to move. These are less mature markets, and trying to convince someone to move from using pencil and paper or Excel into an automated fashion where they can have a greater level of control over the claims process is just a little bit slow to move. I think we're starting to see that move and we're very excited about the prospects that we have. But frankly what we're seeing is most carriers wanting to leapfrog that conventional estimating process and move more fully into automation. And those are the things that we're building organically today.

But from an M&A perspective, we will continue to look because of just the natural hurdles we face with regard to localization, we will continue to look to other providers that either provide building cost data within the market or even estimating tools.

A

Let me just add from a claims perspective, there's some assets that we have and capabilities that we have that we think really spans well and nicely across the globe. So, one example, Mark mentioned it earlier, we have the capability that from a series of photos, we can interpret those photos using computer vision and image forensics to determine is this vehicle a total loss or is it repairable and if it's repairable, what's the approximate cost to repair that vehicle?

And we're seeing really good – it was a – this is a solution that we currently have in the UK, but we're seeing great interest in that tool in other markets. We have pilots going in Germany and in France and [Technical Difficulty] (02:00:37) as well as in the U.S. So we think we have some nice solutions that [Technical Difficulty] (02:00:41) nicely regardless of the market.

A

I'll just add one quick thing. We're obviously scalable internationally. I think our focus is – especially if you look in the London market and Lloyd's, what we can do is see who we kind of highlighted that before. Clients are asking us, how can you make my workflow easier? So we see a path of growth just from the assets that we have.

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Manav Patnaik
Analyst, Barclays Capital, Inc.

Q

Good morning, guys. Right here. It's Manav Patnaik with Barclays. Just two quick questions. First, just, you talked a lot about the InsurTech [Technical Difficulty] (02:01:12) I just wanted to understand a little bit better. Is the InsurTech threat more than going after the insurance companies and you guys are just trying to be part of it, or is there also an angle where they're coming after the existing vendors like yourself and – just trying to understand the difference.

And then just a quick follow-up, the TAM mark that you showed of insurance, $9 billion, I think last year it was $7.5 billion. Just curious what the improvement [Technical Difficulty] (02:01:40).

A

Let's start with the InsurTech. So I would put the InsurTech in two categories, one, which is a great opportunity for us. So think of an MGA, managing general agent, where InsurTech start-up company sits in front of traditional insurers and provides a better customer experience [Technical Difficulty] (02:02:01) some kind of a – whether it's online, they're offering some kind of special program. Those companies come to us for help like for example with LightSpeed to be able to meet the new customer experience model.

The second category I would put is companies that are just trying to solve a problem inside of an insurance company with advanced methods. And I think the challenge is attention, right. So your customer has a certain amount of attention span for new things. I think insurers are spending a lot of time looking at that tech. We get a lot of feedback where they come to us and they want to know what we can do relative to what they've seen in the market.

And as Scott pointed out, a lot of times we get requests that they – maybe they're working with someone and they want that company to be able to plug in to either a platform or a solution or partner with Verisk. So for the most part I see it as opportunity. The one caveat to that would be just a distraction in that, our customers are spending a lot of time looking at that. And so we are too. And that's one of the things that we're doing is we're looking at all the insurers that we keep a pretty good eye on the market so that we can see what's coming out and see if there's opportunities for us.

A

So I just wanted to maybe answer your second question, if you don't mind, from a TAM perspective, the things that kind of increase the TAM from prior year is a few things. First of all, the acquisitions we did do are applicable internationally which increases TAM there as well as back in the United States. I think what we also did is we looked at the claims TAM. We kind of have gotten to one more detail, one more ground up this year. And we felt like there was a bigger opportunity. So, those are the two things at that [Technical Difficulty] (02:03:42).

A

And we've added the non-insurance piece as well [Technical Difficulty] (02:03:46).

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William A. Warmington
Analyst, Wells Fargo Securities LLC

Q

Bill Warmington with Wells Fargo. So a question for you on LightSpeed in the auto insurance "space", there are some products that you've worked with TransUnion on, things like A-PLUS in the auto loss-history side. Now, there are some other products like the motor vehicle report specifically where there is – it looks like there's some overlap. And so what I wanted to ask on LightSpeed is what does the competitive landscape look like for that product?

A

Yeah. No, great question. So all of the products you just described can fit under the LightSpeed. So really what LightSpeed is, is it's taking the outputs of all those. So what was the motor vehicle experience, did you have an accident, do you have a speeding ticket, all those history and evaluating that in real time to be able to produce the final results.

Historically, what's happened is that underwriting information can be costly. And so insurers don't order it up-front. They typically – the only thing they order up-front is credit and then they quote. And that's why the price changes a third at the time.

So what we're seeing with LightSpeed is behind the covers, it's driving those. And every insurer is different as to how they want to use that information in the flow, so one insurer's LightSpeed implementation could look different from another. Companies are trying to move away from motor vehicle records, just quite frankly because they're expensive. And so they may come up with a LightSpeed process that doesn't look at that unless it falls into the 20% or 30% that they're concerned about, and then the 20% and 30% will put it to an underwriter, and the underwriter might order those type reports.

The other thing I'd say about LightSpeed is there is data under there, that's from partners. You mentioned one of our partners there. We have many partners that provide data. So, underneath the covers of LightSpeed, we will be [indiscernible] (02:05:46) third-party data. But some of the key things under there, which is the prior coverage and who you are, and the vehicles and some of that key stuff is proprietary data that Verisk have.

Hamzah Mazari
Analyst, Macquarie Capital (USA), Inc.

Q

Hey Mark, it's Hamzah from Macquarie. Just a question on international. Could you talk about your acquisition pipeline internationally? Because last year you said you could double the international business and at current organic growth looks like you're going to have to do an acquisition for that to be realistic or a material step change in current organics. So, maybe you could speak to the acquisition pipeline. Thanks.

Mark V. Anquillare
Chief Operating Officer & Executive Vice President, Verisk Analytics, Inc.

A

Yeah. First of all, the numbers I provided last year were completely organic. I just want to make sure, I mentioned this last year and I'll do it again, there's a couple different ways from a GAAP perspective. You can probably look at our K and you'll see where we deal international and then we have kind of a [ph] bit of map (02:06:46), which I shared last year was where the customers are actually using these solutions. So, I think we're well down that path. I think we're actually ahead of that path and we feel good about the organic approach that we share last year as it relates to international growth.

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Let me now answer your question on pipeline, which is also a good question. I just wanted to make sure I [indiscernible] (02:07:06) – so, I think we continue to be very active in looking at companies and we probably did quite a few last year where we were integrating. I think we put management at the top. I think we feel good. We're at the point where those are integrated and we're starting to move those around the organization into different countries. You saw examples of that.

We are now kind of working across new opportunities. We have a few things we're looking at in the UK, we have several in Germany and I think we continue to feel good about the acquisition pipeline. It's something we'll probably talk about later on. It's a – full prices are out there. It's still a pretty frothy market. People do not experience Friday like others – or excuse me, Tuesday like others. But we're going to continue to be active there, and I think we feel like there are some companies that nicely fit into what we're trying to accomplish.

Gary Bisbee
Analyst, Bank of America Merrill Lynch

Q

Gary Bisbee from Merrill Lynch. I guess across all of your businesses, there's a lot of talk about helping insurers automate various things whether it's the underwriting process, the claims process. And as we think about what that means for Verisk in total, how much of that really are incremental revenue opportunities for the business versus maybe some areas where you're cannibalizing legacy less automated solutions you were selling to those customers just to continue to deliver what your customers are looking for? And can any of you be granular with some of those examples of what's really incremental versus what maybe upgrading what you're doing?

Mark V. Anquillare
Chief Operating Officer & Executive Vice President, Verisk Analytics, Inc.

A

Good question. Rich, do you want maybe start with some claims thoughts and [indiscernible] (02:08:53)?

Richard Della Rocca
President-ISO Claims Analytics, Verisk Analytics, Inc.

A

Sure. Yeah. I guess I see almost all of what we're – the new products that we're delivering as incremental for the product we already have. Mike mentioned ISO ClaimSearch which is [Technical Difficulty] (02:09:05) foundational or they are contributory database. And the – and so I don't see any risk to that. What we are building are more deeper analytics on top of that core solution that will create even more added value for customers that we can [Technical Difficulty] (02:09:20) additional amounts for. But it's not substituting our new solution or our existing solution. It's really continuing to build on the solutions that we have.

Mike Fulton
President-Xactware Solutions, Verisk Analytics, Inc.

A

I would add to that from an Xactware perspective, if you think of [indiscernible] (02:09:36), the estimating tool, the building cost data, it's still got to be used whether someone is actually going out and manually estimating or we're driving change and driving innovation into that. What carriers are trying to solve for is there's an aging and therefore soon-to-be retiring adjuster population and they want to replace that workflow and the expense associated with it with some form of automation. So the good analogy – and I agree with Rich, I don't think that this supplants any existing revenue. And just because I've hired a driver, it doesn't mean I can sell my car. I got to have both of those things.

Mark V. Anquillare
Chief Operating Officer & Executive Vice President, Verisk Analytics, Inc.

A

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[indiscernible] (02:10:08) all incremental [Technical Difficulty] (02:10:12-02:10:18) and I'm buying that data from [ph] us (02:10:21). Our price models change a little bit. When you sell data at a point of sale, which is I've done all the underwriting and now I know I've got the person on board and first, the price point at quote, there are different price points. So, you have to change your model, but it ends up being all incremental.

Charles Gregory Peters
Analyst, Raymond James & Associates, Inc.

Q

Good morning. Greg Peters with Raymond James. So, you've spent a fair amount of time talking about how you're helping your insurance company clients improve, automate, et cetera, innovate. Can you talk a little bit on the distribution side? And beyond just auto, you talked – at one of the presentations, you talked about complex property proposals that are out there and it just seems like distribution. We've heard some of the insurance carriers complain about the expensive distribution. And it just seems like that's an opportunity for InsurTech for you guys to get involved with. Maybe you could provide some color around your thoughts there.

Neil Spector
President-ISO, Verisk Analytics, Inc.

A

Sure. So, just want to make sure I got the question. You're talking about the front-end of the insurance process not our channel or distribution, meaning sales to market. Okay. Good, [Technical Difficulty] (02:11:29). So, it's a very good point. Distribution is expensive.

So, what I would say is if you're really thinking about the future, you really need to be thinking about much more of a direct market where I can go on to a website, put in my three pieces over two pieces of information and be done.

Obviously, insurance is a complex product and there're agents and broker channels for carriers. Many of those carriers are not going to give that up ever. And that has put challenges on them from a financial standpoint, because if you have a big agency and you're trying to compete with a direct writer, that's going to create challenges for you. At the same time, insurance, because of the complexity, there is a certain amount of advice that needs to go to the policyholder.

And so, you'll see two camps. There's the one camp that says just makes it simple and [indiscernible] (02:12:21) like I pull out my smartphone, put three pieces of data and I'm done. The other camp will say when you have a claim, you're going to be sorry, because you didn't understand exactly what you were trying to buy. So, really where we've been trying to focus with those customers that have more complex distribution is make their distribution more about advice and not about gathering data and asking a lot of questions. And if you can do that, then the distribution channel becomes more of an advisory. That's why you would do business with my company, because we know your business, we specialize.

The other thing you'll see is specialization out there. Insurance companies who specialize in areas where they know a lot and they can provide the best advice. So, there's been a lot of predictions about the death of the middleman. I think it's a long ways in the future, but it's changing. And if we can help that distribution be more efficient, then I think [ph] advisories sort of this is where it goes (02:13:13).

Mark V. Anquillare
Chief Operating Officer & Executive Vice President, Verisk Analytics, Inc.

A

So, let me add one comment and maybe I'll ask Bill to comment from a reinsurance perspective kind of how that looks. I'm sitting here in front of Lisa who kind of heads Financial Services. And as you think about the front-end,

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there's a lot of advertising that happens in the insurance market. There's a lot of [ph] re-gen (02:13:34) that happens. So, we continue to think things that we can work with using kind of the Argus dataset and the financial services capabilities is very attractive to our insurance customers. So, that is the focus a little bit further into the future, but something that we think could be very positive for us.

Lisa Bonalle Hannan
President-Verisk Financial Services, Verisk Analytics, Inc.
A

Bill, you maybe talk a little bit about the...

Bill Churney
President-AIR Worldwide, Verisk Analytics, Inc.
A

More on the backend?

Lisa Bonalle Hannan
President-Verisk Financial Services, Verisk Analytics, Inc.
A

...reinsurance.

Bill Churney
President-AIR Worldwide, Verisk Analytics, Inc.
A

The reinsurance side of it. Yeah. So, I think you also see some of the same trends in terms of movement of insurance risk into the reinsurance and capital markets. You've had the [ph] cap-on market (02:14:04) be successful for a number of years, but you're seeing these investors say, I just don't want to do [ph] cap-ons (02:14:11). I want to get as close as I can even to the actual insured risk. I think that's where you start to see automation technology come into play.

They're not going to invest in the same type of capabilities or legacy systems. They just want to get the analytical answer and move forward and want to consider, just like Mark was talking about, how do we do this in a much more automated way and take out X number of steps in the process. So, I think that just bodes well for all of our analytics to feed into that process. So, there's fewer questions asked, less data transfer, they can just actually get the answer and move very quickly. So, that's a good opportunity for us.

Tim J. McHugh
Analyst, William Blair & Co. LLC
Q

Hi. Tim McHugh with William Blair. Just market share win and losses scorecard, I guess, can you contrast that with three years ago and how has that changed over time in an overall sense and then by maybe business unit? I guess where is it different than in the past?

Mark V. Anquillare
Chief Operating Officer & Executive Vice President, Verisk Analytics, Inc.
A

So, let me say it this way and I'm going to ask others, we have increasingly focused on it, let's say, monthly focus. So, I think that has also translated into behaviors and behaviors translating to results.

So, one, I would tell you the results are better, I think, especially in that first column where you had the entrenched competitor. I think we used to be very happy when we get 25%, 30% [Technical Difficulty] (02:15:31) greater than 50%. I also think there's more competitive opportunities that I've seen.

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So, I'm going to maybe have our teams comment, but that would be my high-level observation.

Neil Spector
President-ISO, Verisk Analytics, Inc.
A

Yeah. I mean I would say we're doing better than we were in the past. I mean if you're looking a year ago, we were doing pretty good a year ago. We're doing – we are to do and improve, but if you look five years ago, we're doing a lot better than we did in the past. And I think some of it is just the innovation, things like LightSpeed, which are different ways. It feeds into the disruption that's going on in the industry. It's creating more opportunity for us.

And I think it's the breadth of Verisk. I mean one of the things that is really powerful for the individual business is, is that we're part of a much bigger thing. So, we can solve problems now for customers for an entire line of business, from the point of targeting the insured through the policy lifecycle, through the claim and right back into the reinsurance market and there's just not anybody out there that can go that broad and I think that gives us a strong advantage in the market.

Mike Fulton
President-Xactware Solutions, Verisk Analytics, Inc.
A

Yeah. I'd like to add. I think we're also having different levels of conversation with our customers than we've had several years ago. Scott mentioned speaking with – at the CEO level, with many of our customers. But I think at the executive team level within the insurance vertical, we're having more strategic conversations with our customers on a regular basis.

So, it changes the nature of the sales process. So, you're not – it's not an account executive going out trying to sell a point solution. We now have a much more strategic conversion across our full solution set resonating with our customers and it just makes the process much more [Technical Difficulty] (02:17:19).

Scott G. Stephenson
Chairman, President & Chief Executive Officer, Verisk Analytics, Inc.
A

Yeah. From AIR perspective, actually Neil did a great job showing that slide. So, yes, you can see we're having a lot of good success and definitely much better than five years ago. I think that's great model that we have, but it's also delivering on technology and a software platform and that's been important.

But the third thing I would echo is, what Neil said, is the breadth of the conversation we can have. And Scott said it I think earlier where companies are looking to center on a partner and we just bring a huge advantage where we say we can help you across the board and they feel we're very – we're going to be a very innovative partner going forward.

Toni M. Kaplan
Analyst, Morgan Stanley & Co. LLC
Q

Hi. Toni Kaplan from Morgan Stanley. I think you mentioned earlier that you've made some progress with Lloyd's over the past year. So, just hoping you could give some additional color on that. And then, additionally in the UK, are there any organizational changes that you need to make with regard to Brexit or have you made some changes or is there really not much that you need to do from that front? Thank you.

Mark V. Anquillare
Chief Operating Officer & Executive Vice President, Verisk Analytics, Inc.
A

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Good. All right. So, let me maybe try to take this. So, I think what we've had is a kind of a team effort as you think about the opportunities we've explored and been successful with Lloyd's. We were there last week spending a lot of time with them.

The range of opportunities include a partnership with the group's [Technical Difficulty] (02:18:44) where we kind of put a platform in combination with expertise. We've had some great success kind of with the Sequel side of things and they are also interested in improving the underwriting. So, there's been some [Technical Difficulty] (02:18:57).

I would like to call our people who have been influential in that. So, Nick Daffan over here will talk later. Hats off. Maroun Mourad in the back will hit our commercial and international. We spent a lot of time and I think [Technical Difficulty] (02:19:13-02:19:19).

Did you have a second part to the question? I want to make sure I....

Scott G. Stephenson
Chairman, President & Chief Executive Officer, Verisk Analytics, Inc.
A

Yeah. Organizational changes on Brexit. Yeah.

Mark V. Anquillare
Chief Operating Officer & Executive Vice President, Verisk Analytics, Inc.
A

So, I think we are very sensitive. I think our insurance customers and Lloyd's is very sensitive to Brexit. It has actually created a couple of opportunities commercially. As it affects us, I don't think we have too much to worry about. We haven't really organized anything differently. I think we have, as [Technical Difficulty] (02:19:45) from a cloud perspective, there's some GDPR issues that we are always sensitive to, but I don't see anything [Technical Difficulty] (02:19:53)

We have one more question we can probably handle.

Jeffrey P. Meuler
Analyst, Robert W. Baird & Co., Inc.
Q

Yes. Thanks. Jeff Meuler from Baird. So, I guess I'm curious, do you see that there's a natural lines of demarcation drawn between the types of software solutions provided by a vertical software provider to the industry and what Verisk will provide? And you've often answered the question in a defensive sense in terms of the [Technical Difficulty] (02:20:18) use of the data that flows through their system. But just as you talk more about partnering with other providers, from the offensive sense, are you increasingly encroaching on the vertical software providers to the industry? Are your software solutions just kind of different than the types of software solutions that are typically provided by a Guidewire or a Duck Creek?

Mark V. Anquillare
Chief Operating Officer & Executive Vice President, Verisk Analytics, Inc.
A

So, let me start that and everyone will have a view. So, first of all, let me highlight that Sequel is kind of that vertical software play, but they are very much focused on the London market [Technical Difficulty] (02:20:55-02:21:00).

We have said we have some great data, much more specific [ph] on segmentation (02:21:05) risk or like to focus on claims. And what we have done is we've said we'll integrate into all those players. So, if you think of every big

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policy and then provider, [Technical Difficulty] (02:21:15) in large part, we have integrated in, because people want access to us, our information.

What we try to do is make sure we keep that point of interface with our customer. We don't want to be [indiscernible] (02:21:28) and we want to make sure people know it's us and we're not being white labeled. But I think what we've tried to do is provide information through all those players. [indiscernible] (02:21:40) has a slightly different scenario, [indiscernible] (02:21:42) where they have a very much a platform type of play across the claims system there. It's a little bit more of a [Technical Difficulty] (02:21:53-02:21:59) talk a little bit about that.

Do you want to...?

Neil Spector
President-ISO, Verisk Analytics, Inc.
A

Yeah. Sure. So, I would say that we view integration with systems like Duck Creek and Guidewire as a great opportunity. Our customers ask us quite frankly. They want access to our content through the system. So, over the last two years, we've actually dedicated resources to integration with other platforms and we're integrated with both of those platforms. But when you think about products that we bring to the table for underwriting and so forth, very different than a platform for managing a policy [Technical Difficulty] (02:22:30). So, integration to those platforms is important. We dedicate technical resources to it and we dedicate business development people to go find the opportunities.

If you were to say what's changed three years ago, where we're really going out there and actually seeking those relationships. Now, we were more like if a customer said I want to integrate, we would integrate. Today, we're actually dedicating resource. We have a team. We actually go out into the market and look for opportunities to [Technical Difficulty] (02:23:41).

You want to comment?

Bill Churney
President-AIR Worldwide, Verisk Analytics, Inc.
A

Yeah. From our perspective, we're continuing to grow obviously within the verticals in which we exist. But there are certain things that we don't do. And so, we're integrating with other providers. I think we're very open as a platform to integrating with those that can provide the same or the appropriate level of protection of our carriers' data that there's something that's viable, that there's a cost involved in integrating with these folks and we want to make sure they're actually going to be around.

But there are a number of different services that are cropping up that we are thinking of growing into from either organically or through an [ph] acquisition (02:23:32) space. So, we want to be open to integrating with those that are going to provide those services to our clients today, because in the end, that's really what we're trying to solve for is taking care of those folks.

As Mark said, we've enjoyed a great market share. We kind of established ourselves as a platform into which others really want to play in that ecosystem. We haven't in the past had to really be proactive to go out and seek those folks, because we get phone calls to the tune of three to four a week from different integrators that want to play in the ecosystem. It's just a matter of being cautious and controlled about who we let play in the mall so to speak.

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Scott G. Stephenson

Chairman, President & Chief Executive Officer, Verisk Analytics, Inc.

Well, thank you. Appreciate it. We went over our time line by a bit. So, we're going to have to wrap up. We're happy to take other questions and thank you [indiscernible] (02:24:17).

Bill Churney

President-AIR Worldwide, Verisk Analytics, Inc.

Thanks, everyone. Thank you.

Neil Spector

President-ISO, Verisk Analytics, Inc.

Thank you.

Stacey Jill Brodbar

Analyst, Verisk Analytics, Inc.

Thanks, everybody. I'm sorry, it was a slightly shorter break than we have expected, but we have a lot to get in. So, without further ado, let me introduce, Neal Anderson, the President of Wood Mackenzie.

Neal Anderson

President-Wood Mackenzie, Verisk Analytics, Inc.

Good morning, folks, and welcome. It's great to be with you here today and it's good to see so many familiar faces from last year. Today, I'm going to talk about energy and specialized, which Wood Mackenzie makes up around three quarters by revenue and just north [ph] of 80% (02:24:55) and EBITDA [Technical Difficulty] (02:24:56).

[audio gap] (02:25:01) our mission and vision statement, talk about the market, what's happening in the market [audio gap] (02:25:07-02:25:12). Talk about the [indiscernible] (02:25:13) strategy. And then more importantly, we'll drill down into the key sources of [audio gap] (02:25:17) in short, medium and long term.

Wood Mackenzie's mission is to work with all stakeholders, be it producers, refiners, shippers, end users, customers, governments, regulators, NOCs [audio gap] (02:25:45) relatively cheap, reliable, accessible and [audio gap] (02:25:50-02:25:55). Wood Mackenzie is ideally placed to do this by virtue of our legacy data sets that was acquired over the last four decades. Our global presence right across the value chain right from the well through to the [audio gap] (02:26:11).

In terms of the energy strategy statement, there's two key things I do want to draw light for you. We're not a vendor. We're not a supplier. We are a trusted partner, back it up with some of the comments from our clients.

So a little bit more detail in terms of Energy and Specialized, we mentioned Wood Mackenzie forms the majority of that. Mackenzie business as you folks know [audio gap] (02:26:40) are on the advisory side and the event side [audio gap] (02:26:48). We've had a new addition to the Energy and Specialized group called PowerAdvocate. I don't know if you folks had a chance to meet Leo Whiteside doing a demo of their course module. As Scott mentioned, these PowerAdvocates folks work with clients to bring greater understanding [audio gap] (02:27:07) part of the utility side and then moving into upstream side [audio gap] (02:27:11) and they produce unique data that they then can feed back to the industry [audio gap] (02:27:21-02:27:29) three components of the sector of AER. [audio gap] (02:27:32) other side with the Wood Mackenzie renewables [audio gap] (02:27:38) Maplecroft

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that looks at country risk [audio gap] (02:27:43) for existing opportunities and looks out if you're going in as a [audio gap] (02:27:46-02:27:55). Finally, there's Verisk 3E [Technical Difficulty] (02:27:58) health, safety, environment and again strong overlap with our chemicals business.

[audio gap] (02:28:08) the first thing that's on your mind is talking about Energy and Specialized, talking about the recent fall in oil price over the last months. I think we're down something 30% Brent just north I think $58, $59 a barrel today. What does that mean for our clients? This chart here you can see in the dotted lines, that's the oil price and in the shaded, that is cash margin. These thing that I'm showing here is that the industry has done a phenomenal job over the last three years of rebasing its cost base [Technical Difficulty] (02:28:43) with the cash margin because they're back up. In fact, they are exceeding where they were when oil price is $120, $130.

The key thing here is the core, core clients for Wood Mackenzie [Technical Difficulty] (02:28:58) rebased the portfolios have instead [indiscernible] (02:29:00) an oil price of $60, $70, $80, $90 a barrel, in some cases they worked at $40, $45 and $50 a barrel. We all wait [indiscernible] (02:29:12) to see what happens in OPEC. We understand there's going to be a production cut for oil industry [indiscernible] (02:29:17). Regardless, our core clients have still got a very robust business even at the current realities of the oil price.

There's also a fascinating debate between industry and the Street as to with all those high net cash margins what to do with that cash. [Technical Difficulty] (02:29:40) very keen to get that cash back in terms of dividends and buybacks, what was shown in other part of the chart is there's a real risk here that we actually end up with the supply [Technical Difficulty] (02:29:51). Wood Mackenzie's numbers over the last three years have taken something like $0.75 trillion of investment, either totally off the table or pushed up materially to the right. We're concerned in two or three years' time, I believe we'll be talking about a supply issue [Technical Difficulty] (02:30:10-02:30:16).

Voice of the Customer I talked about, Wood Mackenzie's retention, we're at 97%. A couple of things I want to draw from that is comments from our customers. They are truly global, and they're very much blue chip, and Wood Mackenzie is integral to the success of their business.

Mike referred to this, I think, as the [ph] layered cake model (02:30:39). This is a good snapshot looking at Wood Mackenzie's strategy within the Energy and Specialist (sic) [Specialized] (02:30:45) segment. We talked about customers and voice of the customer are absolutely critical. That has driven how we think about how we want to evolve this business.

Employees are absolutely critical as well for Wood Mackenzie, and it's imperative that we continue to attract and retain the best possible talent we can. And as we target the millennials, it's really important that they actually understand that mission statement that I talked about before. We've got a global cause here in terms of energy access, dependability, cost, sustainability, and that's what folks and the millenials really get a kick out of, as well as the interesting work that we do here.

I mentioned at the intro that we're going to talk about sources of growth over the medium and long term. For those folks that were here last year, you'll remember me talking about Wood Mackenzie Version 2.0 and how we're going to transform the business. As Scott mentioned, that's become much more tangible in terms of developing a brand-new analytical platform which is called Lens, which will post all of our new and reimagined products.

And again, I encourage you, if you get a chance to go and talk to [indiscernible] (02:31:54) download the Lower 48 Lens version. We also have new content areas that will continue to grow the business, subsurface, chemicals, power and renewables. I'll go into them in a little bit more detail.

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And then last really key growth area for us is the Analytics Lab, which has essentially taken all the wonderful experience from the Verisk companies in insurance and financing services, and applying it to them into spaces in markets. Tim will talk about that in a little bit further.

As you know, Wood Mackenzie 2.0 and the whole Lens platform is posted in the slide, and we've had a great opportunity not just to launch new products and not just to reimagine new products, but also think about the back end, how we actually think about the processing and the systems that we use to identify the data, script the data, cleanse the data, set it up for an analyst who then put it in an analytical platform.

That is a wonderful opportunity in terms of re-imagine how we do that and drive efficiencies. And automate as much as we can and use as much machine learning as we can. Again, Andrew will show you that dataset. Lower 48 Lens has been automated the whole way through in terms of how we capture and transact data. We're also very interested in leveraging off the great work of Mark and spoke today in terms of talent, global talent optimization, looking globally where we can get the best talent at the most competitive price.

And of course, the challenges, when you got a business that's making such a margin as Wood Mackenzie, we're going to have lots of focus set specific into that side of the business. So, it's [Technical Difficulty] (02:33:36) for us to be continually thinking about what next one – what next we need to do to continue to grow our business. To be able to respond to that, we need to be continually transforming [Technical Difficulty] (02:33:48).

So, in terms of sources of revenue growth, this slide is looking at our core WoodMac business. You may recall me talking last year about – the leading indicator that Wood Mackenzie has for return in the market is our advisory consulting business. Pleased to say that consulting business is 20% up year-on-year. So that gives me huge confidence that the market is coming back very, very strongly for the core offerings around Wood MacKenzie, another even more important in that is the anecdotal evidence is that clients are starting to ask what's next? Where should we go? What's the group agenda? How should we be thinking about expanding our business?

It's wonderful for us to hear Wood Mackenzie because that's exactly the kinds of things that our products and services are designed to. We see that coming through in the mid-single digit growth in terms of the revenue. You can see it in the margin there, and that's for the entire Energy and Specialized segment. We were looking at the margin just for Wood Mackenzie, the business unit but the corporate overhead has gone from the mid-30s up to the high 30s. [Technical Difficulty] (02:35:08) entire segment is 95. Wood Mackenzie is in the north of 97.

We mentioned 2.0. We mentioned new analytical platform and this analytical platform is being called Lens. [Technical Difficulty] (02:35:24) the lens platform, it's a little bit akin to you got to come in the morning and I'm assuming the first thing that you open up is [Technical Difficulty] (02:35:30). Probably the last thing you close at night is [Technical Difficulty] (02:35:34).

What we want our key clients to do is the exact same thing we plan. First thing they do in the morning is they fire it up. Last thing they do at night is to close it up. For us to be able to do that, we have to have a very intuitive user experience has to realize the clients' ability to play with Wood Mackenzie's data, but also input their own data and input third party data.

We wanted to be truly dynamic. If they don't like any of our assumptions, they can change it on the slide and they can recalculate right down at the well level and recalculate all way up with the company level. And we wanted to be truly integrated from the wellhead through to the gas pipe. That's obviously work in mobile and of course it has

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to be secure. Again, you'll see tangible manifestation of that when you have a chat with us [Technical Difficulty] (02:36:23).

Other key areas of growth medium and longer term are the projects of the new content areas that we talked about last year. Scott mentioned subsurface, that business has grew on its high single digits this year, and we're really pleased up with kind of major wins displacing one of our key competitors with one of the major oil companies. Because clearly got the concept of merging the technical and commercial vehicle together.

The chemical side of that business is growing high mid-teens and it's a really exciting business because medium to long term what we think will drive oil demand medium and long term will be petrochemicals. So its key that we have a position in that business.

And if you recall, it's a combination of our legacy chemicals business plus recent acquisitions of PCI. We have rebranded that entire business Wood Mackenzie Chemicals, continue to expand the brand right across the [Technical Difficulty] (02:37:28).

Another key new areas that we talked last year Power and Renewables. This is again is our legacy Power business, which we have merged with MAKE from Denmark that cover wind and Greentech Media that covers solar smart grid storage out of Australia. Again, it's key that we expand that brand with Wood Mackenzie right across the value chain and it's absolutely critical for us to have a material business in Power and Renewables to future proof Wood Mackenzie through the energy transition. That business is growing in the high teens [Technical Difficulty] (02:38:06).

Other key component that we're really excited about Wood Mackenzie is the Analytics Lab. [indiscernible] (02:38:15) now have been tasked with two things. One is to apply the advanced data analytic techniques that our friends in insurance and financing service apply to our own data and energy in specialized. Needless to say, we have taken a pilot and we're now productizing that within our corridor for the [indiscernible] (02:38:33).

Second thing we've been tasked to do is to continually get access to customers' data so that we can continually refine algorithms. And again, I'm pleased to say that [indiscernible] (02:38:45) looking at onshore U.S. titles just to do that very effectively. Scott mentioned before that [indiscernible] (02:38:53) compared to insurance and financial services underpenetrated. We're in the vanguard of making that happen in the energy [Technical Difficulty] (02:39:00.)

The last key component that we're really excited about is growing business within the long-term is PowerAdvocate. Led by [indiscernible] (02:39:12) Dan Sullivan out of Boston, they have really cool analytical techniques that makes sense [indiscernible] (02:39:20) data so that they can actually manage it and more proactively control our cost. The legacy started in the utility side. Dan is very, very keen to deploy the same techniques into the E&P side. We're ideally pleased to help facilitate those reductions, help with the cross-sell and indeed help with the cross-sell and renewable space.

We're also very excited to provide them with the macro data that Wood Mackenzie has on group oil price, etcetera, to help inform their cost entity. And we're also very excited to get their cost data and apply it into core Wood Mackenzie algorithm [Technical Difficulty] (02:39:58) improving the granularity of what we offer [Technical Difficulty] (02:40:00).

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Tangible evidence of how we work together with PowerAdvocate. Over the last year, we have made something like $3 million, $4 million from the Middle Eastern national oil company's client where PowerAdvocate [indiscernible] (02:40:14) in terms of how to improve the business on the back of [Technical Difficulty] (02:40:21).

We've talked about mission. We've talked about the market. We've talked about our strategy. We've talked about our tangible areas how we're going to grow medium, long term. The last thing I want to follow up close up on here is how we're going to continue to grow our margin. Even with the investment in Lens, growing the Wood Mackenzie margin from the mid-30s to the high-30s over the last three quarters.

We will continue to do that short, medium term as we continue to grow top line. [Technical Difficulty] (02:41:04) is minimal. We talked about Lens. That wasn't just about reimagining new products for our clients. It's also about fundamentally rethinking how we generate the data, how we cleanse the data and then how we serve it [indiscernible] (02:41:18) analytical platform. We will continue to drive those efficiencies in those [indiscernible] (02:41:23). And that will be complemented by global talent optimization thinking about where is the best location [indiscernible] (02:41:33) analytical talent on back of be it Hyderabad, Bangalore, etcetera.

We also have a lot of synergies in terms of the back office functions, traditionally which have been with Wood Mackenzie now been shared across the Verisk family. [Technical Difficulty] (02:41:47) finance, technology, as well as learning from each other [Technical Difficulty] (02:41:54).

So with that [indiscernible] (02:42:00) to see if there are any questions.

QUESTION AND ANSWER SECTION

Kevin McVeigh
Analyst, Credit Suisse Securities (USA) LLC

Q

Kevin McVeigh from Credit Suisse. I wonder if you could give us a sense of how much of the energy business today is upstream versus downstream, and how you see that evolving over time given some of the new initiatives that you have.

Neal Anderson
President-Wood Mackenzie, Verisk Analytics, Inc.

A

At the minute, the majority is upstream. But we have a conscious effort to be continually [audio gap] (02:42:37) things that we're really excited about is getting into chemicals, getting into power and renewables. And the rationale behind that is with the energy transition we have [Technical Difficulty] (02:42:48) short, medium and long term. [Technical Difficulty] (02:42:52) as we position ourselves to help clients [Technical Difficulty] (02:42:57).

Andrew Charles Steinerman
Analyst, JPMorgan Securities LLC

Q

It's Andrew Steinerman, JPMorgan. The chart that you put up, slide 67, that shows kind of the underlying industry, and you said the industry is kind of more disciplined here even at current level of oil. I just wanted to know if Brent stayed at the current price, I know you made a caveat about supply. But if it stayed at the current price, is this a good environment for WoodMac to continue to grow?

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Neal Anderson
President-Wood Mackenzie, Verisk Analytics, Inc.

A

Yes.

Andrew Charles Steinerman
Analyst, JPMorgan Securities LLC

Q

Thanks.

Neal Anderson
President-Wood Mackenzie, Verisk Analytics, Inc.

A

That's the short answer to that.

Andrew Charles Steinerman
Analyst, JPMorgan Securities LLC

Q

Got you.

Neal Anderson
President-Wood Mackenzie, Verisk Analytics, Inc.

A

Purely because of [indiscernible] (02:43:41).

Andrew Charles Steinerman
Analyst, JPMorgan Securities LLC

Q

Okay. Okay. Thanks.

Q

[Technical Difficulty] (02:43:49) help us better break down the drivers of the growth, like how much is because of outsized growth in the breakout areas, how much of it is new clients, to what extent do you get price lifts as clients migrate from legacy products on to the Lens platform?

Neal Anderson
President-Wood Mackenzie, Verisk Analytics, Inc.

A

Sure. We talked about – just in terms of headline growth, we talked about the core being mid-single digits and they we talked about the [indiscernible] (02:44:13) double, triple, quadruple line, okay? What we're getting in the core is we're getting a lot more cross-sell. So as people have come out of the downturn, we're being able to sell in new products into those existing core trials.

And as we've got into things like Power and Renewables, Chemicals, Power and Renewables is the strongest segment for us [indiscernible] (02:44:38) as people starting to think about energy [Technical Difficulty] (02:44:48).

Q

Hi. Just – it wasn't in your slide, but earlier, I think Scott actually had slides about A player retention [indiscernible] (02:45:02) and I guess it actually went down a little bit for Wood Mackenzie on a trailing 12 months. So as the

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market gets stronger for energy, I imagine competition for – your people is getting stronger. Is that part of the dynamic there? And I guess how do you feel about that as well as just address the slide and the change versus, I guess, the prior 12 months before that.

Neal Anderson
President-Wood Mackenzie, Verisk Analytics, Inc.

A

I think some regulations cut – there was something like a difference of 1% or 2% between Wood Mackenzie and the rest. It's another leading indicator in terms of the market strategy because we are getting a little bit of uptick and [indiscernible] (02:45:38) People in the industry see a real – where folks that have been treated by Wood Mackenzie are valuable, too, be it going to – back into the industry. And that's what's really important for us, we continue to make – clearly [indiscernible] (02:45:51) our mission. And clearly, our tech-leading field [indiscernible] (02:45:56) that we're doing. But we're all in the hunt for really good talent and that's certainly a focus of mine and that's why it's up there on top of the [indiscernible] (02:46:00) strategy.

Q

And a question on margins for Wood Mackenzie. Just understanding that there's incremental margin left from the Six Sigma or efficiency initiatives, but with growth sort of returning in the subscription business, is there any reason structurally that Wood Mackenzie could approach closer to insurance margin or just structurally higher margin rate?

Neal Anderson
President-Wood Mackenzie, Verisk Analytics, Inc.

A

They've already gone from the mid-30s to the high 30s over the last three quarters. As we continue to grow our business, we are ambitious to be continuing to grow our margin. As to where we can actually end up with that, I think as we continue to position those three or four initiatives we talked about, right along [indiscernible] (02:46:47)incremental cost of the sale and continue to roll out lens.

Q

Yeah. Two-part question. One maybe just customer conversations around the renewal cycle, maybe if you want to address that? And then competitive dynamic, you mentioned new entrants. Has that changed or has that always been a challenge? Thank you.

Neal Anderson
President-Wood Mackenzie, Verisk Analytics, Inc.

A

First one in terms of the renewal conversations. Those conversations have been getting progressively easier over the last 6 months, 12 months, 18 months. We've had notable success at this one particular trial that I'm thinking of that is one of the, I think, you have Super Majors. Wanted to grew that [indiscernible] (02:47:49) 17%, 18%.

Second part of the question? Competition, now, we are seeing [Technical Difficulty] (02:48:04) from our traditional folks, the IHS markets of this world, the DIs, the RSs. But we're also intrigued by the small, yet analytic startups, coming into this business, offering advanced data analytic techniques. We're watching them really, really closely in terms of what we can do to maybe use them to fast drive what we're doing with Analytics Lab.

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Q

Okay. So, over the last couple of years, I think Scott has frequently referred to this business as one that he thinks can grow above the corporate average over time. I guess, what are the key levers that need to be pulled or just how do the market have to react so that you can [Technical Difficulty] (02:48:46)?

Neal Anderson
President-Wood Mackenzie, Verisk Analytics, Inc.

A

Yeah. I think that's covered in the conversation that we've had. We can continue to grow those key accounts 17%, 18%. We continue to grow our [Technical Difficulty] (02:49:02), self-service chemicals [Technical Difficulty] (02:49:05). We're confident that we can hit the [Technical Difficulty] (02:49:15)

Unverified Participant

Are there any more questions on Energy and Specialized? We are going to switch now and we are going to move to Financial Services, and I'm going to call up Lisa Bonalle Hannan.

Lisa Bonalle Hannan
President-Verisk Financial Services, Verisk Analytics, Inc.

Good morning. I'm very happy to be here with you guys today. The team asked me to share a little bit of background about myself. This is my first time here presenting to you. I have spent the vast majority of my career, over 20 years within the payment space both at JPMorgan Chase and Citibank, also with a short tour of duty at a Credit Bureau. Actually, was one Argus' very first clients about 20 years ago when I was managing business strategy for Chase's credit card division and joined Argus in 2008, originally to head up our partnership expansion area and then took responsibility for building out media solutions. And over the past two years, was also responsible for mergers and acquisitions. In May of this year, I took over for the Financial Services sector and I'm happy to tell you where we're headed.

The vision for Verisk Financial Services remains constant and consistent with the overall Verisk vision. So, our objectives are really to help our customers by leveraging our unique and proprietary data assets. I'm going to share a little bit more richness about those proprietary data assets within Financial Services in just a moment but in pursuit of helping our customers solve their most pressing challenges.

Our strategy is a dynamic and largely reflective of the changing complexity of Verisk Financial Services, most recently, the acquisitions that we've brought onboard over the past two years. With that change in complexity, there are four areas that we're largely focused on going forward. That is really strengthening and reinforcing our global leadership position in benchmarking, primarily around retail banking and payment, but expanding our presence in regulatory reporting, building on the acquisition we made last year of Fintellix, really building out our spend in formed analytics business, some of which is based on the transaction data we receive within the consortia, but are also building on the Marketview acquisition we made earlier this year; and then lastly looking at the whole area of fraud, loss, risk, and prevention of loss through both the Argus business unit as well as the businesses we acquired through LCI and G2 last year.

So Verisk Financial is in the midst of a transformation. It is a different business than it was a year ago. I think largely the forms that we talk about, financial and the financial sector, have reflected Argus in the past. But over

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the past two years, we've acquired a series of businesses, each of which I'll talk to in a moment, that really changed the complexion of the financial services sector and reflect where we're headed in the future.

Argus is the cornerstone of the Financial Services business. It is a multinational business. It operates fully formed in the U.S., the UK, Canada, and Australia, but we are expanding into other geographies. Verisk then acquired Fintellix, a business based out of Bangalore, India. It is a risk and regulatory platform business. Argus was starting to build out those same capabilities for our banking customers in the U.S., and we took the opportunity to acquire Fintellix and build out a global risk and regulatory platform.

Marketview is a company required in Wellington, New Zealand. They focus on spend analytics. And then moving over to the right-hand side of the page, we have LCI bankruptcy solutions based in San Francisco, U.S.-based, contains the largest U.S. bankruptcy database, and then G2 Web Services focuses onmerchant acquiring risk and e-commerce fraud risk going-to-be, so bad actors hiding within the e-commerce ecosystem who do illegal and non-conforming transactions to the electronic payments network. And then lastly, rounding up the family is Verisk Retail which focuses on in-store shrinkage and fraud loss and abuse.

There's a relationship between the businesses, and we're starting to group them together. So, you see on the left-hand side of the page, the businesses really relating to portfolio analytics, credit risk management, regulatory reporting and marketing and the management of a business and a portfolio. On the right-hand side, you see a new focus on credit losses, fraud and risk and abuse.

As we go forward, we're going to start to bring those businesses closer together and talk about our solutions in four key areas. So, our solutions comprise portfolio management solutions and largely those are related to the core or I guess give to get fully formed consortia-based businesses, where you have an industry view of yourself versus your competition on all of the key metrics about your business. Today, those consortia are fully formed for payments and retail banking, and we're looking to expand those consortia.

Also within the portfolio management solutions, we have a set of look-ahead models and forecasting models that today have been set against capital allocation and portfolio management. We're also looking to expand those to scenario planning as we start to see the rates changing and the risk profile changing particularly within the cards and payments space. We're looking at building out that set of solutions to do what if and scenario planning for the portfolios that our clients have under their management.

Moving over to the top right hand side of the page, a growing area of fraud, risk and abuse combining the solutions that we have looking at building out more credit risks force, combining the LCI capabilities with the Argus capabilities and full industries view of risks within the credit ecosystem. Bankruptcy management scores related to LCI and Argus, and in bringing together G2 and various retail to look at a variety of new opportunities to build on that fraud shrinkage opportunities one area in particular emphasis is on counterfeit. So someone may purchase an item in store and then return it to sort of the online or e-retailer portion of that retailer, but they might return – they might purchase a Louis Vuitton bag and return a counterfeit bag. Together working with various retail and G2, we can start to see those patterns and help those solutions for our retail partner.

Moving down to the right, enterprise data management, this is where the Fintellix business is located. That starts to build our global risk and regulatory platform. You've heard from some of our insurance colleagues mentioned before that where appropriate we're leveraging that platform for insurance purposes and in many of the regions that we work in, both financial services and insurance may be regulated together. And we think that Verisk has the unique opportunity to be a platform that serves both the regulators and the regulated entities in markets. And we're going to talk about that as one of our key strategic initiative.

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And then lastly, swinging back over to the bottom left hand corner, spend analytics. This is where our immediate solutions are allocated. But we're building out a whole series of consumer insights spend analytics. [indiscernible] (02:57:14) with us today in the demos is sharing a retail dashboard that's built off of the Argus data asset looking at all of the consumer spending transactions and how we can allocate that by retailer and by category so that our banks and their retail partners can quickly look at spending trends and understand a variety of dynamics in their business. Are they allocating rewards for the right categories? Are they spending top of wallet usage within their portfolios?

And collectively, this is the way we're going to talk about our business going forward. Orienting our business around these four categories, we start to see a variety of trends emerge within each of those different sectors. Within the portfolio management area for example we're seeing that card borrowing is back up to its highest level since the financial crisis. Immediately after the crisis, all of these lines was really taken out of the open-to-buy. Credit line was really reduced in the market. And now over the years it's crept back up. Utilization is very high. Borrowing is high. And we're – related to that, we're starting to see loan losses in those portfolios [indiscernible] (02:58:27).

Likewise, we see a lot of new alternate payment players entering the marketplace and non-bank lenders entering the marketplace as well. So as the credit cycle starts to change, the relationship of those entities to our banks becomes really important and opens up a whole new bunch of solutions that we can provide related to the relationship between alternate bank products, personal loan products within a bank and the card portfolios that we serve.

On the credit risk and abuse side, we're seeing a real shift towards fraud being conducted at probably four times the rate in e-commerce transactions as it is to brick-and-mortar transactions. So with the advent of chip now largely accepted and fully executed in the United States, that type of

fraudulent behavior at the transaction level has really shifted to e-commerce. We believe that the businesses we put together within Verisk Financial Services provides us with an very unique solutions around transaction fraud and in particular as it relates to e-commerce transaction fraud, another one of our key strategic initiatives and I'll share a little bit more about with you in detail in just a moment.

On Enterprise Data Management, we are seeing across the globe a shift from the regulator side of the equation to be more data driven as opposed to manual oversized of the entities that they regulate particularly in the financial services sector. We have long experience with OCC, the fed and the CFPB in the United States at having built a regulatory platform for them, and we believe that the opportunity to take that experience along with our Fintellix platform and build a utility in markets where the regulators are starting to be more data driven and that utility being where the regulator and the regulated entities are using a common platform provides a really unique growth opportunity for us as well.

And then lastly on the Spend and Analytics side, we are seeing tremendous market need for consumer insights, where is spending happening? Where is retail spending moving towards? How much is brick and mortar where? What parts of the country? What geographies? Is that brick and mortar so important. Where is e-commerce taking off? And for our bank partners and in particular their retail partners, what is that right balance of brick-and-mortar e-commerce, and how do they get better, newer and richer insights into that

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Building off of our marketing business and combining that with the works that we've done here in the United States for our banks and their retail partners, we envision that as another area of growth and opportunity as we take that market view name globally.

So the trends that we have been observing are largely reflected in the exact comments we're hearing back from our customers. So over the past quarter, we've heard from customers increasingly in our core Argus business as they become more adept, begin to build more internal data analytics, data lake, they want to know how to consume our product or industry view differently and we need to respond to that.

We also are seeing a resurgence in the interest in risk solutions. So, after the financial crisis particularly in the payment space, a lot of focus on the credit card side around spend portfolio rather than the lend portion of that portfolio. That's shifting and we're seeing resurgence in the need for real-time credit solutions, the fraud examples that I mentioned. And we think we're uniquely positioned to meet those needs. Customer spending is an increasing area of focus.

And then lastly, there is still a burden on our financial institutions of regulatory and compliance work. That takes up a lot more of their time than it need pre-crisis. And that actually drives the solutions we deliver, how they can use them and how we need to modify those solutions in the future. I'll talk a little bit about that as well.

And so, our reasonability will be largely reflected in the strategy that I'm going to share with you. The following – the layer cake that Mark noted, without adding a little bit of color to it as it's uniquely reflected for Verisk Financial. Our objective this year around the three major categories: employee, customers, and shareholders and growth, a little bit of emphasis on the employee side. We are now six unique businesses within the financial services sector and there's a lot of work to be done on that integration. So our focus here is on career path-ing, leveling, integration of our employees, migration of our employees on a global talent optimization basis.

From a customer perspective, we've enjoyed extremely high NPS scores from our customers over the years. There's a tightness of the relationship that Argus has had based on the way we deliver our solutions to our customers. As we deliver more solutions and look to grow through that complexity, maintaining that high relationship, that tightness in customer intimacy is very important to us, but gets harder and harder to do. So we're quite focused on that.

Along the next level, focusing on each of the major growth initiatives, a quick observation you'll see – they're largely reflective – a key strategic initiative in each of those four solution sets that I talked about. I'm going to spend a little bit more time on the fraud consortia and the supervisory platform. And then benchmarking 2020, I'm going to talk about – down in our core products. So let me just touch on the Marketview expansion for a minute.

We have a lot of capabilities that we've developed on both retailer insight and customer spending insight from the Argus and Marketview perspective. And our objective as we look out into 2019 and 2020 is to bring those two businesses together to be able to share those insights in a very productized way with our banks and their retail partners, but also to use the Marketview approach and to build a global Marketview platform that allows us to take those insights out to other industries as well. And that breakout, that ability to take the Marketview approach to spending insight is one of our key strategic initiatives.

We touched on cloud, data security, talked a little bit about G2 single platform, and then I'm going to come back to cloud in terms of where we are within Financial Services when I talk about our operating efficiency activities. But in terms of technology and platform upgrades, G2 web services which is the business that serves the merchant acquiring banks, banks the merchants and particularly the e-commerce merchants, they are the oldest player in

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that market. And as they've grown over the past 12 years, they've expanded their solutions from just onboarding to continue with merchant monitoring, to on brand protection, so where do your ads fall relative to content and counterfeit.

Each of those four solutions as they built them was built on a different platform. As newer entrants have entered their space, they've built that on a single platform. So in order to maintain their market leadership position, G2 needs to focus on integrating their solutions into a single platform. They're hearing that large and loudly from their customers.

Global talent optimization is an area that of importance to us right now. When we acquire Fintellix, we have a large team based in Bangalore, approximately half of the employees within Verisk Financial Services right now are located within Bangalore and Mumbai. And we see great opportunities to leverage that in order to transition particular jobs and type of jobs that we have across the Verisk Financial Services family. So over the next two years, we have strong objectives on global talent optimization and migrating particular roles to our Bangalore and Mumbai facilities.

Machine learning and automation, I'm going to touch on as it relates to core product updates. So, benchmarking 2020 is really the next generation. Neil talked about WoodMac 2.0 and how they've been on a journey for a few years. We just started embarking on the journey this quarter to bring our core solutions, our benchmarking solutions to their next generation. Those solutions are about 20 years old, and they are strong solutions. They cover the key metrics of the credit card industry, all the drivers of profitability at an industry view for consumer credit cards, small business cards, private label cards and retail banking. Those metrics haven't changed much, but data and analytics have changed tremendously over the past 20 years.

And so our vision here is to begin to apply machine learning to our benchmarking solutions and also to deliver those in an entirely different way, not just electronic reports, but for the ability for each of our customers to ingest pieces of that into their own data and analytic environments and to leverage machine learning to identify trends or help our banks see which trends are impacting them more or less than the way that the market is moving or the industry is moving.

And in terms of talent and thought leadership, just a quick note, we recently acquired a business out of Westport, Ireland, called Lafferty Research. Lafferty is a well-known market research company across the payments industry worldwide. And this is going to give us a tremendous opportunity to do more research, to create more white papers and to cover the cards and retail banking space not just in the markets where we have a presence or a consortia, but also in markets across the globe. So we're very excited about that.

And then lastly, to build our presence as Verisk Financial as we enter new areas such as enterprise data management, where we might be up against very large competitors with names like Oracle, so how do we create a name for ourselves in risk and regulatory reporting and enterprise data management for our customers that allows us to play with uniqueness.

[Technical Difficulty] (03:09:04) two quick notes on strategic initiatives in the next year or two ahead. I mentioned that fraud and, in particular transaction fraud, among the cards payment space is a growing concern. We've been asked to work with the issuers in Mexico to launch a fraud consortia. They are seeing a pain point here around fraud and transaction-based fraud that needs immediate attention. So, we're working to launch that study in very early 2019. The solutions that we're building for that market are based on work that we've already done in the United States and they're expandable to other markets as well.

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We see this as an area of importance for the industries we serve and a growing area for our team. [audio gap] (03:09:53) second strategic initiative to highlight is really this notion of global supervisory platform support for regulators and the regulated institutions. Because we have unique and proprietary data contributed to us from many of the financial institutions, we have the opportunity to help them take that enterprise-wide data and orient it for all of the risk and reporting needs they have.

Likewise, we have experienced in the United States with the regulators, we've begun working with our insurance colleagues with the Lloyd's market, and our Fintellix colleagues also have experienced in India and the markets they serve on working with the regulators and the regulated entities. By combining and harnessing the power of the Fintellix business, the Argus business and pulling in full enterprise data from a financial perspective, financial institution perspective, and the insurance sector, we think that Verisk can play a very unique role in serving both the needs of regulators and the regulated entities, and this is a long-term growth objective of ours.

Lastly, I'll switch gears and talk just a little bit about the operating efficiencies that we're working on within Verisk Financial Services. You see the categories largely reflect the same categories across all of the Verisk sectors. Within Lean Six Sigma, we've made a strong commitment to that. Each of the professionals within Argus has a personal objective, to be Yellow Belt certified by the end of this year. That's about 200 professionals. And one of the key programs we're working on is the opportunity to take our legacy systems, our legacy platforms in the benchmarking business and migrate those to the cloud. That's a long journey, but we're in year one-and-a-half, year two of that journey.

One of the thing I wanted to just stop and note for Lean Six Sigma, and I know Mark has spent a good amount of time talking about this is it allows us to have a common language at all levels in our organization to constantly be thinking about efficiency. So, that the folks on our team to work with the data every day, the loading of that data, the prepping of it for the analysis who see the inefficiency, they now have a forum.

Even if what they bring to the table doesn't rise to the level of a Yellow or Green or Black Belt projects, the structure of the analysis allows you to identify quick hits and act on them. So, we are seeing within our business that very junior people are finding really important efficiency opportunities for us, and they now have a forum to bring them to the table and to act on them, and that's been really exciting for us.

I touched on global talent optimization and our objective is moving our analytic talent and our technology talent to our Bangalore base.

And then, lastly, leveraging the machine learning techniques to bring our benchmarking solutions and the vast data that we cover in particular areas to light in a different way where we can allow the data of an industry such as the credit card industry to identify the trends that are emerging and serve that back to our customers in a new format [Technical Difficulty] (03:13:09-03:13:24)

Q

Thanks. So, there's been a lot of change in the business in the last year or two. And I guess, from a high level, can you help us think about how the business model today looks relative to how we understand the legacy benchmarking heavy Argus business? Is subscription a recurring level of revenue very different? Are the levers around [Technical Difficulty] (03:13:45-03:13:50) playing out different or just anything you can point out to understand?

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Lisa Bonalle Hannan
President-Verisk Financial Services, Verisk Analytics, Inc.

A

Sure. So, the Argus business was and continues to be about 70% subscription and high margin business and that continues. Our emphasis within the Argus business is to move up that subscription basis by taking some of the things that we did over the years as new and innovative ideas and productizing those. So where we served on an enterprise data management business maybe on a project basis before, we're now looking to productize that, make that more sustainable multi-year subscription revenue base.

The newer parts of the business, some of which are very substantially subscription based such as LCI bankruptcy business and G2's Web Services business will add to the overall percentage of subscription base that we have. But those businesses operate at a lower margin, not low, but just lower than the traditional Argus business.

So if you think about the bringing together of this, what I expect to see is that over the near term, there is a significant change in the margin due to the fact that the businesses we've brought in to expand our capabilities have just operated at a lower margin. But over time, as we bring them together to create these four solution sets, that margin set starts to expand again. Each of the businesses that we've brought in benefit from our Bangalore facility and our ability to offshore that analytic talent. And as we start executing on that plan across all the businesses, leveraging common technology will start to build that margin back up.

Kevin McVeigh
Analyst, Credit Suisse Securities (USA) LLC

Q

Kevin McVeigh from Credit Suisse. You mentioned a couple of initiatives. We've heard insurance, too. It seems like you're encroaching in on the credit bureaus a little bit, refining the data a little bit. Is that a new competitive set for you folks? I wonder if you could just talk about the competitive environment overall, number one. And then, number two, is it core client you're selling it to a traditional brick-and-mortar, or is it leveraging the online channel as well, and where do those initiatives go?

Lisa Bonalle Hannan
President-Verisk Financial Services, Verisk Analytics, Inc.

A

So, the first part of the question, let's take first. I think we are an analytics company across all of Verisk Financial. We largely don't take action, right. We are not – we're anonymized data, by and large, except for the LCI bankruptcy business. I'll talk about that separately. But we're largely an analytics business. And so where we may compete with the credit bureaus is on trended analytics. But the depth and richness of our data, it starts with fully formed consortia whether that be your full credit card portfolio or all of your retail checking accounts or all of the fraud you're experiencing in all of your transaction data in Mexico. The depth of our data is very different than the credit bureaus.

So we partner with all three of the credit bureaus because data is very complementary. We can find unique pattern based on that full industry view and the depth of all the key levers within the profitability of any sector. The credit bureaus then for the lending parts of the business have the data that's credit compliant that any of our customers could build the model or score on and take action on. So we partner with them and we're very complementary. Where they look at industry trends, we may overlap a little bit, but there is a broad [indiscernible] (03:17:23)

The second part of the question was about...

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Q

[Technical Difficulty] (03:17:29-03:17:34)

Lisa Bonalle Hannan
President-Verisk Financial Services, Verisk Analytics, Inc.

A

So for banks that are the primary consumer in our sector, they do have – they have a brick-and-mortar presence and we actually help them with some site selection opportunities. For the retailers that we serve, we cover all the brick-and-mortar primary with e-commerce as their secondary and then those that are e-commerce primary who some of which surprisingly have now decided they're going to have brick-and-mortar presence. So we cover the full spectrum and each of the major retailers has a bank partner. So we've been working with them for years. But as we bring in G2 and Verisk Retail, we actually start to work more directly with the retailers

Q

Yeah. Two questions please. I guess just first over the last couple of years, the performance has been volatile in terms of organic growth and often below the longer term trend of the business. And there has been several different things. There is a non-core revenue that came out. There was the [Technical Difficulty] (03:18:40) talked about before in terms of the project revenue and changing the contract structure. There is also more recently the clients changing how they buy for regulatory reasons. Are you now through the known headwinds and can we, in the near future, get back to trend – or longer term trend growth?

And then the second longer term question I guess is, this seems like a really powerful data asset, you're talking about how deep and rich the data is. Your revenue base doesn't seem that big considering how strong I perceive the data to be and that it is differentiated with limited competition. Are there offsets to that? Are there limiting factors because of, there's more restrictions on permissible use for this data asset or something with the depersonalized aspect of the dataset? Or should we just always think it's going to be tough to monetize it or is it just a [indiscernible] (03:19:34)? Thanks.

Lisa Bonalle Hannan
President-Verisk Financial Services, Verisk Analytics, Inc.

A

So, the first part of that related to the volatility as a business, for Argus, [Technical Difficulty] (03:19:45). But if I think about core Argus, we started 20 years ago as just a benchmarking business, right, and we occupy a unique position in that we've gotten the industry, let's say, the credit card industry and the retail banking industry in the U.S., UK, Canada markets that we serve. In the U.S., we cover 90% of the credit card industry, the same in the UK, Canada and Australia, where we have deposit account studies which are all the inflows and outflows to deposit accounts, checking, savings and money market accounts. In the U.S., we cover 35% of all the checking, saving and money market accounts in the U.S. and in Canada we cover 80%.

So, our core business is penetrated. Our growth came from kind of experimentation and expansion. And so oftentimes, we did that with a partner, right? We would expand into wallet share models with one client as a paid development partner, and the same with enterprise data management, hosted data solutions. And sometimes those transitions into a product set, so media solutions for example. We started with two of our banks. And that then became productized fairly quickly.

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In other areas, some of that experimentation, it didn't translate as quickly into a product that met with market adoption and expansion. Our focus is to try and take those experiments and translate them to productized revenues faster than we have to minimize some of that lumpiness. I don't think it will go away because we're pretty good at innovating from within, and we want to have that experimentation and pushing where we can. Sometimes it will translate to a product set quickly, other times it won't. But with more of a product focus, we're hoping to minimize that. There was a second part to that...

Q

Yes.

Lisa Bonalle Hannan
President-Verisk Financial Services, Verisk Analytics, Inc.

A

So there are limiting factors, right. The richness of the data that we get for credit card issuers, it is a closed loop consortia. It's give to get. And so the credit card issuers and their retail partners as they see fit, the banks can benefit from the richness of this data but it isn't open market. And so that is a limiting factor.

One of the things that we're trying to do with market view is to create a companion business to our consortia-based business where we use the same techniques, all of the capabilities that we've built over the years but with different datasets, and begin to offer more open market consumer spending and merchant insight. And that's a journey that we're just beginning in 2019 as we bring market view together with some of the capabilities that we've built up on the Argus side within the consortia, but those are limiting factors. The consortia data is for the use of the consortia.

Toni M. Kaplan
Analyst, Morgan Stanley & Co. LLC

Q

Hi. Toni Kaplan, Morgan Stanley. Lisa in your remarks, you mentioned that you're going to be talking about Financial Services in this way with the four different product areas. Should we expect to get I guess the sizing of this on a recurring basis as you have on this slide? And then also if you could just directionally it sounds like credit risk fraud, you made the comments that that part is growing really fast just directionally I guess if you could give sort of which are the less fast-growing versus more fast-growing because it sounds like there are initiatives in every area that are trying to stem growth and then if there's any sort of profitability to give you.

Lisa Bonalle Hannan
President-Verisk Financial Services, Verisk Analytics, Inc.

A

Yeah. For sure.

[Technical Difficulty] (03:23:35-03:23:42)

We're not going to provide a separate breakout of the revenues. I think what we want to do is we're going to talk about those segments and the trends within them to give some color on the overall performance [Technical Difficulty] (03:23:50-03:23:55).

Lisa Bonalle Hannan
President-Verisk Financial Services, Verisk Analytics, Inc.

A

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In terms of the growth opportunities, fraud is near end, so we're working on that now and because we don't do a lot in that space of – fraud will be the newest consortia we build and we have not built a brand-new industry-wide consortia since 2011 or 2012 when we introduced the deposit account study, so near end growth opportunity. enterprise data management and risk and regulatory high growth potential, but very long sales cycle, sometimes through an RFP and even if not just a very long sales cycle. And then the others I would say more regulated based on the way that we approach the growth opportunities today.

Andrew Charles Steinerman
Analyst, JPMorgan Securities LLC

Q

Hi, Lisa. It's Andrew Steinerman at JPMorgan. You mentioned in your prepared remarks that Verisk Financial Services is over 70% or about 70% subscription. I surely remember when the asset was acquired in 2012 it was over 80%. If I remember correct, I think the number was 85%. I know you want to get the number up. If we stay in the 70s, isn't it just going to be a more volatile business than it used to be? And if we're trying to push subs mix up, isn't the acceleration going to be slower because we're not taking on so much quick business?

Lisa Bonalle Hannan
President-Verisk Financial Services, Verisk Analytics, Inc.

A

So there is a combination of like full subscription, right, when you are an industry participant and you are subscribing to those industry insights almost in perpetuity and multi-year licenses. And the combination of those two, we think push up the predictability of the revenue. But that pure subscription base, you're right, to build an industry-wide consortia that's fully data contributed is long and hard work. And we are expert at that, but it does take a while. As I noted, the fraud one will be our first one in about six or seven years.

So that is a little bit slower progression but very sticky when you have it and very unique. And so once formed, those participants are full subscription-based. And then on the far right corner where you look at sort of enterprise data management, those are multi-year licenses to manage that risk and regulatory platform, not quite a subscription, but more multi-year long license revenue, it's the combination of those two.

[Technical Difficulty] (03:26:23-03:26:25)

Lisa Bonalle Hannan
President-Verisk Financial Services, Verisk Analytics, Inc.

A

I don't.

Q

Hi. Just to follow up on the fraud solutions, I guess is that only being built for the time being in Mexico and what's the plan for the U.S.? And then what's the competitive dynamic there? How much of those fraud tools are done by the networks, I guess at this point for the banks that you asked at least?

Lisa Bonalle Hannan
President-Verisk Financial Services, Verisk Analytics, Inc.

A

So, this type of fraud solutions we're talking about are particularly focused, as a starting point, on transaction fraud, where that next transaction coming in you're not sure whether I should approve that transaction, if it's related to another transaction happening at another bank at the same time. The networks do a little bit of that. They have some pattern recognition. But what we observe is when we built it out for the full wallet view, we're

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able to see those patterns much more richly than even the network can see, because the network doesn't take a wallet view. What we create in these studies is we look at all of the accounts in an industry in the market, so all of the accounts in the U.S. or in Mexico, and then we look at them at a consumer level, at an entity level, right, anonymized consumer level so that we can see the three or four accounts in a wallet.

When those transactions flow through a network, they are not observing upon that customer level view. They are still just observing on the riskiness of a transaction at a gas station or gas station convenience store and plaguing it that way. Our uniqueness comes when we can look at a customer view across all the data of the card ecosystems within a geography like Mexico or the U.S. We are doing some of this work in the U.S. already and just had the opportunity to form the consortia in Mexico based on relationships we already had there with banks and an emerging need that's pretty quickly becoming important for them. [Technical Difficulty] (03:28:26-03:28:35). We are going to break. Box lunches are outside. You can visit the product demonstration area again, and we will meet back at 12:35.

Okay. Welcome back, everybody. Hopefully, you are refueled and reenergized. We are going to get started again. You have heard Nick's name referenced and teed up multiple times today. So, without further ado, here is Nick Daffan.

Nicholas Daffan

Executive Vice President & Chief Information Officer, Verisk Analytics, Inc.

Thank you, Lisa. So, like Lisa before me, this is the first time I'm speaking at Investor Day. So, I've been asked to give a little bit more of my background for the group here. I have basically spent all of the 25 years of my career in the data and analytics space. Of course, back in the early 1990s, there was really no data and analytics space as it is defined today, but essentially that's what I've been doing. It started off at Merrill Lynch [ph] pooling (03:29:46) data from trading platforms to help with portfolio analysis and reporting, eventually moved into a few companies, [indiscernible] (03:29:53) companies, working with large retail banks to build large databases that [ph] presented (03:30:01) the consolidated view of their customers across all the products that they own for the purposes of customer management, cross-sell activities, that type of thing, as well as customer acquisition.

And eventually, reconnected with the original founders of Argus, and they [ph] presented to me with (03:30:20) the vision that they had for building a consortia database in the credit card space, continuing some of the work we have done in the prior life. It was very interesting to me. So, I joined Argus in the early 2000s, came to Verisk by way of acquisition in 2012 when Argus was acquired and had moved into the corporate CIO role. I've been in this role now for, I think, just around three years. So, that's a little bit more of my background.

In terms of the topics, just continuing the themes, driving into some more detail into a few of the topics that Scott had mentioned, one is cloud technology or how we adopt cloud technology really and how we think about cloud technology, cloud migration, and then the concept of advanced analytics and specifically artificial intelligence and machine learning. If we think about new technologies, new technology adoption, generally, the cycle is you go from a phase of – you need to have conceptual adoption, right, that's both external and internal conceptual adoption.

[ph] So, this does (03:31:30) make sense for us. [ph] And we get (03:31:31) everybody on the same page. There's got to be some education and then you sort of [ph] build out (03:31:36) the process of migrating. I would say about 30 months ago or 36 months ago, we started the process of conceptual adoption like we need to make sure that everybody is on the same page. We need to make sure our customers are on the same page.

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And I would say with over the past 24 months, we are firmly entrenched [ph] in the – we're (03:31:55) migrating, right? All of our verticals – I mean, you've seen on the screen, all of our verticals have major migration efforts to the cloud. So, we are firmly sort of in the migration process. As we moved to the migration process, it became important for us, what do we want our framework to be that ensures that all of Verisk is getting the best of our knowledge and the best of our methods and the best of our processes as it relates to how you migrate to the cloud. And that's what these circles sort of represent. So as we moved into that migration phase, we really organized around what are the important pieces in adopting cloud technology and how do we divide those pieces between the operating units, what we have at the center and then into the individual business units.

So for each of these circles around the outside you see, cloud enablement and architecture, financial management, security, we have a model for what we support, what we have at the center, how we push that into the operating units, and then how we accept feedback from the operating units, and reconfigure how we're thinking to better serve their needs. So, it's almost the way I described, but it's not open-source, in the sense a public open-source model, but it's very much a Verisk open-source model, where we are building stuff at the center, we are putting it out there for consumption, it's being consumed, it's being changed and adapted to better serve the needs of the business, and then we're reincorporating that back into the center, so we can redistribute to other operating units or businesses as it's needed. So that is very much our model and the model works well.

When we think about why cloud? I mean, I'm not going to – obviously, I'm not going to pitch why we should – why anyone should migrate to AWS, but I will make it relevant sort of why we think it makes sense for Verisk specifically. When we think about the drivers, I'll combine new reality and innovation, the innovation piece, if you look at the chart here, the amount in this chart is specific to AWS. The amount of new features and functions that are being integrated into the AWS platform by AWS is astounding, right? It's just at a pace that you haven't seen before – that I haven't seen before in my career.

If I go back to the mid-1990s, early 1990s, in the world of data and analytics, if you wanted to do data and analytics, you had essentially a handful of database platforms where you had DB2. You had Oracle. SQL Server came along at some point. There were players like Informix and Sybase that sort of came and went. But essentially you had a handful and that was it until 2010, right? That was – those were your choices.

In the last three years, in terms of data platforms, AWS has introduced Aurora, DynamoDB, RDS, EMR, ElastiCache, Redshift, right, and I'm probably missing a few. So that's the pace of innovation. When you juxtapose that, I lived in a world where I had [indiscernible] (03:35:23) three choices essentially for 15 years. And in the last three years, with a one cloud platform, I now have – I have dozen choices at least. So that's the kind of innovation and pace that we're talking about. [ph] Anyway (03:35:37), in terms of the financials, we'll get into a couple of slides that will go into a more detail on that, and the resiliency and the scalability, I have some additional slides [ph] and like I talk about that here (03:35:49).

[Technical Difficulty] (03:35:50) scalability, when we look at one of the advantages of our cloud platform like AWS, as we expand globally, AWS has instances nearly everywhere – of course everywhere we are, but also everywhere we're likely to be. So it becomes very easy for us to scale, [ph] where we (03:36:12) become very agile and being able to set up environments to support our customer needs and being able to address issues around data portability, right? Can I move data from one region to another or can I not based on new regulations like GDPR?

Our ability to stand our platforms in country through AWS becomes a real forcing factor for us to be able to move into that country. So, again, the scale and reliability of a platform is just something that no matter how big we are

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or whoever is, you're never going to get that kind of scale that a Google or an AWS or a Microsoft can provide you especially across all these geographies.

[audio gap] (03:37:00) In terms of the economics, like I said, we're sort of firmly on our path of migrating different environment into the cloud. And when you go into these, there's a hypothesis of what the economics will be. So, what we wanted to do before we got too far down our path, we had a number of environments that have been migrated. As you saw, we have a number of environments that are migrating, but these are environments that have migrated.

We really wanted to do a deep dive analysis into the cost and total cash flow, sort of looking out over the next five years, having migrated these environments, what the total cash flow over the next five years looks like and what they have looked like if we didn't migrate, and the four that are listed here are sort of a fair representation of different migration paths.

The Xactware Australia and the IntelliCorp are sort of these models where I have servers and storage on prem. I can have servers and storage in AWS or any other cloud provider. I'm simply going to [ph] stand up (03:38:05) service in AWS and I'm going to port whatever I have on prem onto those new servers in AWS. That's the model for Xactware Australia and IntelliCorp. So very little what we'll call application reengineering associated with those two.

On the Telematics Exchange, the Verisk Data Exchange, that was a platform that was built. That was a large cluster of 100-plus server cluster that was running on prem that needed to be ported over to AWS. But in order to take advantage of all of the features, we really wanted to re-architect it. So we've completely tore down the application, completely re-architected it, and ported it over to AWS.

In the case of Geomni, same thing, right. We needed to rethink how we were doing things. So complete application re-architecture when we [ph] were about (03:38:58) porting it over to AWS. And then we wanted to look at a breakdown of the cost, like what could we expect to see the differences in the cost. And it's sort of intuitive that as I move from a world where I'm buying hardware and software to a world where I'm sort of renting it, so to speak, in the cloud, the CapEx cost or the cost of hardware and software that I'm going to buy goes down. But what is sort of less intuitive is what happens to the OpEx, right, what happens, because you're picking up costs associated with renting that storage and compute from AWS.

But what we found, as you would expect, we saw tremendous savings in CapEx. Over the five years, we'd expect $28 million in savings of CapEx. But what we also saw, because there is so much maintenance cost associated with the hardware and with the software and with people associated with managing those platforms, there's actually a significant amount of OpEx savings that can be [ph] had (03:40:04) to the tune of what we found [ph] $7 million here (03:40:07), again over five years.

The only thing I would say that is, as you enter into the migration plan, you do have a period of time where you're either running parallel or you have not yet shed the contracts from maintenance standpoint. So there is a period of time where the costs can sort of rise up a bit. But as we've seen, the benefits over the long term far outweigh that sort of little bit of a rise in cost you may get in the short term.

And then another way of breaking it down, the way we looked at it, infrastructure, hardware maintenance and the reason why we looked at it like this was, we feel like the first two lines are – not that all of them [ph] are (03:40:50) real, but the first two are very real. Infrastructure is hardware we're saving on. We're not going to buy it. We're not going to buy that software. We're not going to buy that hardware. And again, the maintenance, the hardware,

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software maintenance, a number you see here actually accounts for – well, we couldn't turn off all of the contracts day 1 into our migration, so we've accounted for the timing differences there and that's [ph] what adequate to do (03:41:17).

And I'll say on salaries and labor, that's one of the – we would hope to repurpose those people into other roles as it relates to helping us manage our cloud environment or helping us with other migrations. So, we feel like that cost is although real, how realizable it is, it depends on how we want to manage it.

And then just last on the facilities related one, [ph] as said (03:41:42), those are lumpy, right? That relies on us to sort of get out of data center space, relies on us to opt out at the right time. If you miss those dates that can be – it can be not significant but a year or two later until you get another opt-out opportunity, so [Technical Difficulty] (03:42:02).

Going into the Geomni overview, because this is less about the economics. This is more about the scale and the ability to be agile within the environment. What we're looking at is the blue line here represents sort of our original Geomni processing capabilities. So Geomni, obviously, we're capturing imagery, that imagery needs to be processed. The compute here we're talking about is solely focused on the processing of that imagery, not the capture of that imagery.

The orange line is what we – before we've decided to migrate into AWS, what we were thinking about in terms of the footprints that we would build. The gray line is actually after having stood it up in AWS, what our actual processing needs were over the last 12 months, actually 13 months [indiscernible] (03:42:51).

Now if you notice the month in August, September, October, those are storm activity months, which require a lot more data capture, a lot more data processing. But the reality is, you see the peak, right? So, you see the difference between what we actually process and under the proposed environment will be [indiscernible] (03:43:14) process, it would have been quite challenging. And actually, we feel like we're unconstraint. Practically speaking, we're unconstraint in terms of what we could process now with the Geomni platform on AWS, and that's just was never going to – I mean, even if we were, we would never do it, but even if we were to size the environment [Technical Difficulty] (03:43:35) we could support that level of processing, it begs the question, what are you doing the other nine months, eight, nine months of the year with all of that capacity? Is it just sitting on the floor collecting dust or are you actually going to utilize it? So, again, that's more about the scale and how it's relevant to Verisk.

I'll just go quickly through this. AWS is sort of leading the way in terms of how you buy from the cloud. And the reason why it's interesting is because it really empowers the business to think about what the real needs are. They have something called On-Demand where you just sort of stand something up, pay for it as you use it, shut it off, you don't pay for it anymore.

Reserved Instances, you define a period of time, 12 months, 24 months, 36 months, you buy a server from AWS and you will pay for it whether you are using it or not over that entire time. Dedicated is more similar to On-Demand. Spot Instances. Spot Instances, you bid open market, you bid for a server or use of a server, knowing that AWS can take that server away from you at any moment if they need to. So, you have to have – your job has to have enough resiliency built into it that it can restart automatically.

Kind of interesting but really the interesting pieces are what makes it – what makes the decision interesting is that Reserved Instances, you could save 75% off what you would pay for On-Demand. Spot Instances, you could save 90%. So, there's real leverage you can start to pull from a business perspective as it relates to how you build your

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application, is it really important, any IT guy in the past, [indiscernible] (03:45:14), oh, by the way, that server can disappear at any minute, right? He would turn white. And no one would ever even contemplate that. But when you say, oh, but it's going to cost you 90% less to have that, that triggers the thought process of, oh, maybe I can build my application, that's what I can recover and restart the job without interrupting too much.

Serverless overview is just an – it's another level of abstraction within AWS. So, on the previous chart, those were all physical compute devices that you were renting and storage pieces that you were renting. In the world of serverless, you don't even have a server, right? You don't even know what server it's running on. You install code on Amazon and they take care of everything for you. They take care of managing how many servers are needed to process the number of jobs, so another level of sort of ability to utilize the Amazon services.

And the reason why I bring up serverless is just to give an example. If I had a 512 – if I had a server that was half a gigabyte of memory and I had 3,000 seconds' worth of jobs I wanted to process on it per month, you could see that the compute cost would be roughly $26 – $25 or $26 a month. So just to give a sense of the [ph] size of (03:46:43) server here, it would hold about a half million lines of code, right? 3,000 – 3 million seconds is about the number of seconds in a month. So, essentially, a very large program that was running the entire month would cost me about $26 a month. But that's the level – so those are the levers that are available for us now as we think about how we migrate into the cloud.

In terms of how it happens, this is pretty much the circle where the beginning comes to life, very much an open-source model, the center, the Verisk cloud team. We've organized around it at the center, provide the basic level of services, but we're [ph] feeding (03:47:22) them to the business units, the business units are [ph] feeding (03:47:25) them back to us. On the left-hand side, we've been very specific in how we've divided the accountability and responsibility for who does what. There is some intersection. On the right, you can see that we're also building large-scale platforms that are broadly available to all of Verisk around big data, business intelligence, the telematics platform I mentioned, GIS.

Now shifting to AI and machine learning, why – again, so the first question is why, how is it important to Verisk? I got two reasons. One is the level of accuracy within the world of the machine-learning algorithms and artificial intelligence in general is increasing dramatically. If you look at the facial recognition, the chart here, I mean, just the level of accuracy that they've gained over the last four years is astounding.

On the bottom, there's an image class library where they post images [ph] with a (03:48:26) balloon or flower, whatever, and they're annotated as you go and try to have the machine identify what image it is, you can see the error rate. Error rate being defined as a [ph] human look at it and say (03:48:37) that wasn't it. The error rate from 2010 to 2015, we've actually gotten to the point where the machine is better than the human, right?

So that's the level of accuracy that we're dealing with now. So that's why the time is right in terms of why Verisk, we feel like there are real problems in our verticals that we can point those algorithms at. Just two of the examples here are around credit card fraud and predicting large loss [ph] car accidents (03:49:07), but that's really just two of hundreds we could come upon. So, again, the accuracy is there, the technology is ready and there's sort of large-scale business [indiscernible] (03:49:18).

[Technical Difficulty] (03:49:21) not as mature in terms of how we've organized around this. I think Scott mentioned that Vikas Vats is here today. We recently named Vikas our Chief Analytics Officer. Vikas is responsible for building out this ecosystem. Similar to what we have to find in the cloud, what we want in a very much an open-source model. We have our capabilities at the center. We have business units that are in direct

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communication with our clients. We have academic research partnerships with 10 universities. We have a sales force; obviously, that's interacting directly with our customers.

We have product build teams, developer teams that sit within the business units. So the question that Vikas is solving for us, how do we bring all of these groups together and again in a very open-source way to make sure that all of the best methods and all of the best technologies are flowing across the system in a frictionless way.

We have, as an example, [indiscernible] (03:50:35). Just as an example of how that works, we have a [indiscernible] (03:50:42) product, which is essentially a forms – an insurance forms library that we – and [ph] maintenance on library application (03:50:49) that we have for all of the ISO Insurance forms. Now these forms contain all kinds of obviously clauses and riders, and one of the challenges is as you go to interact with all of those forms, how can I get my arms around differences in riders, differences in clauses, and it becomes either a very manual exercise for someone who really, really knows the world of insurance and insurance language specifically, or can we apply some artificial intelligence or machine learning to the problem to help to categorize the different sections of those insurance forms and then extract those different sections and be able to compare those riders or clauses to other riders or clauses and other insurance forms and give an assessment of the differences or the likenesses and be able to actually do some real analytics, having done that decomposition.

So, this started out with – just to run through the groups, right. It was identified as a problem working with the business, right. Mozart was a built application that we had, but it did not yet have this capability. So that was identified working with the business. We needed to identify a method, so we went to our one of our academic or one of our university partners. They were doing research and it's [ph] periphrastic (03:52:19) in variation, which ultimately I've learned means – and this is the general research that's being done. They're trying to tell us the – a sense like the dog's tail is wagging is the same as the tail of the dog is wagging, like literally it starts out that simple, right? And obviously, it progresses to the point where you can then compare clauses and insurance lingo, but they need us to help them point at a problem like that.

So we engaged with – in this case, I think, with University of North Carolina. They helped us refine the algorithms. We work with the business to reintegrate those algorithms or to really adopt those algorithms to our insurance forms. And we're in the process now of building it into the application, so that's sort of when it works. That's how the whole cycle works. And again, then that broad capability becomes available for the rest of Verisk. And again, a very open-source [ph] kind of like (03:53:16).

So, I think I'm going to hand it over to Lee at this point. Thank you.

Lee M. Shavel

Chief Financial Officer & Executive Vice President, Verisk Analytics, Inc.

[audio gap] (03:53:31-03:53:43) can be a little bit clumsy. So the last thing I want to do is fall off the stage here. So, when we started this morning, one of my colleagues said, [indiscernible] (03:53:51), Lee, you look pretty relaxed for Investor Day, which was true, and I think they probably don't appreciate that in contrast to a typical research conference or going to meet with investors, I could get asked a question on a dozen different businesses or 100 products, and of course, I'm always very fearful that I'm not going to be able to answer it accurately with detail. And so, in contrast to that, having everybody here as lifelines to handle those questions, I'm very relaxed.

I'm also relaxed because Stacey and my colleague, Chris Perini, have done a great job in setting all of these up. So, thank you to everyone and thanks in particular for all of you who have come today. You'll hear a lot from me in the ordinary course. I'm going to try to keep my comments brief.

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I wanted to start out and talk about what we've accomplished from a finance perspective over the past year, and I want to start off by first noting – the first thing that I wanted to do was to go out and meet with as many of our significant investors and long-term investors as possible. Many of you are here in the room. And I had the great – good fortune and delightful experiences, getting a lot of perspectives from all of you. And I appreciate your patience and your candor as we were trying to understand what can we do better.

And as you all know, there were three primary areas that I've talked about that I heard from; one, transparency; two, capital discipline; and three, compensation structure. And so we feel certainly that we've made significant progress across all of these. In transparency, one of the first things that we did was the re-segmentation [indiscernible] (03:55:34) focus on the industry verticals. And I think – at least the feedback that I've heard from investors was that that's been helpful to understand the dynamics. But I also tell you it's been very helpful for the organization so that the business units feel a direct connection to what we're doing from an overall performance standpoint.

We have focused on the organic constant currency growth to really capture the operating dimensions of the business. Perhaps less popular within this group is the guidance policy changes. But I think we certainly feel that that's materially improved the dialogue. I will share with you one of the more delightful aspects of this is, occasionally, you're in a meeting with four or five investors that have a shorter investment horizon, and there will be long periods of silence, sometimes as long as 40 seconds because they don't have any questions to ask. That's really particularly enjoyable.

But it really has kind of changed I think the – what we're able to talk about, and hopefully, what's reflected here [ph] and the final (03:56:34) point in communication of really answering the question of what binds these companies, these businesses together. I think we've emphasized how we are able to leverage the technology, the scale that we have, the investments that we're making, the data science, methods and techniques to really drive growth and performance and enhancement to meet this broad demand and growing demand for data and analytics. So, we are trying to improve how we communicate and what's common across the business.

Capital discipline, I'll spend more time talking about – I'm going to try not to be repetitive, but certainly in 2018, we've established a framework. This has been a cultural education, not that capital wasn't thought of before, but certainly this has been a greater emphasis on it to balance the natural financial disciplines around revenue growth and margin for the business as a whole. It's been incorporated into our business reviews. We are now looking at [ph] ROIC (03:57:36) on a segment basis and certainly for discrete projects, whether there's big bold ideas or enterprise ventures or certainly M&A that we're looking at.

And in compensation, kind of tying back to the industry vertical transparency, we have now tied our short-term incentive compensation to the organic constant currency revenue growth and EBITDA growth for the business, so having consistency there at the organization but also at the business unit level. And we've also introduced the element of relative PSUs. And I want to say that I had nothing but these initiatives were underway already by the time that I joined the company. And so we were just really continuing to make sure that we follow through on that.

Briefly on organization changes. So in terms of my direct reports, we have new people in about 50% of those [ph] roles (03:58:27) Most of you have hopefully met Stacey Brodbar, who we are delighted to have as our new head of IR, the prior IR was barely getting by, meaning myself, not David. David was a class act. But we're delighted to have her both from the buy-side and sell-side perspective to help guide us in our communications. So, glad to have that.

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We've also promoted internally a new Treasurer and a new Head of Procurement and Strategic Sourcing. The Treasurer is a gentleman by the name of Brian Aird, and the Head of Procurement and Strategic Sourcing is James Devine. Both of them come from Wood Mackenzie and I think it's important to note that this has been a great opportunity for us to bring talent into the organization that brings the global prospective that Wood Mackenzie has, it brings a different perspective. Brian had been the Finance Director for Wood Mackenzie, a very seasoned, talented finance professional and he's excited about having the opportunity to work with us to think about how we manage our cash flow internationally within our – all of the legal entities, thinking about foreign exchange and our treasury policies, and I'll be working very closely with him on a variety of the capital markets issues that we deal with.

James Devine, Head of Procurement and Strategic Sourcing, there are two approaches here. Procurement is a very process-oriented approach. We had been really working down that path. James brings a strategic sourcing and a partnership approach that really allows us to work with the business units much more effectively in driving efficiencies across our business. So we're delighted to have him.

And then we recently announced a new Head of Strategy and Business Development, Yang Chen who succeeds a very valued colleague of mine for a long time; Vince McCarthy who was moved into a senior operating role within the business. Yang Chen has been part of the Strategic and Business Development team for a number of years, a former banker and really brings tremendous energy and focus, will be working with me in thinking about how do we assess the opportunity set for us to drive growth, to deliver value and returns across this really substantial opportunity set that we confront.

So, that's the report in terms of what we've done in 2018. Let me talk briefly, focus ahead. We certainly look to build upon the foundations and the progress that we made in 2018. And the starting point – and this is really feedback from a lot of the investors, something that came through loud and clear was the tremendous focus around margins, and how do we manage those.

And initially, it's a challenging topic because there are so many elements that contribute to overall margin. Margin is a – it's useful as a simplification for what we do, and it's certainly important. It's difficult to understand all of the variables that factor into that.

And so in 2018, really drilling further into the primary components of margin and the balance importantly between the investment decisions that we're making, which certainly as you know, are significant impact on margin and the trade-offs between growth and margin performance and returns is part of what we really want to continue to understand at a higher level. Part of that also includes [ph] revenue analysis and where is (04:01:48) incremental revenue.

Capital management, again, we'll talk more about. Productivity is an area that Scott has emphasized from the start, and it's taken me a while to absorb the various manifestations of how we can think about productivity through the organization. But the more time I spent thinking about it and talking about it, the more critical it is for revenue growth in terms of sales productivity and margin improvement, in terms of efficiency from our expense base and returns in terms of productivity from our investments. And so, we want to look at where are there opportunities to substantially improve that productivity.

And then finally from a strategy and business development, M&A process, I think there are a number of areas that we want to look at where we can improve. Strategy and business development, how do we define that opportunity set more broadly and think about the portfolio of investments that we can make from the very fortunate and advantageous position that we have to guide our decision making. And then from an M&A process integration, I

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think working to understand how we can really drive returns on our investments and our acquisitions by making certain that we're delivering as quickly as possible the resources regardless of what they may be into the newly acquired companies to support their growth. So, that's a bit of the focus.

This is pretty straightforward, and I'll try to keep it simple. Our value creation strategy is about driving operating cash flow growth that will come from the organic revenue growth or operating leverage and opportunities to improve the productivity of our expenses through discipline and attractive and growing returns on capital.

And here, this is why I want to make the point. I certainly feel, and hopefully all of you feel, that from where Verisk sits with its scale, with the intellectual capital that we have, with the client relationships that we have and in an environment where data production is increasing the ability to process that data, turning it to analytics, is an incredibly exciting place to generate good return by investing in those opportunities. It has been to be disciplined. But as all of you can appreciate as investors, when you have a broad universe of a lot of attractive opportunities, that's beneficial. I want to make sure that we are not overlooking opportunities to find areas that we can improve our business and generate growth and return by identifying that.

This is not new. I know one of the analysts was expecting or had anticipated a reveal. I've used this slide before. The allocation framework that we use is the basic philosophy that I started from. And so this really guides us on both a periodic and on a continuous basis for us to think about capital. And it does become a complementary discipline to everything that we want to do from a growth perspective. It starts – you got to identify how much capital are we generating, what are the internal and external opportunities we want to make relative comparisons to make sure that we're optimizing that decision, think about what is the right cost of capital for those opportunities and to look at the aggregate value creation opportunity for the business as a whole.

We also want to weigh that against what our capital return alternatives, and how do we assess those trade-offs and then ultimately make informed decisions on a relative basis across that to generate good returns and increase our return on invested capital over time.

Moving to the financials. I wanted to pull back for a second and really just talk about the longer-term dimensions of our business from a revenue growth standpoint. As you can see here, over the past – this is actually 11 years but we're looking at growth. But you can see the track record in terms of reported revenue growth. But down at the bottom in the box, what's very relevant is what have we delivered from an organic growth perspective, constant currencies for 2016 and 2017, which became relevant after Wood Mackenzie. And certainly well in 2016 and 2017, we had the challenges of some of the headwinds from the energy and power industry at Wood Mackenzie and some of the contractual transitions at Argus.

Generally, we have, more often than not, delivered growth on an organic constant currency basis in excess of 7%. Now, I will point out, and Mark help educate me on this point, 2009 was apparently a really difficult year in the insurance industry. Coming out of the crisis, the [ph] ARR (04:06:30) problems – I'm sorry, the AIG problems; too many insurance acronyms floating around here. Everything was fine though. The AIG problems, and yet we still were able to deliver a 4.6% organic constant currency growth, which isn't where kind of look at – eliminate the other numbers, that's a pretty good growth number.

So, I do think that while there certainly is – we are connected to the insurance industry at some way, we have very little if any trade sensitivity, relatively little economic sensitivity, and the primary dynamic is the adoption of technology by the insurance industry that exists somewhat apart from, let's say, overall growth in net premiums written for that industry, not completely detached but certainly not a particularly sensitive issue for us.

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And then turning towards the more recent performance and looking at organic constant currency revenue growth in 2018 year-to-date, particularly when we look at the operating performance, making the adjustments for the exceptional storm activity and the one-time non-recurring TSYS revenue in 2017, we certainly believe that on an operating basis without those influences that we've been performing at our expected 7%-plus organic revenue growth. Drivers for that, of course, the ongoing demand for data analytics, our ability through hopefully what you have seen today is across the organization, a focus on developing new and enhanced solutions for our business, the cross-sell opportunity to further penetrate our client base with the statistics that Mark described segmenting our – the number of products by the various client sets that we have by scale, as well as the international expansion that we are – that we're pursuing.

Similarly in organic constant currency EBITDA growth, looking at the 7.8%, not quite at our target level of 100 basis points to 200 basis points above that, but clearly showing momentum and improvement through 2018, which in many ways was continuing both continued recovery in some of our constituent businesses, but also reflecting significant investment in entities or areas like aerial imagery that we believe, continue to believe represents substantial growth opportunities for us.

Drivers will continue to be the natural operating leverage, the improving productivity for the businesses, and our opportunity to take advantage of expense optimization through cloud initiatives, the Global Talent Optimization project, and other opportunities that we have through the Lean Six Sigma program to find it.

I know that it's often – it's easier to absorb this when we talk about large projects, but really what we're able to do is across this organization, through a lot of relatively small, but in aggregate very significant ways constantly look for ways to improve the organization. And I would submit that it's that culture that's really important within an organization to drive continuous improvement.

I wanted to touch on the segments, and we're shifting now just to the past five quarters to get a sense of how have those growth rates been trending. Hopefully, what's clear to all of you is that we've demonstrated pretty solid progress with both the energy sector and the financial sector, both in terms of organic constant currency revenue growth as well as EBITDA.

I've added on the bottom left, I think to me, is an interesting chart that shows the contribution to growth. And so what this does, it gives you a sense of what each of the segments are contributing in terms of overall revenue growth.

You can clearly see the stability, the importance of the insurance business to our growth dynamic, and with the light blue, the increasing contribution of the energy business as that market has stabilized and as the team there has continued to deliver progress both from a growth and from a margin standpoint, and then with the light green, the more recently significant contribution from the financial services. And so, I think we have been over the past five quarters, really experiencing the improvement of those other segments complementing the very strong growth that we've had in our insurance business.

I would also observe that we continue to believe, as it relates to EBITDA, that there continues to be strong operating leverage across all of these businesses, including the acquisitions that we make and our ability to realize that potential margin improvement remains very strong.

So shifting now to the bottom -the bottom line, quick look at our historical adjusted EPS. So, this is not organic EPS. This is kind of bottom line, but is adjusted excluding the intangible amortization as we've defined. And really

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the point of this is to demonstrate that we have consistently achieved our 10% plus EPS growth on an annual basis fairly consistently and certainly on average.

Turning to the more recent results, and here focusing on third quarter year-to-date, while from a reported standpoint, the EPS is up 29.5%. I'm not expecting anybody in this room to let me go by without kind of addressing what was the tax impact here. And so, hopefully, we haven't put it into too small fonts, but the 7.7% reflects that on a normalized tax basis. Now, that is lower. That reflects the impact of increased depreciation and amortization that has been driven in part by some of the acquisitions that we've made but also by the investments in Geomni. And so, we're picking up a lot of claims in sensors, and the depreciation associated with that has grown at a higher than normalized rate.

As we have talked about, we expect that to peak in 2018 and the – and decline in absolute dollars going forward as it relates to Geomni. So I'm not overly concerned about at least that year-to-date number.

Certainly, the drivers here were – are fundamentally the revenue and EBITDA growth, I probably should have put depreciation and amortization on that, but leverage, tax rate and share count are all levers that we work to try to drive that to a 10% return.

I've also complemented that with a return on invested capital calculation. I want to note for those of you out there that are ROIC hounds as I am that this reflects a cash ROIC, meaning – the definition is that invested capital includes the CapEx. And so what we do is when we are determining our net operating profit less adjusted tax, well, you would typically include depreciation and amortization on a maintenance basis there.

We take all of the CapEx and we put that into invested capital. Why? Because, a lot of our CapEx particularly with Geomni is substantially investment and it's investment capital. And so, we felt that given that relative scale, that's the right way to handle this and is also – it also helps, that's traditionally been the way that we've done it in the past. So I think that provides some consistency.

You can see we are showing modest but steady improvement in that over 2017 and 2018. And we certainly hope to continue that trend.

I wanted to use that as a jumping-off point, and I have to make a very important caveat here. This is not guidance. This is – these are not targets. We had one analyst say, well, you were very precise in the ROIC guidance that you provided. It's not that. This is a baseline that I think is useful to think about that applies our revenue growth targets at 7%, and kind of the implied 8% EBITDA growth. And in this case, and particularly with this definition of ROIC, net operating profit less adjusted tax, the growth rate should be consistent, if not identical, with your EBITDA growth rate. So we're using kind of the low end of the 100 basis points above. So we're using an 8% NOPLAT growth rate. And we are assuming that CapEx moderates into the mid-single digits over time here, it doesn't have – it's not that – doesn't have that big impact on the overall ROIC but we wanted to be consistent with that long-term guidance. And what this shows is that at those levels, and absent the incremental impact of any acquisitions, there is a natural momentum in improvement in ROIC over time.

And so, I think that's a good starting point to think about as we focus on what is our incremental – what are our incremental uses of capital within the business and through acquisitions. We want to do everything we can to enhance this. Now, there may be short-term trade-offs that generate longer-term returns, but we want to make certain that we are mindful of this opportunity to increase returns on invested capital over time and supplement that with good returns going forward.

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Embedded in our 2018 annualized ROIC, I'm providing a report on our near-term or recent acquisition portfolio. And we've defined this as deals over $100 million that we have announced over the past three years. So, certainly, this includes Wood Mackenzie, Sequel, PowerAdvocate, G2 and LCI. It represents $3.8 billion in aggregate invested capital and the contribution to 2018 return on invested capital was approximately 4%.

That's not a great number. It shouldn't be a new number to you. I think when we reported last year and we gave an update on Wood Mackenzie, it was approximately 4% at that point. And it's the primary driver of that at this stage. We also have four acquisitions in 2017 that are relatively early in their performance.

Now, what I would tell you with that as an understanding of that component is that we continue to believe that all of these deals have the very real potential to generate adequate returns on capital consistent with our overall cost of capital. And that hopefully, you come away with the discussion, Neil's discussion of the opportunities at Wood Mackenzie, with Lisa's discussion of the fraud opportunities at LCI and at G2, and with the opportunity of PowerAdvocate and at Sequel to really capitalize on the things that we bring to those entities to improve their business.

What I also want to point out that what's not included in these – in that number is the benefits that we receive from these acquisitions and that would include for instance, really the ability with the PowerAdvocate dialogue to support broader and broadened relationships in Wood Mackenzie. Some of the subrogation opportunities at Validus within our overall insurance business and potentially the – the potential to export some of that technology into the U.S. So, there are ancillary benefits across the business that we look to leverage. But make no mistake; our objective is to improve the performance of those investments in capital.

And the way we will continue to do that is by focusing regularly on tracking the performance of those returns by vertical and by project, focusing in our budgeting process with how we are using capital, what our incremental uses of capital across the business is and what those incremental returns are and regular quarterly and strategic capital discussions. And our objective is to really manage to – improvement in ROIC across the organization as a whole. And it's because across that enterprise, we're hoping to realize the benefits of many of the investments that we're making.

I also wanted to make – thank you, Michael. These numbers, these are not organic. These are all-in. So, if there was any confusion around that, this is in totality for the organization. Nothing is excluded [indiscernible] (04:19:28).

A brief comment on CapEx, you can see the growth in CapEx, you can see that the growth in internally-developed software reflects that reinvestment in the products, the upgrade, the enhancements that we're constantly looking to improve the value of what we provide to our clients. That's certainly a significant component of the growth. You will also see a non-IT. This growth, which has been accentuated by the Geomni investments, and as I mentioned we expect that to peak in 2018, and we do anticipate that CapEx as a percentage of revenue to come back down to the mid-single digit level over time.

Now, of course, that's subject to – if we think there are great returns by investments in these businesses, we want to make those investments. But we believe through a variety of means, not least of which are the cloud impacts within the business that our CapEx spending generally should moderate. But as I said at the outset, we think the opportunity to deploy capital into our product set is a substantial growth and return opportunity.

Briefly on cash flow utilization, we continue to deliver very solid and growing free cash flow despite the increase in our CapEx spending. And in terms of utilization, certainly 2018 year-to-date, even with the inclusion of the

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recently announced Rulebook acquisition, it's not reflected in that [indiscernible] (04:21:00) third quarter end number is below the 2017 level. I think that's a function, as we've talked about, focused on integration of a number of the deals that we have. And frankly very high levels of valuation that, as we are evaluating the potential returns on the business, influences the number of opportunities that we really think are attractive here.

We had a bit of a windfall with the repayment of the Verscend note. Much of that was dedicated to paying down our financing, bringing our leverage level back down into the low-2s and our kind of 2 times to 3 times leverage target range.

And as hopefully all you have noted from a share repurchase standpoint, we have brought that back up to a level that's more consistent with where we were in 2000-2016, and are currently repurchasing at a level of approximately 2.6% of our outstanding shares.

Part of that is driven 2018 has been characterized by some roll-off of or [ph] expiration of options (04:22:05) that has precipitated a higher level of option exercise. Most of you probably have seen the benefit of that in our effective tax rate, which has been a nice addition but as we've discussed is not going to be – is not going to persist into 2019.

And so in summary, we want to reiterate our financial targets, organic revenue growth of 7% to 8% on average over time, organic EBITDA growth expanding 100 basis points to 200 basis points faster than revenue growth. Adjusted EPS for double digit growth, and as I've talked about increasing ROIC over time. This is a complementary financial discipline that we think is additive to our overall business and will support hopefully increased valuation for all of you.

So I'll stop there, and I think the next phase is Scott and Mark are going to join me on stage and Nick for any questions at a corporate level. So thank you very much.

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QUESTION AND ANSWER SECTION

Q

Good afternoon. So you don't give near-term earnings guidance, but you did do get long term earnings guidance. And since WoodMac has been folded into organic growth, if you look back at the financial performance the last two years, you're noticeably below your long term targets. So my question is over what period of time should we be assessing these longer term financial targets? What's the starting point? Is it the end of 2016? Is it the end of 2018 because if you merely hit your 7% long-term growth target from here going forward, you'd fall of it starting at the end of 2016.

Scott G. Stephenson
Chairman, President & Chief Executive Officer, Verisk Analytics, Inc.

A

Yeah. Do you want to start?

Mark V. Anquillare
Chief Operating Officer & Executive Vice President, Verisk Analytics, Inc.

A

Sure. So Mark here, I think we talked about this, so thanks for the question. I think we really use those targets as the guide for what we are striving for on an ongoing basis. And so with each quarter, we're looking at our year-over-year performance to gauge are we delivering on those targets. And so I understand the question which is when do you going to start that? I think the answer to that question is when we off of the consistent base. And so in that regard, recognizing that we want to factor in the consistent base including Wood Mackenzie, principally within the business that probably 2017 onward is the relevant base for us to be thinking about those growth rates. But philosophically, what we're looking at is from a five-year planning standpoint, from a budget perspective and really with each quarter, what are we striving to achieve and it's those long-term targets that we are working to deliver.

Q

Thanks. Maybe for Scott and Lee, could you comment on not having a dividend, high subscription base, low leverage, steady free cash flow, not getting into any new verticals? So maybe that's sort of the first one. And then second question, when do you return to a normal operating leverage? I know you said 2018 is big for Geomni, but when do we get to normal? Thanks.

Scott G. Stephenson
Chairman, President & Chief Executive Officer, Verisk Analytics, Inc.

A

Maybe I'll start with that. So, it's a very reasonable topic. If you look at the companies normally appears and majority of them do put out dividend if they – it's the topic that we've talked about for years basically, and it's one we will continue to talk about. That's a reasonable topic and for all of the reasons that you cite. With respect to, I think what you're talking about is CapEx intensity and/or would you clarify your question, please? I just want to make sure I'm addressing your point.

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Q

Again, talking about your 2.3 times debt to EBITDA and CapEx eventually were dropped down, right?

Scott G. Stephenson
Chairman, President & Chief Executive Officer, Verisk Analytics, Inc.

A

Right.

Q

To mid-single digit or whatever?

Scott G. Stephenson
Chairman, President & Chief Executive Officer, Verisk Analytics, Inc.

A

Yeah. So we're a little bit lower than our stated long-term target. Lee talked about some of the things that have gone on recently. We will remain very active in thinking about our capital commitments and where we put the leverage. But there's no policy change here relative to where we've been.

Manav Patnaik
Analyst, Barclays Capital, Inc.

Q

Hey. It's Manav from Barclays. First, just one question to Nick. I apologize if I missed this. But to the end of Scott's opening comments and just completely getting out of mainframes, like, how long do we have to reach that goal? And then just as a follow-up for Lee or Scott, I know you said no new verticals which I think [indiscernible] (04:27:51)would be pleased to hear. But how do you think of the existing three talking to each other, like, just in context of the portfolio review there?

Scott G. Stephenson
Chairman, President & Chief Executive Officer, Verisk Analytics, Inc.

A

Nick, the first part?

Nicholas Daffan
Executive Vice President & Chief Information Officer, Verisk Analytics, Inc.

A

So I think our current plan, it's aggressive. So given the amount of legacy and history we have with the mainframe footprint is we want to see a substantial reduction within the next three years. You sort of go into most – a lot of these contracts in three-year cycles. So there's a pretty good amount of understanding to make sure that we make substantial progress over the next three years.

Scott G. Stephenson
Chairman, President & Chief Executive Officer, Verisk Analytics, Inc.

A

And then to your point, I think your question on was about just sort of the three verticals and where do they all come together. So on a very frequent basis, the people that are running the three verticals and I and Lee and Nick, we all sit down and we're just kind of confidently sort of rebalancing what we're doing. I think the most significant work that really knit the organization together occurs a little bit deeper into the organization and that has a lot to do with the technical methods that we talk about before. So Nick talked about creating a very easy on ramp. Each part of our organization to migrate their applications to the cloud, that's very significant. If you look at

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our data science community today, a substantial fraction of it is the team that is in the center which is essentially serving all of the organization.

One of the important things about the cost is we roll actually it to help us fully optimize our data services science capability across all three verticals. That's everything from career development to rebalancing resources across projects in real time sort of best practices and essentially with respect to even the tech stack that supports analytics, so that would be available really to everybody. And then you heard about some of the data integrations that are possible. Mark talked about can we [ph] mine (04:30:03) signals from retail banking and use them to make some helpful observations on the insurance side as an example. And that's really sort of teammates with teammates below the level of this organization. So, it starts here. We are working together as a team and then there are a lot of teams down in the organization.

Andrew Charles Steinerman
Analyst, JPMorgan Securities LLC

Q

Lee, this is Andrew Steinerman, JPMorgan. My question is on margins. 2018 was an investment year from an OpEx standpoint. It also was the roll-in of the 2017, the four acquisitions into margins. With all that said, is 2019 now poised to be a year with some margin expansion on a reported basis?

Lee M. Shavel
Chief Financial Officer & Executive Vice President, Verisk Analytics, Inc.

A

So, our objective is to increase that margin over time to generate EBITDA growth. Certainly, there are a lot of influences in terms of higher investment that we had in 2017. And we don't know – I'm sorry, 2018, thank you. And we don't know what 2019 will hold. There may be opportunities, other investment opportunities that we're evaluating. But our fundamental objective is to grow EBITDA faster and to increase that margin over time. But I'm not going to make a specific prediction about 2019. Everything that you've identified are certainly positive trends that would support expansion in that. And until you're into it, you never know what the offsets are going to be, but we certainly hope to deliver on that.

Q

[indiscernible] (04:31:38-04:31:46). [audio gap] (04:31:48).

Lee M. Shavel
Chief Financial Officer & Executive Vice President, Verisk Analytics, Inc.

A

Right. There's nothing that I think we've specifically identified. But I also – I want to stay short of providing anything that would be interpreted as guidance for 2019 from a margin standpoint.

Q

[indiscernible] (04:32:00).

Lee M. Shavel
Chief Financial Officer & Executive Vice President, Verisk Analytics, Inc.

A

[ph] All right (04:32:01).

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Gary Bisbee
Analyst, Bank of America Merrill Lynch

Q

[audio gap] (04:32:05). Hi, Gary Bisbee from Merrill Lynch. So, Mark, there wasn't a Q&A section after your operational excellence commentary, so maybe a question on that. You gave a lot of detail of the types of strategies throughout the organization you're working on, but can you help us frame sort of the potential size of the savings or where the biggest opportunities are, and then, what's the company's plan at this point in terms of reinvesting within those savings over the next few years versus actually letting that fall into your profits?

And as a second question for Nick, could you just help us understand, what was the scale of that financial illustration you provided that I assume that was just those four products and the actual opportunity over time would be potentially much larger than that? Thank you.

Mark V. Anquillare
Chief Operating Officer & Executive Vice President, Verisk Analytics, Inc.

A

So, maybe let me start. I think what I did is I walked across operational excellence. I started with Lean and that effort, I highlighted about 50 FTEs and that is a run rate that will continue, and if not, we expect it to grow. So, one of those items as I will tell you is how do we then take those resources and how much do we drop to the bottom line, [ph] first balancing against (04:33:30) new products and new innovation.

I think what we've been incenting our business units is find better ways, make our customers happy and that's a good way to fund new innovations. So, ultimately, we grow the bottom line and we grow fast on the bottom line. But what I would tell you is that 50 FTEs has been kind of the results of two years of effort and we're on that [ph] march. It will (04:33:53) continue.

I'm going to then move over to AI and machine learning. And I would tell you at this point I'm not sure we have quantified it. We're kind of in the early innings of the internal focus. We've been more [indiscernible] (04:34:09) on an external focus, but we do think that will be very beneficial.

And then the way we've – [indiscernible] (04:34:17) talked about that 800 people, we have been looking for somewhere in the neighborhood of 3 to 1. So we can hire three at one of these locations outside the United States relative to one in kind of high-cost Boston [indiscernible] (04:34:35) New York, New Jersey. I would tell you that that's probably a more function of new hires. So, it's maybe a little bit more [indiscernible] (04:34:44).

I think the biggest [ph] ticket (04:34:46) that is yet to be quantified is really the cloud and the mainframe. Nick highlighted it. I'll turn it over to him, but I think the things that we've seen is, one, we love the benefit of cloud that we will receive. However, there's a lot of timing [indiscernible] (04:35:00). There's cost today, sometimes CapEx, sometimes OpEx, to transition those applications [indiscernible] (04:35:08) the cloud. That's a big push and big effort.

Two, there's kind of an overlap here. So sometimes you incur some more cost before you get the savings. We should and could see some of that in 2019. But there's a pretty big price at the end – on the rainbow. And Nick try to at least give you a couple of examples. Would you like to [indiscernible] (04:35:27)?

Nicholas Daffan
Executive Vice President & Chief Information Officer, Verisk Analytics, Inc.

A

Yes. Yeah. I mean that is – that's the – relative to the size of our overall footprint, it's a pretty small percentage, especially when you consider Geomni has a large footprint, but Geomni has grown a lot over the time since it's

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been in the cloud. So, it's a pretty small percentage of our overall footprint. But to Mark's point, I mean these – there is a – you are running in parallel for a period of time.

If you want to get substantial savings, there is some amount of application reengineering or re-architecting that has to happen which has a development cost to it. And it also – it takes time, right, so there's a time component to it. So, it's one of those things where we wish we could – I wish we could snap your fingers and everything has automatically sort of migrated and operating optimally inside AWS or any other cloud provider, but it actually takes a fair amount of effort.

Mark V. Anquillare
Chief Operating Officer & Executive Vice President, Verisk Analytics, Inc.
A

So, in summary, kind of just point back to Lee's comments, we over the long term do expect some margin expansion. This will contribute to it. It will also give us the opportunity to invest in new things, which we are very excited about as well. [audio gap] (04:36:42).

Henry Sou Chien
Analyst, BMO Capital Markets (United States)
Q

Hi. It's Henry at BMO. Just a question on the ROIC progression and the steady increase. I was wondering if you could talk a little bit more on the – sort of the key drivers for that. I know you've talked about efficiency initiatives. [ph] There's also some (04:36:58) new products. I mean, I guess the question I'm wondering also are the new projects being implemented, whether they're advanced analytics or more machine-based analytics, are those of a higher ROIC profile versus your prior services? I'm just trying to understand that progression.

Lee M. Shavel
Chief Financial Officer & Executive Vice President, Verisk Analytics, Inc.
A

Sure. So – [ph] I'm going to stand (04:37:22) so I can see you. The progression reflects that 8% growth rate kind of implied by our long-term growth. And so to answer your question, what are the things that will influence that or will cause that to vary relative to that target, well, if we are successful at growing at a higher rate, then that return will increase. And the investments that we are making are probably the most important dimensions to that improving that growth rate. And embedded in that is an expectation that those returns on an incremental basis have a higher marginal returns.

That's precisely the opportunity, particularly as it relates to internal investment opportunities, but I think is the most exciting, where we are investing in a new product or a product enhancement that drives growth in the business, it's my view that those generate very attractive and high returns. Now, those maybe smaller scale, but they are high incremental return projects in those cases. And part of the effort is on identifying what is the broad pool of opportunities available to us and then how do we dedicate and optimize that portfolio of investment against those. So that's a component.

The other component is leveraging the investments that we're making at an enterprise level, whether it's an artificial intelligence or machine learning, as Nick has described, or investments and our migration to cloud that will generate improved efficiencies in productivity across the business. So, certainly, the expectation is that anything that contributes to increased operating cash flow is going to drive an improvement and that's what we work towards on a continuous basis.

Scott G. Stephenson
Chairman, President & Chief Executive Officer, Verisk Analytics, Inc.
A

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Just an addendum to what Lee just said, almost all of the new solutions are being build native to the cloud. So if you think about at least [ph] three tier (04:39:23) CapEx picture, the second of the three layers just kind of is never there even from the beginning.

Q

Hi. The goals you layout seemed to suggest a big tailwind of free cash flow. You have CapEx that is going to kind of roll over. You seem to not want to be inclined to add another vertical. It seems to imply there's going to be a lot more free cash flow over the last, say, – next, say, five years. Should we infer that more of that free cash flow will end up being returned to shareholders through some form, or is there another – in other words, is there another way to spend a couple of billion dollars over the next five years?

Scott G. Stephenson
Chairman, President & Chief Executive Officer, Verisk Analytics, Inc.

A

Well, we are always going to take account of whatever the best uses of the capital are at any particular time. I think we actually put stress on that. So, we don't actually sit here at the moment and feel the need to make some [ph] hard vest (04:40:24) statement about all of that. I'll just say that forever we've been very comfortable with the notion – more than comfortable with the notion of returning capital to shareholders. And our policy is absolutely the same as it was.

We're always going to look out for opportunities to invest back in the business and you heard a lot of really good thinking from the team are just in the way that we thought about our multi-year plan. I think we've accounted for a good fraction of what we see as the opportunities to invest. We think it's very constructive to always be engaged in a very proactive way in talking with other companies that have developed solutions that might be – that both sits alongside of what we do and might be a value to our customers, so that, A, we're aware of what's going on, and B, we can look for opportunities to maybe make a whole greater than the some of the parts.

And who knows what will the macro environment be like, how will assets be priced a couple of years from now. It's hard to say. So, we're just going to stand on our toes and we're going to look at all these opportunities for deploying capital. But what I'm underlying here is the way we thought about it historically is the way that we think about it today, which is very comfortable to return capital to shareholders, very interested in investing in our own business, and very open to seeing what else is in the marketplace subject obviously [ph] to test (04:42:03) of the value and return.

Q

Just as a follow-up, given the last three years, I applaud you putting the numbers up there with a 4% ROIC. That's obviously dilutive to your core ROIC. And I know you said you'd expect those to be adequate over time. Does that change your thinking at all or is it just maybe the timing of perhaps one of those deals which has not really worked out in a favorable fashion? Does that change your thinking or maybe your hurdle rate or your level of scrutiny on doing M&A versus returning capital to shareholders?

Scott G. Stephenson
Chairman, President & Chief Executive Officer, Verisk Analytics, Inc.

A

So, you asked three questions there. I'll answer them in...

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Q

They're all related.

Scott G. Stephenson
Chairman, President & Chief Executive Officer, Verisk Analytics, Inc.

A

Yeah. They're all related. So, we scrutinize as deeply as we always have. There's no change there. The way that we think about the hurdle for return is unchanged. We're always referencing the productivity. [ph] If the (04:43:02) capital gets invested, we're always asking the question, what do our capital partners require in terms of return, we've always done that. We will always do that. So, the thing that I think [ph] bare (04:43:16) saying then is that of the analysis – in the analysis that Lee presented, the vast majority of that relates to WoodMac.

Just a reminder for some of those who may particularly be a little bit newer to our story, there were two things that happened almost simultaneous with our acquisition of WoodMac. One was the commodity settling out in a very unusual place, driven by supply considerations not demand considerations, a very unusual situation but also actually the Brexit. So at the time that we bought WoodMac, it was 60% denominated in pounds. Overnight, the bottom line of WoodMac was cut by 20% because of the Brexit for $1 reporting company like Verisk.

So you had these two very unusual circumstances. There we are. But on a go-forward basis, we will scrutinize and our return expectations are unchanged.

Toni M. Kaplan
Analyst, Morgan Stanley & Co. LLC

Q

Hi. Toni Kaplan from Morgan Stanley. Scott, you mentioned earlier insurance companies sort of embracing data and analytics and technology. I could see that being an environment for you to be able to sell incremental new products and do more with them. I wanted to understand, is that more on the claims side versus the underwriting side or both? And I know Geomni initially was supposed to be focused on – more on claims, but also had sort of the underwriting aspiration, so wanted to see how that's going.

And then finally, I'm going to ask a [ph] three-part (04:45:04), just like the last one. My third part is, Mark, I know you mentioned on the competitive scoreboard where you put the numbers and you mentioned the comment that where you are an incumbent, there were two losses because the insurance companies went in-house. And so, just wanted to find out if there was something that's going on, like basically within the insurance companies enabling them to sort of digest the data themselves? So I don't know if that made sense for them [ph] how to do that (04:45:35)

A

Yeah. So maybe I'll lead off, and most of that was or all of that was about insurance, so, Mark, jump in at any point. But to your question about where is the center of gravity on thinking data analytically, so I'm summarizing a lot of what I'm about to say. But in general kind of around underwriting, I think that has been more intensively about analytics historically where insurance companies are concerned because you always had the actuarial function of sitting hard by underwriting and rating.

And so you've always had kind of that community, now that's a very particular form of analytics, but just like us one of the things that a lot of our customers have been doing is trying to retrain people that were originally trained

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in actuarial science to become more familiar with this whole range of data analytic methods that have now come out.

So historically, I think that's where – and also the fact that underwriting sits hard by not only pricing on the one hand, but actually kind of close by the marketing also. And there have been good marketing analytic innovations through time that have run-up. So recently, I would say actually I think it's the claims function which relatively has been sort of catching up. And you actually do see some interesting things going on now in terms of really be the machine-learned exploration of what are my claims flows telling me and that's good and that's interesting.

Geomni still continues to put the majority of the points on the board on the claim side. And I – without getting too complicated, it's essentially the mix of the quality of the imagery, the precision with which you can tease meaning out of the image set that you've got. And then the speed with which the data are made available. So, Neal spent a lot of time talking about kind of in the moment, move it up, make it all happen right at the point of sale. So, what that implies is that essentially all of these image sets which are – it's a lot of data. In the limit, would have to be extraordinarily precise and also you would have to pre-process the data before it fully changes the underwriting process. So, that's still the direction of travel but most of the points are being put on the board on the claims side today in the insurance vertical. And then, did you want to take on the last part of the question?

Mark V. Anquillare
Chief Operating Officer & Executive Vice President, Verisk Analytics, Inc.

A

So, I'll kind of go back to the scoreboard and just highlight that with InsurTech, with investor – excuse me, insurance investment in systems, what has happened is people are installing new [indiscernible] (04:48:40) systems, looking at their workflows. That has provided opportunities for us.

So, there's just – forget about the wins, there's just more opportunities out there because people are relooking at things. That's good news, that's been a positive. I can also highlight maybe to Scott, I think people can easily quantify if I can be more efficient with claims because I have claim adjustors. It's tough to figure out if I got lift and I'm doing an analytic and someone else is doing analytic on the underwriting side, it takes a little while to figure out if your loss ratios are better, worse or how that analytic is delivered.

To maybe your second point, is we do everything. A part of those wins has been, Geomni, very, very successful, very, very, good and underwriting will come. Great success will come when we can flow that information into the workflow. We're kind of doing it post-bind right now and there's value there but great value will happen when you can [indiscernible] (04:49:40).

Third topic, so what happened really with those two losses was we had a couple of customers who bought the solutions because of this fair weather that took place, the combination of Irma, Maria, right, Harvey, and then when things return to the norm, the volumes were not so – such great that they could – they needed or wanted the application going forward and revert it to whatever they were doing it now. So, it was a loss but I caveat it with the unusual – unusual situations in 2017.

A

And just because we're talking about results in insurance, I just thought I would try to clarify something, maybe it became clear to everybody. But we were talking earlier about InsurTech and our success with InsurTech and you might – when you hear InsurTech, you might think of another vendor that is providing data analytics solutions. Mostly what we're talking, if you actually look at the list of InsurTech companies and InsurTech start-ups and

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spending et cetera, a lot of them are actually trying to be new insurers, either representing somebody else's paper in a different way or actually bearing risk.

And so when we talk about InsurTech, we mean the lemonades and the hippos of the world, the new form. They may be peer-to-peer insurers; they have niches, et cetera. But that's what we're talking about primarily when we talk about our success with InsurTech, new insurers, newly formed insurer. Maybe that was already clear to you, but I just thought I'd take the opportunity.

Q

Hi. I'm [indiscernible] (04:51:32) Capital. I'm really interested in understanding more about the transition to AWS for your infrastructure. I mean that was a great example you gave. It seems like it's a small portion of your total footprint. Somebody asked about a scale question before, how that represents the total scale available and I don't know if you really addressed that. But as you look over the next three years, what would you hope to accomplish in terms of transitioning a portion of – a significant majority, I would think, of your infrastructure to the cloud? And how much of your current R&D spend or development spend goes towards taking those legacy applications which probably are majority of what you provide your customers from those mainframes to make them cloud ready and deployable?

And a question for Lee, I think you talked about 15% ROIC being sort of where you see the trend heading at the low end of your long-term guidance. When you think about acquisitions, given how lucrative the insurance business inherently is on a tangible basis, so without the goodwill of buying new products and on but – on an ongoing basis, it's very profitable high ROIC business. Do you have ambitions to – I guess, my question is, do you have ambition to reinvest in terms of your capital allocation perhaps more of your dollars into creating products in-house versus acquiring? I mean historically, a lot of your acquisitions have been about product add-on. Can you maybe speak to that a little bit and how that impacts ROIC building in-house versus buying externally and sort of how you do the trade-off and capital allocation?

A

Sure. [indiscernible] (04:53:29).

Mike Fulton
President-Xactware Solutions, Verisk Analytics, Inc.

A

Yeah. I think it's sort of hard to holistically describe a plan to completely migrate over to AWS, right. There's a lot of moving parts obviously there's a lot of applications. There's acquisitions happening. I think what we do have clarity to is we certainly have within the next 12 to 24 months, we have a targeted set of solutions that we want to migrate over. As we work through those, we'll be targeting another set of solutions that we want to migrate over. We want to do the types of analysis that you saw for each of these solutions. We want to be disciplined about making sure that we're realizing those costs.

So I think we're more focused at this point on the process of selecting the solutions that will be migrated over, and then the process and discipline associated with how we do that as opposed to worrying about some holistic view of the world post-migration. And just to comment, we're not – AWS for sure is – where most of our work is taking place right now, but we're – we also have stuff going on in Azure or interested in Google Cloud. So, we're not sort of single sourcing the data [indiscernible] (04:54:42) I just want to be clear with that.

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In terms of parsing out the R&D, again, it's difficult to answer because a lot of these applications are being rewritten for other reasons. So there's a lot of development that happened because we're naturally enhancing the applications to meet customer needs over time depending on how much of the patient you're operating on. In some instances – many instances, it makes sense just to go ahead and include the AWS migration as part of that because you already are performing so much work.

So, we don't really look at it in a sense of how much are we investing to migrate to AWS because it's not all about just the work associated, it's not all about just migrating to AWS, it's also about enhancing and adding value – or functionality that we would otherwise have to.

Mark V. Anquillare
Chief Operating Officer & Executive Vice President, Verisk Analytics, Inc.

A

Although I think it's safe to say that our ISO business, some of the applications there have been around for a while as well as some of our claims fraud applications, we're investing heavily to migrate from mainframe to cloud, so to be a little bit more specific.

Q

Sure. Yes.

A

So thanks for the question on the ROIC internal versus external. I think there are a couple of considerations. Yes, I share your [ph] bias (04:56:02) I think that a lot of the times in many cases those internal investments are very high-return opportunities because you're leveraging existing scale and expertise. But the other two factors that I think you have to weigh in that equation are what are the scale of those opportunities, because if we're talking about value creation or even aggregate improvements in ROIC at the corporate level, you have to factor in scale and then you have to factor in the risk associated with those. And so I think you want to consider all of those. I would answer the question simply by saying I don't have a bias – I wouldn't have a bias towards either internal or external.

Generally speaking, I want to weigh those three factors; risk, scale of the return and the overall return in support of improving our ROIC over time and really creating value by generating returns in excess of our cost of capital. But I do take the point, there is probably a substantial portfolio of opportunities internally that I want to optimize because of those potential high returns.

Unverified Participant

Okay. All right. Thanks everybody for coming. Great to be with you, and I'm sure we'll have a lot of one-on-one follow-ups. Thank you.

Unverified Participant

Thank you very much. Appreciate you being here.

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