

# Clarivate Analytics Investor Day

Tuesday, November 12<sup>th</sup>, 2019

## **CORPORATE PARTICIPANTS**

**Jerre Stead** - *Executive Chairman and Chief Executive Officer*

**Mukhtar Ahmed** - *President, Science Group*

**Randy Harvey** - *Chief Technology Officer*

**Daniel Videtto** - *President, Intellectual Property and Standards*

**Richard Hanks** - *Executive Chairman and Chief Executive Officer*

**Randy Harvey** - *Chief Technology Officer*

**Jeff Roy** - *Head of IP Group*

## PRESENTATION

### **Jerre Stead**

Good afternoon everybody, it's great to have you here. This is a long, wide room, actually it's quite narrow, and we look forward to the next three hours of what I hope is very, very helpful for each of you. A couple of announcements, first of all, we're not going to take a bio break, so anybody that needs one should do it on their own, because we've got ourselves really full of what I think is great content. Also, the bathrooms only have about six at a time, so it'll work out a lot better by us taking them as you need, including me. Secondly, I'd like to introduce our team in just a minute. First, I'd like to have our directors stand up. I know they're here, if they would each stand, please? I'm not going to introduce them all, but it's great to have them here and I'm very, very pleased to have this kind of board of directors on this team, as we have today. Secondly, I want to introduce our executive leadership team that isn't presenting today. If they'd all stand and Dan, if you'd just start by telling them who you are and what you do.

### **Daniel Videtto**

(OFF-MIC)

### **Jerre Stead**

They're a great team, and I'm very appreciative of them. I've been blessed, we'll talk about this later. But those of you that have known me for a long time know I always surround myself with people that are much smarter and much better than I am, and then try to get stuff out of their way to be successful, and this is a team that I'm delighted to have. I've got a couple--I never read notes as you know, but I'm going not read this in just a minute. I've got a couple of things that I need to announce. While you're reading this in depth, I'll announce this.

A few minutes ago, we filed a 6K and posted to our website today's presentation, as well as all the non-GAAP reconciliations. So, it's all available and it's there for you. We chose to wait until 1 to make sure that we were able to spend the time with each of you today, telling you exactly what you're going to see. And as I said, it's a great pleasure to be here with each of you. I'm going to give the overview of what's going on, where we are, what my views are about this company of ours, and the progress we've made.

From there, we'll turn it over to our operating team and then Richard Hanks, who's our Executive Vice-President, CFO will be the clean-up hitter. We'll then open it up for questions and then I'll wrap it up at the end. We'll try our best to have it done by 4. If we run over a bit, it'll be because of us trying to answer your questions. This is the description of this company. I think most of you know that in 2012, I actually had a handshake to acquire this company from Thompson. It didn't work out at the time, the Chairman of Thomson didn't think we were offering enough money and that's the way it worked out.

And so, we were then blessed, we did a SPAC, you'll see that in a few moments of what we did to get here, a year ago, in September. Sheryl von Blucher has been with me for 20 years as my Chief everything actually, but particularly all of the strategy and analysis we've done. Sheryl and I were in Europe when Anthony Munk, who is the CEO of Onex talked to Michael Klein, who was one of the partners and founders with me and Sheryl, and one other person. He said that he was not aware we'd done the SPAC and that he would be interested in talking to us.

Anthony and Amir and Costi (SP) will remember the night we had dinner, I think it was October 15<sup>th</sup>, or 16<sup>th</sup> a year ago. Had a great discussion about the company, that was the night I told them about me having looked really hard into this company, thought it was the best single set of

assets I'd ever seen. I would tell you today that that was correct. I also thought it was undermanaged and I would confirm that today. That's the best of all worlds. The thing that Sheryl and I most remember, and I'm sure you three will remember, we had a great dinner, we finished eating. And as Sheryl and I were walking back to the hotel, Michael Klein was on his hands and knees, (INAUDIBLE) to you three on a street side how we were going to do the deal.

And it actually worked out relatively close to what he said that night. So, we announced that on January 14<sup>th</sup> and you'll see this in a minute. On January 14<sup>th</sup> when we announced that our shares were at \$10.44, when we closed on the 13<sup>th</sup>, the shares were at \$13--on May 14<sup>th</sup>, we closed the 13<sup>th</sup>, shares were on the market for the first day we were at \$13.45 and we've gone from there. I will tell you as we work forward in the months and years to come, as I said, best single set of assets I've ever had. I'm very, very proud of our leadership team and the 4,500 colleagues we have.

And I would tell you we--and I'm going to share with you and the rest of our team what we've done, and what we've got to get done and where we are. It is the leading provider, the leading provider of intellectual property, and scientific information. We've pulled up five businesses into two groups and you're going to hear from the two leaders today, the two presidents of those groups. They have the single most potential together that I've been ever blessed to have us part of. And then we're a very diversified customer base, you're going to see us talk about that. And most importantly is, its curated proprietary databases and if you wonder about what we're going to be doing with tuck-ins and acquisitions, that's where we'll be focused, to add to those.

We're very pleased with those two groups and we're very pleased with where we're going to go with them. Then as I said, 4,500 colleagues around 30 countries. This is the model we have, this is the model that we'll be staying with. It's the same one that I was blessed to use for almost 20 years at IHS. Just think about it this way: recurring revenue we'll talk about that, Richard will give you more details with profitable, incremental growth. Think about the incremental growth on annual subscription base, (INAUDIBLE) many times is 75 to 85% incremental. Think about this with strong cash flow. Why? We don't have buildings, we don't have large manufacturing facilities. What we have is intellectual property. What we have is about 5% of our total revenue, which will be on R&D.

Richard's going to give you some very good news on what our cash tax basis is and what our interest is with the refinancing we just did. That's the only difference between EBITDA and our adjusted EPS and our adjusted free cash flow. This is a machine that creates cash and will in the future, which will allow us to do two things that we'll talk about more. This is a fun chart, one that you should see. I've learned a lot in the last few months about the background of this company that we're so blessed to be part of. Mukhtar appropriately pointed out yesterday, this is just a small part of each of these businesses because there were so many acquisitions over the years.

So, this is back to 1864, when it was acquired by Onex in October of 2016. A great, great place that we've gone from. You'll then see where we went from there. As we said, that acquisition was done, we then moved forward and we closed in May. On June 10<sup>th</sup>, we started, which I'm going to talk about in just a minute, we started with an amazing amount of hard work to streamline this organization and make it the cost-effective one we expect it to be. We did the TRA buyout which we'll talk about later, which was an excellent agreement that we reached with Onex bearings (SP). We did the secondary offering (SP) September, we did the October anniversary but also the debt refinancing, and we're here today.

I'm very, very proud of this organization. As you all know, I like to move quick and successful. I like to see progress and I couldn't be prouder of everything we've done. And you'll also know that we're just getting warmed up with where we're at and where we're going to go. It's a legacy of storied assets. Just as background, I'm very pleased with what we accomplished at IHS, it was an amazing success story. A company that was \$200 million when we took it over in 2001 and when I exited in January 1 of 2018, \$4.2 billion. It was actually technically bankrupt in 2001 and it was \$25 billion market cap when I exited and it was EBITDA free cash flow of billions of dollars when I exited versus--actually it was interesting, it was \$84 million of EBITDA when I took it public, 18% adjusted EBITDA margin and about \$35 million of free cash flow.

When we were done, it was \$1.5 billion and a \$1.2 billion free cashflow. This one has the potential and I don't say this lightly, I've finished my 40<sup>th</sup>--I had my 40<sup>th</sup> anniversary as public CEO October 3<sup>rd</sup>, so I've done this a long time. This one has the potential to be the best of any I've had. When we started at IHS, we had an engineering organization which was selling standard and a group of acquisitions that were in oil and gas that were not integrated and when we left, you saw what we'd done. This one, when I say is on a legacy of storage asset has got a much stronger potential from where we came from, there. Amazing amount of work done. When Jay was here, as CEO and certainly Richard and his team, the focus on strengthening our foundation from separating--this was a large carve-out, it was Richard's--second or third Richard or fourth or fifth?

### **Richard Hanks**

Third.

### **Jerre Stead**

Third, yes. He's still smiling today too, so it's good, implemented shared service model, build independent operating functions, we'll come back to that, branded as Clarivate and begin the portfolio optimization that we're going to talk a lot about. So huge effort, and it puts us where we, I would say, are making progress, this is my perspective. It's not quite fair when it says two quarters, because I've been looking at it actually for almost seven years. But if you think about what we've done, it's really an exciting thing to see. We do have leading market position, you're going to hear those details from Jeff and Mukhtar.

We have assets that are vital to customer--this is the--most of you that know me well, I've done what I call "Customer Delight Surveys" two-three times a year. We've done two since we've started, one in July--end of June and July and one we just completed in October. Two things--three things that come out of this. You'll see more about it in a minute, but it's so important to understand. This is the highest score I have ever seen, highest score I have ever seen of what the customers think our products are value-wise by them. It's an amazing thing to see. When we started at IHS, we were 48. When we finished, when I finished, we were 82. The value that customers place on us out of 100 is 86 today.

I've never seen anything quite like that, that's the good news. The other piece of good news is they look at us as not an "Easy to do business with" company. Why is it good news? That's 100% in our control, 100%. We scored 54 there, when we move that up and we'll have that up significantly higher at 60-65 within a year, year-and-a-half, that'll actually improve our retention rate on an annual subscription base up from about 91 to 94 or 95, so a huge difference it'll make. That just a wonderful thing to learn. By the way, one other quick comment on that, out of all of the write-ins there was 60% of the people that participated in this survey, out of all of those write-ins, the two opens questions there was less than 150 comments about pricing being too high.

I'm used to, just so you know, 18 to 20%. That's probably a pretty good barometer to understand how they value this. So that gives us, when we fix the "Easy to do business with" a lot of opportunity. We wrapped up the agreement with Thomson and finished six months early thanks to Richard and team in March and have the--and I'll talk more about this, foundational infrastructure in place. Here's what we are doing differently today, every important. We are optimizing the infrastructure system. Cathy Sullivan (SP) who's stood up over there, has one of the most exciting jobs I've ever assigned to anybody, which is, lead through (SIC) cash, on a horizontal every step of that process. That's the single biggest upside we have that we will make progress on and are. By the way, just as an interesting story, when I took over at NCR in 1993 Mark Hurd had that job for me there. And that was the way he got started on his career. So Cathy, you should be getting ready for a call from Oracle.

**Cathy Sullivan**

I'm ready.

**Jerre Stead**

Sometime soon. But it's an incredibly important job for us and that's the part that will help us get to where we want to get with the backroom that's been put together. Lean organization structure, we're just getting warmed up there. You'll see where I talk to--next to the bottom about sense of urgency, that I have a great belief that our team is recognizing across the company how urgent it is that we get rid of what I would call "Cumbersome bureaucracy." I'll give you just one example, Randy won't mind if I talk about it. He and I were in the hall last Thursday and Randy said, "Hey I want to do this, and I've just been told I have to get three signatures," or was it four?

**Randy Harvey**

Five.

**Jerre Stead**

Five, sorry. And I said, "I don't think so because you've got to get my approval and yours and I delegate my approval to you, go do it." So that's kind of what we're working on. I'll give you one other fun example, when I was flying to China with Julia, when was that August?

**Julia Mair**

June.

**Jerre Stead**

June, time's going by pretty quick. So, I chose to read our travel policy, because I always like to learn about policies. How many pages do you think there was on the policy? What would you guess? Twenty-five. I quit after maybe page four and said, "We've got to get this--this is just an example, and "We've got to get this down to one page." Armughan where are you?

**Armughan Rafat**  
(OFF-MIC)

**Jerre Stead**

Yeah, he sent me--about a week later, he said "Jerre, I don't know if our company is ready for this." Who was it? Netflix? Netflix. Do you know what their policy is on travel? "Do the right thing." That's what we're doing. That's what we're doing with all our people. You give--I operate with 100% trust of every person, I always have, I always will. And what you do is spend all your time getting your bureaucracy out of the way that doesn't help them be successful. Do we need

policies? Yes. Process is critical. Do we need procedures? Yes, but they have to be tools to help our team feel good and do the right thing. So that's a big job, we're well underway. Sales structure incentives to drive cross and upsell, this is really virgin country for it, huge upside. You won't see a lot of that in 2020 from a return standpoint, starting at '21-'22 you're going to see more and more.

Because our ability to do things in both the science business and the IP business of cross-selling and providing solutions is the best I've ever been part of. We're moving the produced platforms, I hope you all got a chance to see. Enormous amount of work underway and I'm very pleased with that progress, a lot more to do. Pricing model, Richard will talk more about it but the model with itself has a huge amount of opportunity. Just two things I'll comment on there: what I learned is we worked through understanding each piece of our business that our 500 largest customers was that the same product for a large customer with the same number of users could be priced as differently as 40%.

Now that's not one you fix overnight. So, we've got a couple of years to do that to maybe three years to get it done. What happened was, BR, before Richard there was really no governance on pricing. So, if you're a salesperson on an annual subscription base, you could reduce the sales price, the revenue price to the customer and get full commission. Nice way to operate. What that meant is, over time big differentiation with our largest customers, point one. Point two as it turns out even though we'd never planned to do it, every one of our 500 largest customers have at least four of our five major business units that they've sold into, we've never done any cross-selling.

And then point three that's so important on this is, we drive incentive to make sure that our people can make maximum money when they deliver a maximum return. That was not the case historically. Product platforms we talked about, the analytics, you'll see, you should think about us in three to four years being 25% to 30% at least, advanced analytics. We talked about the sense of urgency, we'll talk more about capital allocation and portfolio evaluation. You saw us make one move, as we sold pieces that--where's John? Where's the guy that did such a great job? So, John, if you could still stand, please do.

So, John, thank you for a great job of helping us get the job done that we did last week announcing the removal of some of the three pieces of business, and we're very thankful for that, so thank you.

(APPLAUSE)

And more of that to come, where it makes sense. You're going to see--you heard last week on the call, you're going to see from Richard some details on that in a few moments about what that does from an adjusted EBITDA standpoint, from an organic growth standpoint, and from a free cashflow standpoint. And then finally, where you must and will build a very vibrant culture going forward, it's critical for us. It's so important that--I think of work as play with a purpose. And I think of work where people want to come and are attracted. We need to create, and we're started, but we've got a long way to go to create a culture, a sense of urgency where every person has accountably, responsibility and the authority to be successful.

This is a chart that we've used quite a bit, 65% of employees stay because of culture. Culture matters more than salary for most people, and not just millennials, for most of all of us, 79% consider mission and purpose that we'll get to in just a minute, when they apply for a job and 89% believe that it's important to have a clear mission and purpose.

I've always done that, if you remember and have been with me for a long time, vision and mission and values is the way we operate. Just so you know, and you could check with any of our leadership team, I measure them half on the way they lead and our role models on values and half on performance. And that's so important for it. So, here's our purpose, you're going to see this now and actually Richard's going to show it at the very end as a reminder: we believe human ingenuity can transform the world and improve our future. That's what we're all about.

One of the reasons I got so excited about this business back in 2012, and really excited today is, this business does this more than any company I've been blessed to be part of. Our vision? We will improve the way the world creates, protects and advances innovation. Nobody can do this. A vision has to stand the test of time and customers, which it will, and it must be measurable. And the measure is the way we improve the way the world creates, protects and advances innovation. A mission for us is, if I'm trying to do too much at once, how do I set priorities? That's what this mission does.

I'm not going to read the whole thing, but trusted everywhere by delivering critical data information, workflow solutions. By the way, one of the words I always add is independent. Trusted, independent, indispensable environment. We're the only one that it totally independent. If you look at Web of Science, our largest competitor is also a publisher. So, do you want to do business with us, or someone that actually probably competes with the publishers that we talk about? Then, this is incredible to me, this team I put together like I always do to make vision, mission, values, purpose, how I put the team together that helped me rebuild the company, I always do this with our team. These are the best set of values I've ever seen. There's a lot of numbers--words after each of these, but aim for greatness, value each voice, own your own actions. Think about that, aim for greatness, value each voice, own your own actions.

When I come up here at the end, I'm going to call on a couple of you to see if you remember those nine words. If you're still here. Okay, no I'm serious, it's incredibly important. This is normal what you've seen us always do, it all starts with colleague engagement, that's a score that I'm going to talk about in just a minute, that's whether we're going to win or lose. You can spend all your time of trying to grow the business, trying to improve customer delight. If you don't have engaged colleagues, you don't win. Then, increase customer delight further and we know what we're doing to do with that, focus on top and bottom line growth, you're going to hear a lot about that, and then provide superior investor returns.

If you look, you'll see that at IHS, from the time we went public until I stepped away, our annual improvement compounded was 28% a year. If you look at my 40 years, you'll see it was 26.5%, 27%. This one can, when we execute that do better than those have. So, here's the facts as our friends: this was the first one that we benchmarked, we'll do that on an annual basis. The benchmark is 72, that says--for the superior companies it's 72, we scored 69. Some of my team were wondering why we did this survey, when we denounce massive changes underway, because it benchmarked us to understand. What we got was really straightforward, I was very thankful. An enormous amount, I read them all, an enormous amount of written comments and what they said was--our team said "Feedback is good, communications can get better--I'll come back to that in a minute, it's good and "Action taking is good." What we've got to do and will do, they felt we'd been too slow moving with decision making and took far too much time and did far too much analysis.

I think where we're at today, they're getting the ideas around the world that will move quickly and we'll make sure that we are real clear with decision making for everybody. One of the things we have to do, we had a call last week with our 245 senior executives and I said, "I expect

each of you at least every other month to get your entire teams together.” Internet communication is interesting, but it doesn’t do the job today, because everybody gets a ton of stuff.

So, I expect face-to-face and it’s critical for us to do that, so they understand what we’ve said we’re going to, how we’re going to do it and then the commented strongly, our people, on the ability to grow quicker, and they’re right. We have the opportunity and if you remember when Richard and I announced January 14<sup>th</sup> what we said we were going to do with guidance, which by the way, we did reaffirm again today, and again last week, and will continue to for this year. We said that “We’ve got to be able to be the very best at giving real clear communications on what we’re going to do with growth.” And we said we’d grow 4% to 6% when we exited 2020. You’ll see numbers that get us there, plus some.

And then you’ll see numbers where we said we’d do 35% to 38% from adjusted EBITDA standpoint and you’ll see numbers that get us there or better. So, we’ve got to help our team. People love being part of a growth organization. Again, just as an example, at IHS, we grew 18% a year, for 20 years. Interestingly enough, half organic and half acquisitive. I think here you can expect us to grow in another year or two at least 10%, if not 12% with that combination. Growth makes a difference for everybody, it creates pride in what we’re doing. And then they said and they’re right, “Customer focus is a huge job we’ve got to do.” By the way, I include inside customers, as well as external customers. And we’re working that hard.

So those are the things that we--and we published all this by the way, just so you know, open honest, (INAUDIBLE) caring communication. So, everybody sees everything going forward. So, here’s what I was telling you earlier about overall customer delight: I’m delighted with that score at 76, the benchmark’s 82. You can see what we expect to be in 2020, I think we’ve got a fair shot at being at 82. Benchmark by the way, puts us in the top 10%. That one big job to do is the one I talked about which is become the easy to do business with company. But I have never seen scores, nor the people that did the analysis for us, have never seen scores of this magnitude with significant return of--we sent out over 800,000 inquiries to our customers, great statistically relevant feedback, 86 and 85.

That “Easy to do business with” is two things: we’re not good at the back room, we take way too long and we’re not responsive enough. We’ll be setting up as we move forward three centers of excellence, one in Europe and Mideast, one is Asia and one in the US, North America. Those will be going in place, Mike Morhardt got them well on hand, and by the time we exit 2020, those will also be our inside sales organizations and I’ll tell you more about that in just a minute. What it also said is, that you got a chance to see today, I hope--our user interface was not friendly. Just that front--that simple. Our user interface today has become very friendly with more to do.

So those are the two big things. When we get those done, as I said, you’ll see us go well north of 80, because of the magnitude of the value they put on us. You will see us from a pricing standpoint, we’ll move to 3.2% for 2020, up from 2.1%. I believe in another year or two this business deserves, and as we teach our sales folks how to do a value (INAUDIBLE) this business deserves 4.5% to 5% price realization year after year, because it’s that good and it’s valued that much.

So, this is the other thing that we’ll do, if you remember that four circles, in the middle is critical to me is environment, is sustainability. If you think about ESG, more and more--many of you probably in this room need for us to be active and producing against this so that we can become the best investor for--the best place to invest for us with that too. You can see our goals in

second quarter of 2020 we'll do the assessment. We'll exit 2020 with total ESG transparency and by Q2 of '21 we'll have completed the submissions to the Dow Jones Suitability Index and the Carbon Disclosure Project. And then by 2024, I think we've got a chance to be there quicker, is listing on the Dow Jones Sustainability Index, and the FTSE, that will open us up to a group of investors that we're not able to provide now. We've done that before, and we'll do that now. Very important. The other thing this does, you probably know this, but it really pulls every colleague and every country together to help make this all happen.

So, we've put a lot of structures in place and processes to operate better. We engaged BCG June 10<sup>th</sup>, to be exact. I became CEO on May 22<sup>nd</sup> and we got them in, they did an incredible job. I'm not going to go through each of these, but you'll see every one of these bullets are ones that were well in hand and working hard to do. An example only would be the real estate footprint, we said on the last call we have 60 locations, we'll exit 2020 with 30, as an example. I'm going to talk more in just a minute about the magnitude of what this does for us. The majority of contractors, just to put it in perspective, we have 4,500 full-time colleagues, we have almost 1,900--to be exact, 1,910 contractors when got involved.

Most of those were being used to do R&D which is an interesting phenomenon and I think one of the inefficient things I've ever done. So, we've moving to fix that as quick as we can. So, this is what this will do for us: we announced last week \$70 to \$75 million annual run rate cash savings, as exit 2020. Richard's going to tell you in a few moments that we'll have a little north of \$40 million actual savings for the year of 2020. So, if you think about what we've said, where we're going to go on those exit targets we set in January of this year, we'll make those, and we'll make those happen really well. We must be more agile, we've got to move quicker and be more flexible, and we'll innovate much more rapidly.

Outside-in focus on customers, accelerate our product roadmaps a lot, and then leverage best practices. You're going to hear that in a just a couple of minutes from Randy who I'm very happy to have as our CTO. Randy joined us in May after I retired in February. I was very gracious to him let him rest for three months and it's great to have him back now and couldn't be more pleased. But all of this is in front of us and will happen as we move together in 2020. Here's the analysis I talked about--it's fascinating the way it sets up.

So, if you take our largest 500 customers, and then the next two categories, you'll see that that amounts to almost 80% of our revenue with 1,000 of our 14,000 customers. To be exact, there's an overlap between the two businesses, so 13,000 plus customers. And then you'll see, far and away the majority of the customers, almost 80% of our customers are small. Those will be shifted to inside sales. Those will come to inside sales as quick as we can get them, and that will give our outside sales folks an enormous opportunity to become true account execs and not renewal order takers. Huge shift, we'll get that done in 2020, so when we go into '21 and '22, you'll see us moving quickly as we move north and up to the right from our organic gross standpoint. But it's fascinating to see that.

The good news is too, by the way, two things: on average, with those largest 500 customers, we're maybe 25% to 30% penetrated for what we can be in the future, which is really fascinating. And the way we measure that is, how many of our products have we sold into them, that we could sell into? And we'll also work hard to sell up much higher in the organization. So really important for us. The other side of that coin is, what we will not--if you look, you look at the number--the revenue at 47% with our largest 500, none of them are large compared to our total revenue, so that's a great feeling too.

Tremendous opportunity as we move forward. We talked about this a bit already, but this is a big job that's well underway with our team. We have two great sales executives that work for Mukhtar and Jeff leading our two groups and a lot to get done. But this is where we're often running on each of these bullets: serving customers more efficiently, that's the center of excellence I talked about that Mike and team with all of us are working to get put in place. Example, only I measure first call resolution that's critical, we should be at 85%, right now, we're under 40%. We'll exit the 2020 where we move from 26 care centers to three global care centers, magnificent upside and a lot to get done.

Inside sales, you heard what we talked about just a minute ago, then the strategic account management will move in 2020 probably five to 10 of our largest customers, we'll start selling under strategic account management and increase that in the years to come. So, this is a set up for Randy, but think about our huge opportunity and huge job to do: enabling product innovation, providing solutions, optimizing massive opportunity for us, day-to-day operations, and protecting our system as we work forward, together. People, process and technology: technology is a critical part of our company, a very important part. But I get the question from our people all the time, "Are we a data company or are we a technology company?" Neither one.

We use data to create information insight and analytics for our customers by being a leader in the use of technology. One of the great things with the carve-out is, we're 100% cloud enabled today. We were zero before. Massive opportunity for us, as we move forward. So, I want to reaffirm now the 2019 outlook, I think this is the 6<sup>th</sup> time we've reaffirmed it since January 14<sup>th</sup>. But what's important here if you would, it's on a proforma basis only, but think about what we look like with the sale of those three pieces of (INAUDIBLE), significant. You'll see, if you look at those midpoints, that increases us to 32% to 33%, EBITDA margin increases by \$8 million our free cashflow so it's really significant for us.

Richard's going to go into more detail later, but what you'll see is our guidance we're now announcing for 2020, we tightened up the revenue a lot as you would expect. You have to remember when we did this January 14<sup>th</sup>, we had a lot to learn. So, we've tightened up the--based on the proforma, we've moved to 950 to 970 on revenue. You can do that math, but it would get us exiting somewhere--exiting 2020 at close to the 6%, about 5.4%, if you think about what we'll accomplish, and I believe there's upside from there. You'll see us at adjusted EBITDA, again tightened it up, take the midpoint at 340. You can see that during the year, we will operate at 35% to 35.5% EBITDA, that's up from 29% at the end of last year.

And you can also see as we complete a lot of the work underway that we will indeed exit 2020 at the 37% to 39% adjusted EBITDA. You should also think about us moving forward with adjusted free cashflow, at least 60% of the adjusted EBITDA. As I said earlier, there's three pieces: one, which is the use of product development that would CapEx, think about 4.5% to 5% of our revenue at that level. Our cash tax that Richard will cover in more detail later, for the foreseeable future after 2019 is \$25 million. We are rich, thanks to getting that TRA accomplished. We're rich in tax loss carry forwards, protection, et cetera. So as far out as you build your models, think of that being \$25 million free cash tax. To increase the adjusted free cash flow which is where I spend a huge amount of time, as you know, and therefore adjusted free cashflow per share and adjusted EPS, to increase that the next target is what would you expect? Interest. We reduced the interest cost, great job done, couldn't be happier. It's great that our new treasurer--Daryl how long were you here when we did that?

**Daryl Barber**

Three months.

**Jerre Stead**

Three months. Did you get to breathe?

**Daryl Barber**

A little bit.

**Jerre Stead**

But it was a great job. As you may know, it was a record for our rating of interest rate on the bond, \$700 million at 4.5%, the record in history for that 7-Year bond, so I couldn't be more pleased. But that's the next category, that still gets us at \$78 million a year, a great improvement, but we want to get that down, you can pick your number, but under 50. Once it's under 50, you should be thinking about free cashflow being 70% to 75% forever, for years to come. So that's the guidance.

You're going to hear a lot more about that in a little while from Richard. Here's the way I think about this: it's an amazing business model, the attributes are incredible. This is a cash cow machine that we'll drive as we increase our organic growth year after year, after year. The assets as I said, are unmatched anywhere, unmatched anywhere. Very critical as I showed you the way they think about it and then strong purpose-based culture in place, as we move forward. Critical for us, we'll get that done. Just so you know, I think on a one to 10 we're about a five, where we are today, we'll be at an eight or nine next year and we will make that happen.

Multiple initiatives enabling us to continue to focus, simplify and execute that's the life we're going to live, and are living. Focus, simplify and execute and then we've got amazing levers to drive growth and profitability. So, I'm going to turn it over to Randy Harvey. Just two quick things: we will do Q&A after Randy, before we start with Jeff, Mukhtar and Richard, then we'll do more Q&A. and again, anybody that needs a bio break, please take it. Randy, let her rip, it's all yours. You know, some of you remember I never used to give this away, because I could keep my team moving quicker. I gave it away.

**Randy Harvey**

Thanks, Jerre. Well good afternoon everybody it's great to be here. I wanted to start out, before we get into the whole review of the technology group, I've been fortunate enough to be in commercial technology for about 30 years. And what always gets me excited and stoked to some degree is, how you can leverage technology to solve complex problems, really streamline business processes, and accelerate and improve decision making. And if you think about where we're at in information services business and especially at this time right now, that all gets amplified because with the cost-effectiveness of computing storage these days, we have the ability to expand a variety of content and data that we bring into the--we acquire for our systems. We also have the ability to really increase the volume of that data as well. So, you think about the proliferation of data that's out there. We can just bring in vast amounts of data now in a very cost-effective way.

And we can also accelerate the velocity of how that data gets moved through our systems, curated, and then delivered to the end customer. When you couple that with machine learning and AI, and you think about this in a cloud environment, we now have also with all that rich data and the ability to apply analytics to it, we have the ability to really identify signals and predictors in that information, and drive more insight and analysis in the information and the content that we deliver. So, it's really, really a great place and time to be.

Obviously as Jerre said earlier, technology has a fundamental role at Clarivate. I look at the three foundations of what we do around people, process and technology. And when I think about people, not only do we have to very strong technical skills in the people that we hire, but we also want people who are intellectually curious, we want them to always be thinking about “What is it that we could do better, what is it that this information is telling me?” And then one of the most important factors to really have a successful and fast-moving organization is people who can collaborate and work well in a team and have a customer focus.

And so those are the attributes that we look at for the people that we bring into the company. And then from a process standpoint, you want to have a light touch agile process that once again focuses on customer interaction, what is it that the customer needs? What’s the problem that the customer needs to be solved? That also, I’ll talk a little bit later about Agile, but it also helps us then to drive more collaboration within the company, more accountability and more transparency. And then technology at the end of the day needs to be an enabler for what we do. We shouldn’t just be picking technology as a means to an end, but it really needs to enable the solutions that we build. If we get all those three right then, we obviously are going to enable much quicker and faster product innovation.

We’re going to provide solutions that really drive value for the end customer, which is what’s important at the end of the day. All of this being able to optimize our day-to-day operations in a cost-effective way.

And then whether we like it or not, the world we live in today, everything that we do, we need to be thinking about security. We have to figure out how we protect our systems, our data and our IP. I’ll talk about that a little bit later as well. If we can get all those right, then we’re going to see customer growth, and if we see customer growth we’re going to see company growth. So it’s kind of a simple equation that we need to put together.

So, as Jerre talked about in the --I’ll kind of focused, simplified, execute. If I look at the organization that came out of the separation from TR, as you would expect, being part of a large organization there’s a lot of siloed development activities. Our content systems tended to be separated. Even in our business information systems; we had multiple ERP systems, we have multiple CRM systems. We didn’t really have the concept of shared platforms; I’ll talk about that a little bit later on and we really didn’t have the concept of a kind of a central set of analytics and data scientists capabilities.

We were residing --almost all of our applications were residing, and platforms, in multiple datacenters with different technologies, different infrastructures to support. And then we were dependent on, obviously, a much larger organization for an information security layer that wrapped around all that.

As we’ve aligned the organization, much as we’ve aligned with the businesses, we’ve --we have two strong engineering groups; one to support the science product, product group, and one to support the IP product group. We’ve brought all our content, acquisition curation and management together into a separate organization. We’ll talk about that a little bit later on, hopefully some of you saw the demos that Armughan was doing around singularity; but that brings all that into a common organization.

And then we did introduce the idea of shared platforms and services. Like I said, I’ll talk about this more later but this is really around those services and functions that every product or every

platform has to perform. So why build it 15 or 20 times when you can build it once and have it as a service that then the platforms use for those types of capabilities.

As Jerre mentioned, we've moved everything to the Cloud so we're now enabling and optimizing our Cloud services and our Cloud usage. That obviously brings a layer of standardization and takes a layer of complexity out of everything. And then on the IT front, as you can imagine, a lot of heavy lifting and standing up an entire set of internal business systems; really from the ground up. And part of that was in migrating a number of these multiple systems into a common set. We'll talk a little bit about that a little later on. And then obviously the other area, once again, is always going to be in the conversations that we have around information security. So we stood up an operations compliance and awareness.

All of those are important, as many of you know, in the companies that you're in, one of the easiest vectors to get into a company is actually the people. So we've got awareness programs that we're running and training that we do for our people as well.

All right, so as we're doing that, Jerre talked about this earlier, one of the key things, I felt really fortunate that when I did come into the company, a lot of what I'm going to talk about was in-flight. So a lot of the things that I would have brought in, the prior team had already started so that gave me, I think, a good start.

As Jerre talked about, today, amazing as it sounds, we're dependent on 43% of our product development activity being performed by outside contractors. I've never been in a situation like that before. Normally it's less than 10% and we use them either for surges that we have or we use them for specific knowledge that we want them to bring in that we then learn from before we let them go.

So we will be reducing that to less than 10% over the next 21 months. As you can imagine, with all of these contractors we have multiple locations that we're trying to support, we have multiple vendors that we have to deal with. So as we do that, we'll also start to collate all the development teams into basically a handful of development centers around the world. We're putting a big push into how we leverage best cost centers, offshore centers and then, along with that, if we're going to accelerate innovation and delivery, we have to continue the transformation to an agile development culture. And like I talked about earlier, to me the key things that are great; you know, everybody talks about Agile, but it's --when you do it right, you can really see the benefits from it.

And one of the most important benefits that I see from it is really the focus on customer involvement, customer iteration. We like to do things like we call showcases where we can showcase the application to the customers on a regular basis, get their feedback, add it to the product before the product gets delivered.

Obviously you increase the acceleration of deliverables and so you want to get onto a much more continuous integration, continuous deployment pipeline and then this next bullet is really subtle but it's very important; transition to a product view versus a project view. And what I mean by that is; once again, being in the commercial technology industry for years, if you think of everything you do in terms of a project then it's a very kind of fixed piece that you do. You do it, you move onto the next project. If you think in terms of a product, you start to have a better mindset around who the end customer is, what they're going to use the product for and you see more of the lifecycle of that product. Products go through a normal lifecycle and so you can start to think about things like I've got to worry about technical debt. I need to worry about

performance, I need to worry about scalability. So, all those types of things that just --it's a subtle change but it's an important change.

In order to drive this acceleration, we're putting a big emphasis on automated testing. If you can have automated testing then you can deliver a lot more rapidly because you're not having a lot of manual activity that has to occur to test your products before you can put them into the market.

Once again, you'll see this theme throughout. We're also looking at security in the upfront part. So if you think about a requirements process where, in an Agile environment you're building out user stories and you're building out a backlog, security needs to be part of those user stories and part of those requirements from the frontend rather than waiting until the back and figuring out what I've got to add to it.

Another subtle thing here is what we call communities of practice. If you want to build a professional development organization; and especially where you have different development groups in different parts of the world working on different things, we like to figure out how best to share --basically share the best practices that we have. So we build communities of practice. I'll give you a couple of examples. One would be mobile development. What are some of the tools that people are using in mobile development? Another big one that always gets a lot of attention and membership is the Agile community of practice. What are the best practices? We do brown bags, we do training sessions and we have a number of those that we're building out throughout the development organization to just basically build that technical community amongst all the developers.

All right, so we've talked about kind of a lot of the things that we're doing from an organizational standpoint as well as from how we want to build a culture. Now let's talk about what the company's really been up to. As mentioned earlier, we've really took all of these business systems and moved everything to a SaaS-based, Cloud-based solution; so software as a service. We have migrated a number of legacy systems into our ERP systems. Obviously big focus on our financial systems, ERP systems and then just as importantly a huge focus on our CRM systems. Once again, migrating a lot of different solutions over there and duplicate systems that we had and really if you think of CRM there's three periods that we're really looking to support. One is sales automation, the second is the whole order to billing process or order management and then the third is customer care. So those three components; there's a lot of things that go on underneath of those but those three components really drive our CRM capabilities and what we're doing to build a better customer experience.

All of this is to standardize and really improve that customer experience from the time they have a touch point with us through the time they get an invoice and pay us.

We talked a little bit about shared platforms. The three that I'm going to focus on today are what is, one is around usage analytics, so customer analytics, users of the systems. The second is going to be on data access and the third is going to be around identity access management. So these are all capabilities that every platform needs to have. So once again, why build it 10, 15, 20 times when you can build it once. So customer intelligence portal; what does that mean? That's really collecting all the information that we have about our customers as they're using our applications and using our platforms. From the time of adoption, so from the time that they were enabled; when's the first time they logged in? Once they log in, how often are they using the system? Where are they going in the system? What are the navigation paths that we see them going through? Why is that important?

Well, it's important for a number of reasons; once, if I'm the sales rep and I'm getting ready to go back out to a large customer for renewal, wouldn't it be great for me to walk in knowing what their usage patterns are? How often are their users logging into the system? How often are they staying on this system? That's a great tool for me to have when I go in for that renewal.

From a product management and engineering standpoint, wow, if we see navigations through a system that we weren't anticipating; well, we may have missed something here. There's an opportunity for us to improve that user experience. If we see a page that every user is spending a lot of time on that we thought was a simple page they ought to get on and then move to another page; maybe we have a performance problem there. We obviously have performance monitoring going on but maybe we have something that's just not intuitive to that customer. So that gives us a lot of information on how we can better modify and enhance the systems that we're using.

As you can see, we've just rolled this out. In the past seven days we've had over 1400 internal reports that people have produced and this is a, once again, this is a dashboard platform that you can go to. You can get a --kind of canned set of reports where you can also use some of the services that are in there to generate your own; if you want to call it roll your own set of reports.

All right, data access, why is that important? Well, this supports our expanded data as a service and content as a service offering. This is all around, if you think about it's self-service. And what this really focuses on is a lot of customers want to come in and go through our platforms and our products and go to the page that they want to see, look at the content that they want to see but we also have a lot of customers who want to ingest that data and pull that data out of our systems and run it into their own systems for their own set of processes or analytics. So this is to support that type of capability through these delivery services. So we've built a customer portal where, once again, it's a self-serve type thing; make it easier for the customer to do business with us where they can come in and they can see the API's that we have. What are the types of data that they have access to. What are the combinations of data that they can get access to.

And then also for their developers, what's the access methods? What do I need to know about that access method? It's a rest API, okay, that's great. What do I need to know about the features of that that I need then to plug into my integration when I put that integration together?

We have a business admin portal piece of this. This is where we're --we can actually go out and publish additional API's; so as we build more API's we're averaging about 10 to 12 API's a month that we're delivering now that we can publish that API and all the rules around that API as well as this is where we can manage the access and the policies for the customers. So what can this customer really see, what are they entitled to? And that controls what they can get to and what they can see and then a really important piece of this is the API gateway and what this does is this really provides kind of a separation between the outside world and our product databases. So this is where the orchestration occurs where I make a request for the information, the gateway services that requests gets the data out of the databases and passes it back to the requester in the external world. Once again, providing a layer of security in there as well as enforcing the entitlements and the rights that the customer has to that.

Once again, why is this important? Well, as we start to monetize our data, we can start to do different combinations of datasets. So we can say we're going to take a little bit of this data, a

little bit of this data, this is important to people and we can monetize that for them. Ease of use, again, they don't have to manually go in and extract data; they can do it in a programmatic way. And the third piece that's nice about this is once you get somebody to plug into your systems, you've created a level of stickiness; and so for them to go somewhere else and get that data, it's going to be a little harder because they've got this process that's automated that's in place.

The third one I want to talk about is identity and access management. One of the downsides of acquiring companies is you end up with a lot of products that are in the same domain and every one of them will have its own username and password that you have to log into. So from an ease of use standpoint for a customer, it's a pain in the butt to have to log into this system, get the information, log out. Log into this system, get the information and log out and with a central identity and access management system, we can provide single sign-on. So I basically get one user ID and one password. We then associate that with all the entitlements that I have the right to and I can now move through those applications with that single sign-on, without having to sign in and sign out.

The other area where this plays a lot of value is in large customers. So large customers we can federate with their active directories or the directory services. Why is that important? Well, we may sell a license to a large customer where they have 80 users that are entitled to this data or this system. If they're having their on-boarding customers that are on-boarding their people, they're off-boarding their people as they leave the company, without a federated model, every time somebody leaves they need to notify us and have us take that person out of the system. So that opens up a license then for the new person. Same thing for the new person. They have to send us information on the new person.

In a federated model, they can actually manage those 80 users out of their directory services. So when they off-board somebody who leaves, we stop giving them access. They onboard somebody? We give them access. Once again, simplifying the customers use of our applications and ability to work with us. As you can see, we've got 20% of the products and platforms converted. Our goal is to have 90% done in the next 18 months and then we do have migrations that we have to do if we migrate people over.

So now let's move to some of the customer-facing products and platforms. As Jerre mentioned, a lot of works been done. If you think about the separation from TR between 2016 and probably mid-2018; most of the development resources were really focused on getting out of the datacenters, migrating the systems to the Cloud and really getting, standing up, independent systems and capabilities in infrastructure. Probably starting around mid-2018, we were able to take a lot of those resources and start to shift them back into doing what we hired them for in the first place which is product development. And since the middle of 2018, up to today, we've been able to do an awful lot of work in delivering new platforms. And it's really been focused on three --there's obviously --there's three areas; there's obviously more capabilities that you're always adding to your solutions but the three areas have been around ease of use, UI experience, making the UI experience much easier. Part of that is streamlining the workflows so really making the workflow much more intuitive. You probably saw from some of the demos that were out there; adding dashboards, adding visualizations to the products and then the other piece of this is also with all the product proliferation that we had through acquisitions, being able to more tightly couple these applications together; great example was Cortellis where we've taken a number of different solutions and have now brought them together under one platform. So a lot of works going on there and there's a lot more work that is in progress.

The other really exciting areas around data analytics. I've got two examples here; one from Cortellis I'm going to talk about now and this is around the forecasting timeline and probability of success of a drug. Applying some machine learning algorithms to this, we went back and we basically took a learning dataset of 15 years of pharmaceutical intelligence. That included over 70,000 actually drug tests and plans and from that model they learned how to predict and how to predict timelines as well as the probability of success. We then, obviously, once you get a model where you feel you're pretty comfortable with it, you go back and do back testing. And so what we did then is we went back and back tested that model against actual results and found that the model was actually outperforming standard benchmark which, in this case, it's humans doing an awful lot of work by about 25%.

The other beauty of this algorithm is it learns and refines as more data gets brought into the system. So, as the timeline starts to progress and you get closures of certain stage gates, it learns from that and basically gets --it gets smarter, if you want to call it, as you go along. And that's something that's in production today. And then on the Derwent side, now, patent volume I'm going to distinguish that from actual patent filings but patent volume to us is the number of documents we get for a patent. And China --in China it's grown immensely over the last few years where in 2018 we received, we actually pulled in \$3.5 million patent documents in Chinese. Now, one of the things the patent researchers want is quickly to be able to see any new patent filings that are coming in. So, what we've done here is created a deep learning model that does a couple of things. The first thing we do is we translate all of that Chinese into English for the entire patent and all the documents that we get for the patent and then we apply the deep learning model to summarize that information; because when a researcher first comes in, they don't want to read through the whole patent, they want to be able to see the summarization of what are the really important points of that patent.

And in some blind testing that we did, the model has outperformed the human generated summaries. You might ask how we do that, well, what we did is we basically did a blind test where we went back and we pulled the summarizations of patents that humans had done where they translated it, they summarized it and then without telling the person who was reading it which one they had, whether they had the machine --the model generated one or the human generated one, we had them pick which one was better and we actually had a higher pick of the ones that were generated by the machine.

This reduces the lead time from being able to summarize a patent from 21 days to less than a day and, once again, Jeff will talk about it more but in the patent world, time is money and so it helped us to really --and also it saves us some money which is cool.

All right, now Armughan, hopefully you're able to see a lot of the work that's going on with singularity. I'm going to talk about content acquisition. This project, as we've brought the teams together, singularity will actually help us consolidate and retire over 80 separate platforms all the way from small Web scrapers through curation systems through ETLs, all of that. It will allow us to retire all those and come together in a common set of tools and capabilities. The first part of this is obviously content acquisition. We spent a lot of time in improving the automation and expanding the depth and breadth of our automation where we actually just go out and it doesn't require a human to pull this information in, we go out and grab the information in whatever source it may be.

Where we have a lot of documents that are coming in through either PDFs or Word documents, applying things like natural language processing we're able to extract key data attributes out of those without a human having to go in and look at those. And then obviously they go through a

QA process where we do have spot checks that go on by humans to make sure that that's appropriate and correct.

As we get the content ingested we're starting to build a set of content masters and these content masters start to serve as a single source of truth for all our content and data. Why is that important? Well, when you think about it, we had 80 systems before so you know that there were going to be duplicate content sense (PH) out there. And if you guys start to get duplicate content sense you're spending more money, you're also trying to figure out which ones are the most up-to-date. So, as we start to bring all that together, we could have what we call a single source of truth that we can use for those content sets.

So, a part of it --once again, you saw Armughan's presentation, you saw the content workbench; really two, I think, critical pieces with the content workbench is, one is around it obviously streamlines the work process for our content experts, our domain experts, but even more importantly in that, it also starts to do automatic assignment of work. So as I'm working through my backlog of work, some other tools, some other data comes in that needs to be processed. It can see who's got availability, it can go ahead and ping them to say, hey, here's another content set I need you to look at. It also helps with just how we automate the workflow of information through the system.

That finally leads to our content hubs where we now have curated data that's in an set of databases that's available for the products and the platforms to now deliver to our customers. So we've curated it, there's insights in there, there is analysis in there, it's now ready to be delivered and then also on top of that, it allows us to put a simpler governance model around all of this because it's all being driven out of one source system.

All right, capitalizing on the Cloud, we talked a lot about this earlier that we're spend --we did a lot of work moving to the Cloud. There's a lot of jargon here so I won't necessarily get into all of it. It's exciting to me but probably not to you. But why is this important? Well, as we start to streamline and standardize our infrastructure, our tools, our ability to deploy common deployment models, common integration models, that frees up the development organization and it should lead to faster innovation. It should lead to our ability to deploy more often. We have --Cortellis, as an example, is now on a deployment cadence of every two weeks they deploy to production. You know, if you've heard the stories about Amazon and Netflix, they're doing it 5000 times a day. I don't know if we'll get there or we need to get there, but we're trying to get to that idea of incremental releases, incremental releases, incremental leases, obviously we will have major releases but it's just time to value.

How do we get more information and capabilities into the hands of our customers? And then the other piece of this too is by moving everything onto the Cloud we now have a more, over time, a more cost effectively storage and compute platform, we also have all our content in a common set of ontologies and data architecture that makes advanced analytics much easier to do because we're now hitting common repositories rather than having to pull disparate data in.

So all of that's going to help drive, I think, much more efficiency and much more faster time to market and faster time to value.

All right, summarizing, as you can --hopefully you get the picture that a lot of works been done here. We've still got a lot of opportunities. One of the areas that we're spending a lot of time on is what I call a common pattern library and the idea of common UI pattern libraries is you have these, in effect, skins and capabilities that the entire development organization can use and,

once again, it drives consistency in your UI, your user experience is going to be better especially where customers that have multiple products, it's going to be the same metaphor that they're looking at. They're going --it's going to be easier for them to use because it's consistent.

Coming out of a large company that grew through acquisitions, we have a lot of technologies and tools that fall into the same category; visualization tools, analytics tools, application performance monitoring tools. So one of the other areas that we're focused on right now is how do we streamline that? We may not get down to one, because you don't necessarily standardize on one, but how do we have two or three for each category and why is that important? Because, if we can get the development organization using the same tools, that gives us more flexibility in our capacity planning of how we want to move resources between products. So we might have a lot of opportunity over in one product area and rather than having to go hire additional developers, we can shift developers from another area over there because it's the same technology stack, same set of tools.

And then as I talked about earlier, we want to continue to streamline Cloud operations and usage. Cloud is something that you've got to stay on top of. You want to get to the point where you're doing self-provisioning and auto-scaling. That's where you get into the cost effectiveness of the Cloud. All of this we'll be working on in 2020; benefits I think are pretty obvious. We want to be more customer friendly, easier to use. We want to be more scalable so we can move faster and we can also integrate acquisitions a lot faster and we want to innovate faster.

That's it.

#### **Unknown Speaker**

That was great. Let's keep --you introduce Jeff, let's keep going.

#### **Randy Harvey**

Okay. Come back? All right, gives me great pleasure to introduce Jeff Roy, Head of IP Group.

#### **Jeff Roy**

Thanks, Randy. I was counting on a break but that's okay. I'm extremely pleased to introduce the IP assets and hopefully you guys are as excited about these assets as I am. You can't really talk about Clarivate IP without taking a minute to talk about the heritage of these businesses; it's critically important to talk about the way IP professionals behave and quite frankly, to talk about the way that our competitors have acted in the market as we've gone through this transition in the past number of years.

But you have to acknowledge e right up front that these businesses are, in fact, to a degree a victim of their own success. So what do I mean by that? Everyone of these businesses, whether you're talking about Derwent, whether you're talking about CompuMark, whether you're talking about Market Monitor, they either created the market that they're operating in or they were significant contributors to the market. As is typical, they were high growth businesses, they contributed great margins and they got swallowed up by a large corporation that had a lot of other priorities out there. And as a result of that, the businesses kind of became a little bit stagnant. So, enter us at the end of 2016 and just real quick to talk about, the state of the assets at the time of the acquisition, because this is really part of the growth story as well, first of all, all of these customers were really focused on the top of the market.

I don't know that being focused on the top of the market is really a big problem unless you saturate the market and there's more growth in your market happening, for example, in different

segments like the mid-market. In that particular case I don't think these businesses were able to fully capitalize on the growth opportunities that they had in their space and that's definitely something that we're working to rectify.

There was a lack of investment by the owner. The owner had a lot of distraction, I think we all know what those distractions are and as a result of that, there was fewer and fewer investments in innovation, in new technologies and as a result of that, as I said before, you started to see the products begin to stagnate.

Again, I think one of the best things that Jerre did when he came on board was create the two business units and there's a variety of reasons for that but the one to really focus on here, because there were really four business units that's part of IP, is that the previous owner was not in any way capitalizing on the obvious synergies between the products. That's not because they didn't recognize it, they just weren't capitalizing on them and some of that is really practical, it comes down to the fact that you add four management teams with four different P&Ls and four different sets of priorities but it comes down to the fact that they just didn't work well together.

These last two points are some of my favorite and to be honest with you, these last two points is why I accepted the job to run CompuMark. So just a quick note about myself, I've been in the information industry for just under 30 years and it's been almost entirely in financial information. So I did work for Thomson (SP) back in the 90's, I worked for ICE but these last two points are my favorites. The way that IP practitioners operate is very archaic. They have a point in time way of consuming information. So a provider like ourselves, we send them information on a Wednesday and they perform a bunch of actions for their customers; they're their end users and then they wait for us to send them another report and then they perform another set of actions.

If you look at other segments of the information industry, whether you're talking about healthcare, whether you're talking about financial markets, you've seen that in the last 10, 15 years, there's been a pretty significant evolution in the way people consume information. It's become more real-time, it's been a push model of information, it's more purpose built and there's context layered on top of the information.

Today we call context data analytics, that's sort of the catchy phrase but that's what everybody has become used to. And importantly when you look at the competitors these businesses, as I said before, victim of their own success, they owned the markets that they operated in. Every one of them is a number one or number two in the market even still today and we'll talk about that in a few minutes. But as a result of that, the competitors by and large were following. If you look at the way --that's not to say that they weren't doing some good things, there are some good things out there. I'm talking at the meta level. At the meta level, our competitors were by and large focused on stealing market share from these large players in the space as opposed to properly innovating and driving growth in their own right. And as a result of that, even though the businesses that now make up IP at Clarivate stagnated to a degree, the market kind of stagnated as well. And those two points is exactly why I'm in this business. I --after almost 30 years in information when I was first asked to join Clarivate to run the CompuMark business, which is the trademark business, my initial reaction was trademarks; not that interesting. But I started to look at the market and those two points got me excited and they got me excited by and large because what it told me was that there was a, an excuse the analogy, but an opportunity for a FINTECH-like expansion within the IP market; the technology in the market was stale, it hasn't been leveraged very well in the market as a whole but the technology is available to be leveraged, some of the things Randy just talked about, and the practitioners were not really ready historically but really are now. They're getting a lot more push from

corporate users who have become accustomed to different kinds of platforms and are interacting with data in a much more modern way.

So that's why I accepted the job to begin with and that was great while I was running CompuMark and about 60 days ago Jerre asked me to run the IP Group and I thought to myself, holy crap, I have got to make sure that that thesis is valid or else I've got a problem. So, this chart, and I'm not going to walk through the whole chart, but when Jerre asked me to do this job and I knew I was going to have to stand up here today, there's a couple of things that I did and one of them was ask for this. So there's two things you need to see about this chart. This is based on, by the way, Derwent patent data. Okay, so this is actual data and there's two things. So the red bubbles that you see here, that represents different types of information technology investment. So innovation and information technology across the information sector as measured by patent filings.

The blue bubbles here represent different sectors of the information segment, right, so you have tax, you have accounting, you have IP, financial information, education, healthcare, etc., all the different segments of the information market. So the thesis was that there's an opportunity for a FINTECH-like expansion if we make the right kinds of investments and the right kinds of technology. And I was extremely pleased and relieved to see that the IP business is all the way down and into the right. The way to look at this chart is as you move up and to the right, the technology is more unique and is a more modern base of technology versus older technology which tends to be back down and to the left.

So the opportunity for us and the opportunity that I was hoping to see here was that if we make smart investments in the right technologies, and we'll get into some of that in a few minutes, we can sort of drag not just ourselves but the whole market up and to the right and become more innovative. That purple bubble, by the way, that represents ourselves and every one of the firms in the IP space that we compete with and all of the patents that they filed in X number of years; I don't know how many years that is, to be honest with you. So that's the thesis.

So, again, smart investments are going to help us out. One real quick example, running CompuMark, one of the first things we tried to do, and we're successful at doing, is we closed the acquisition of TrademarkVision at the end of 2018. And the reason why we prioritized that acquisition was not actually because it had a complimentary trademark product line, because it really wasn't generating that much revenue, but it was an opportunity for us to buy a capability that we didn't have. And if you look at this chart really closely, way up in the right you see image analysis and image search and that was very intentional. And that's the kinds of acquisitions we're looking at when we're looking at tuck-in acquisitions; we're looking for things that not just can help expand our growth in an organic way but can drive our capabilities forward as well.

A few other key points; scale. You can't talk about these IP businesses without talking about the scale difference between ourselves and our competitors. We are, in fact, in the case of CompuMark, for example, we're more than twice the size of our nearest competitor even though the market is viewed as a duopoly within the trademark space. So we do have within our own silos a relatively nice advantage in terms of size. What we have that's unique now that we didn't have before under Thomson's leadership, because we broke those silos down, is the opportunity for us to package our offerings and I'll talk a little bit about that more later but when we package our offerings, especially to larger firms or firms in certain verticals that have very expensive intellectual property that they need to protect; pharmaceuticals for example. We have the opportunity to sell a package into those markets that our competitors just can't sell

because they just don't have the breadth of products that we have that we can offer. And this last point is last on the list but it's one of those things that I think we really have to pay attention to.

These assets are what they are because they are very difficult to recreate. That has a lot to do with the history of these businesses; I'm going all the way back 20 to 50 years. But it has a lot to do with the curation that I think Randy touched on really quickly; as you curate this data we're creating, for example, in Derwent we have a normalized set of patent data in the DWPI index, the Derwent World Patent Index that you just can't replicate. And those are the kinds of things that help differentiate us from our competitors.

Real brief conversation about these assets; I'm not going to spend a lot of time talking about them in an individual basis except on this particular slide. So the intellectual property group for Clarivate has about 13,000 customers. The product suite, as a whole, has retention rates that are above 91% and rising. That has been increasing over the last two years since we've taken over the business and that's something that we continue to focus on and we'll talk about how we can improve that in a few minutes as well.

CompuMark, very much represents what these businesses look like; selling to the top of the market, 92 of the Fortune 100 but the key point here is the world's largest trademark database and the market perception is that this database is the standard in the market and a lot of that has to do with the curation that I mentioned before. Derwent, very similarly, is the standard for patent data in the market, particularly because of VWPI. So much so that more than 40 patent offices use Derwent data in order to validate new patents; so that's very impressive.

Market Monitor is one of the businesses that is not number one in its space, and I'm only talking about the domain business at this point, right, because as you all know, we sold the brand business recently. So Market Monitor, the domain business of Market Monitor is number two, it's a very close number two in the domain management space but it owns the management of 1.3 million domain portfolios and just to be really clear, ten of the ten most traffic Websites. So, unlike our competitors, if you go out and you're going to Amazon, you're going to Google, you're going to Facebook, you're going to one of these high traffic Websites, those domain portfolios are managed by Market Monitor.

Techstreet, by far the smallest of the businesses but also notably the fastest growing standards business in the market right now. So, this slide we probably waffled a little bit as to whether to put this one in here but I love this slide. So --I do. So, this is actually Derwent and CompuMark data overlaid and the point that I'm trying to make here is that --it's how we fit into the market as a whole. So you cannot sustainably grow your business unless you secure your IP; you just can't, and that doesn't matter what industry it is. This is actually the last hundred years of refrigeration patents and trademark activity; totally randomly picked that and there's two things that I want to point out on this. If you look in the left-hand third, you can see that refrigeration in 1920 to 1940 was an emerging technology and you can see what that happens. You see patent volumes as expressed in the green lines increasing and then when it became viable for in-home use. I don't want to bore you with the details but basically it came down to putting a freezer in a contained environment; made it viable for in-home use.

You saw a spike in brand activity. It doesn't matter what industry you're talking about, my father has a patent in extruded gum base and that doesn't mean anything unless in the 1980's you liked Bubble Yum because that is the basis for Bubble Yum and that is why that product dominated the bubblegum market in the 1980's, period. And that is true no matter what industry

you look at. But more importantly, when you look at the right-hand third of the graph you see a couple of things happen that, again, applies across many industries; starting in the 1990's in this particular case, because we're talking about refrigeration, because that's exciting, you can see that there was the globalization. So when you saw globalization, in this case 1980's, 1990's, you saw German firms, you saw Korean firms, you saw Chinese firms starting to invest in refrigeration technology because that market looks pretty good and then they started to sell outside their core markets. You saw brand activity going up as well.

The other reason why I really love this chart, because I'll talk about it at least two other times, is way off to the right you see a much steeper growth in the green line around patent filings and innovation. That represents the convergence of technologies in refrigeration but you see that in a lot of other markets; this is why it's important. In this particular case, it's the Internet of Things integrating with refrigeration technology and you're going to see that in a --if you watch TV everyday, you can have an Internet enabled HVAC, you're auto driving cars and things like that. This is a convergence of technology that's really driving innovation, which is driving a need for more IP intelligence.

So, how do we look at the market and how we can grow this business. One of the very first things that I always look at is R&D spending and I tend to look at R&D spending as a percentage of GDP across the world. 2019, \$1.7 trillion in R&D; it's a big number. 80% of our R&D spend came from ten countries. Now, what's critically important about that, and I'll get to it in a minute, is that that is very fluid although there's a lot of --most of the spending is coming from those ten countries, the spending in those ten countries is starting to shift in a very interesting way.

New technology, and this is getting to my point about refrigeration and IOT, new technology spend is outpacing traditional technology spend by about ten times and that represents the convergence of technologies in a variety of different markets. So, for example, this is going to be your block change, your AI, your image rec (PH) technology versus database technology; social media, etc., within the information space. And then lastly, getting back to the second point, R&D is accelerating in Asia Pacific and I've got some very specific numbers on that but what you're really starting to see is a shift of R&D spending from governments and private sector from Western Europe, North America into Asia Pacific and I've got some numbers to quantify that.

So, that increase in R&D spending creates a broad foundation of opportunity for Clarivate and, in particular, we'll talk about volumes and how that translates to volumes for patents and trademarks. In 2019 we saw nearly a 7% increase in active patents worldwide. Similarly, almost a 14% increase in active trademarks. So these are pretty significant tailwinds for a business that both helps companies create and establish intellectual property but protect that intellectual property once it's established. When you look at the flow of innovation but from Western countries into Eastern countries, China in 2019, or it might be 2018, actually and I can confirm that, Daniel might know, that's 1.54 million patents. 46% of global patents in 2018 were filed in China. That is absolutely fascinating and even more importantly, is --filing the patents is great, right, you can secure your IP but if you want to monetize your IP you've got to have a brand and you see that Chinese applications were seven million out of ten million total global applications in 2018. Now, there's some noise in the Chinese applications; service companies in China file a lot but they're not that relevant globally but at least half of the world's relevant trademarks are being filed outside of China by Chinese entities. So that's fascinating.

How else does that translate to opportunities for us? 5% increase in U.S. oppositions. In the IP space, you secure your intellectual property and you want to protect it against infringement and opposition is you're opposing somebody who you think is infringing on your intellectual property. For us, that's subscription revenue. So our monitoring services are very much driven by what the opposition trends look like in the world. So when we see an increase in oppositions we get fairly excited because that creates an opportunity for us.

Back to my point about converging technologies; I love this point. Last year 18,000 IOT related patents; that is a 270% increase over the last ten years. So a reasonably well defined sort of uptick in spending in this area. The more intellectual property you have in the world, which is what you're seeing, the more opportunity there is for bad actors. And, again, we're in the process of protecting IP as well. So if you look at domains, just a couple of stats on that, top brands were impacted 93% of the time by bad actors in a number of different ways. One of those was is cybersquatting where you might be redirecting traffic from your domain from a legitimate domain to an illegitimate domain in order to try to get revenue from someone. There's been a 5% increase in cybersquatting in the last year. So that's fairly impressive as well.

So, tailwinds and underlying market trends that are really helping Clarivate is the kind of things we're paying attention to; what's happening with brand activity, where are we seeing innovation? What does that look like? We're paying very close attention to the trends globally because it matters as to how we deploy our resources and how we build specific products to capitalize on that and I'll talk about that in a minute as well and then technology convergence is creating increased complexity and is really driving a need for more intellectual property intelligence and all of these things are creating opportunities for Clarivate.

So, that's the market. So, how are we going to capitalize on these things? One of the things that our previous owner did not do very well is acquire new customers. So if you keep selling the same solutions or new versions of the same solutions to the same customer base, you can expect to have nominal growth; which is what they were able to achieve. So we're very focused on the fact that we've got these valuable data assets and we can leverage these data assets to be able to enter new markets and enter new market segments. And as a result of doing that, we should be able to acquire brand new types of customers starting in 2020, 2021.

So that's adjacent markets. There's also market segments that we by and large ignored. I think I mentioned at the beginning that Thomson was overly focused on the top of the market and although that was great, and I'm glad we do, it does create a growth challenge if you don't have a product that is appropriate for our down market or mid-market and that can leave the barn door open for competitors. So I'll talk a little bit about what we're doing about that.

Deepening account penetration is something we are focusing on right now. I think Jerre talked about that a little bit. For IP there's at least two areas where we're focused on. The first one is something that I think Jerre touched on very nicely which is we have a lot of shared accounts and in some cases we have one product suite that is much more deeply penetrated within a particular client than another product suite.

And there's an opportunity for us to upsell, cross sell, to strengthen that offering. We also have an opportunity to merge contracts, which is not going to drive growth directly, but which is going to play a significant role in our ability to shore up retention rates.

If you go in--and because there is some lumpiness in some of these client relationships, somebody might be spending--and this, by the way, crosses into Mukhtar's world, which he'll talk about a little bit again as well. I was at a pharma company recently that bought from all five of the legacy business units. Didn't know they were all owned by Clarivate, and we didn't know necessarily that they bought all five. We only knew which ones of ours that they bought.

And that's the kind of thing that we're getting into right now. But, if there's a million dollar account for Cortelis (SP) in a large pharmaceutical company and they only spent \$100,000, for example, on brand activity from CompuMark--if we link those contracts, it's going to be very hard to unseat the smaller of our products within Clarivate. So, there's opportunities for us to deepen account penetration and by just simply merging contracts. Our sales guys hate when I say that. But, that's one of the things we're going to do.

Capitalizing on structural changes in the market--the IP market is dominated by lawyers and people who work with lawyers. And in many ways, there are some archaic models, as I sort of talked about at the beginning, in the way that they conduct business. However, corporations and their end clients are demanding a different way to interact with them. And that--we are very well positioned to provide those more analytic products into the corporate clients which is going to drive the behavior of our legal customers because that is a very important market segment for us. And, as I talked about a couple of times, we expect to benefit from the geographic trends. We are already focused very deeply on a very specific strategy in Asia, and I'll talk about that in a minute.

And then, lastly, just because I have to say it, scale. We do have much greater scale than everybody else that we compete with in the market. And, as we start to break down the silos, which we've already done, but start to package our products together, we're going to have a much more opportunity--much greater opportunity to sell bigger deals into customers in a blended sort of solution for our customers that our competitors can't touch.

So, lots of things happening in the market. We have challenges up there. But, I view these challenges more as opportunities. When you see a market challenge, it tells us where we need to make investment. So, it's very helpful in those ways. As you've heard, if you talked to our customers, that the perception in the market is that our interface is a little bit older by and large. They are correct. And I sort of explained, I think, at the beginning, why that is. I would also argue--one of my favorite quotes is--we have a customer quote that says that your competitor's interface is lightyears ahead of yours. And you go and you look at that particular interface. And if ours is 1997, then there's is 2004. So, I mean, it's not lightyears ahead.

The whole market is stagnant in terms of its--the way that it leverages technology in the market and specifically around the UI (SP) and data visualization and how people can interact with data. So, we've been investing in the UI pretty aggressively. It's one of the things that we know has been a weak spot for us.

I think if you were out looking at the demos, you would have seen a couple of things. I mean, obviously Cortelis--you would have seen the new Derwent innovation that Dan's been working very hard on. You would have seen TMGo365 (SP) which is a newer interface. You also have some of the image technology baked into that. And then, in 2020, we're rolling out a new analysis tool, which is really the core of how people interact with the trademark data. And then, we're going to continue--actually, I should point out one of the side benefits of selling the brand business from MarkMonitor is that the customers had been requesting for a very long time that we upgrade the domain portal. And that's something that that business wasn't really able to

resource and get behind and now becomes a focus of the IP group. So, that's going to strengthen our position in the domain market.

A few other things that we're focused on. Analytics--I think Randy did a good job talking about platform. But, we have a very early opportunity simply to layer our data analytics on top of our core services. That context that I talked about that everybody expects in financial markets or that everybody expects within healthcare or education--those information consumers--doesn't exist in IP. If you talk to an IP attorney about analytics--and I've done this very recently in a group setting with a bunch of our customers--they don't actually want to talk about it. They just want to talk about the transaction. How do you help me process my transaction faster? That's what I really need.

But, if you go to a corporation and you talk to the head of IP, they're going to tell you that they spend less of their time focused on transactions and sort of traditional work that sits within the intellectual property world and more of their time working on competitive intelligence, working with the CEO, CFO, COO around strategy. So, as we continue to drive our analytics into that longer term, that will change the behavior of the law firms, ultimately, because they're going to have to. But, we do have an opportunity to apply that context right away into our products, and that's something we're focused on.

In fact, I will say that since we've created the intellectual property group, one of the things that we've done is we've taken our thought leaders and our client advocates, and we've actually aligned them organizationally with our analytics people so that we can continue to drive into this area. And then, geographic trends, which I've talked about a little bit--I'm just going to talk about localizing the UI.

There's a couple of things that we've done recently that's critically important. At the high end, we've taken some of our products, like the TMGo365 and we've just localized it so that now there's a Mandarin version of TMGo365 for the top of the market in China. But, the Chinese market is a very large market. And it's really being driven by mid market players in that market, and they really have no interest in TMGo365. So, one of the other things that we've done is we've rolled out a brand new product for the Chinese market only that is an image watch, so watching the trademarks in an automated fashion in the Chinese market. That's allowing us to capitalize within the Chinese market on the trends that we see over there.

Moving on--so, price--there has been an onset of competitors in the IP space in recent years in the last decade. One of the things that I think I am most proud of, frankly, is just how successful we've been at defending premium pricing in the market. That is something that we've absolutely been successful at. That being said, as Jerre pointed out, we're not always the easiest business to do business with. A lot of that has to do with the fact that these businesses have been around for a reasonably long period of time. And, as a result of that, the markets change, the demands have changed, data requirements have changed. And the pricing models have become much more complicated than they need to be.

So, we've been doing a couple of things. I think Derwent recently rolled out a new pricing strategy in general. I know in the CompuMark side we're doing more bundling, especially for our larger accounts. So, instead of paying all these transactions and then signing up for a series of online products, we're just looking at your usage over a multitude of years because most of these client relationships are three, five, ten years, 25 years old, to be honest with you.

So, we have an enormous amount of behavioral understanding on how our customers act, which allows us to go back them without losing revenue and just bundle up offerings that work for them, work for us, and actually lowers our cost in terms of processing on our side. You can't talk about the IP market without talking a little bit about free alternatives, the Google patents of the world or, I think, more importantly, the IPOs. A lot of the PTOs--I'm sorry--are starting to act, frankly, commercially. EU IPO (sp) is sort of the poster child for that.

So, there's a couple different ways we can worry about that. One is panic. We're not doing that. The other way that we've been focused on this is really twofold. One, there is a place for free in the market. So, in a variety of ways, we've kind of embraced free. And the way to think about this is we can either go in there and try to build a competitive product, or we can actually help the PTOs deliver within their home markets, which is really what they're focused on and actually doesn't hurt us because the customers that want to do business with us that have a very expensive brand that they're putting a lot of money behind, they're crossing markets, for example. They're not doing things in one market.

So, we've started to focus much more of our energies, especially since we bought the trademark vision applications, to actually build examiner tools and to continue to support the examiner community. The more of our tools that are used by the examiner community, the more obvious it is for the market that they should be buying the commercial version of those products from us because the examiners are going to be using the same tools when they're going through registration, whether on the patent side, for example, or whether on the trademark side.

So, those are the kinds of things we continue to focus on. It's also important to note that for certain use cases good enough is good enough. At the very beginning of an R&D process, it's okay to go out to Google patents and run a couple quick and dirty searches. Would I want to rely on Google patents as I start to put real money behind my product and my innovation? No. And the market is smart enough to know that we don't have to compete with them. We don't have to tell them that. They're smart enough to know that.

The other thing to point out is that there is good growth down market. And I do also like the fact, like I sort of implied before, of having down market products to sort of shut the barn door, if you will, so that competitors can't come up because those free solutions from the PTOs, as an example--they represent a barrier to entry to smaller players coming into the market. But, if we have our--if we take our technology and our platforms and we build a slightly lower value but good enough solution that's fully automated for the mid market or down market, we can start to experience some of the growth that Thompson (SP) typically had ignored when they were focused solely on the top of the market.

So, one example of the things that we've done recently is the rollout of trademark.com. If you have the opportunity to go look at trademark.com, one of the things you'll notice is it does not look like anything that Clarivate has ever done before, and that is by design. It is really aimed for the SME (SP) market, and it's fully automated. We have nobody behind that product, just so we're clear.

So, it's a lot information. I think the market's outstanding. What does the next year or so look like? First of all--I've sort of implied this already. But, I'll say it again. We have a huge opportunity to capitalize on our existing relationships, that is both in terms of cross selling where we have one product with a stronger footprint in an account, but very importantly what we're calling smart contracting, which is really starting to merge some of those contracts. Those are

the kinds of thing we think we can do right out of the gate. We're already starting to look at this at the end of the year here.

The next thing that we can do is, quite frankly, create the illusion of integration. Our job is to create a unified experience for our customers. We have a whole series of offerings that are out there that have historically been sold as separate offerings because we've broken down these business units. We have an opportunity to sell them as one combined offering into the market. We can do that by creating the illusion of integration. They don't need to know that it might take us an extra six months to physically integrate the back end. We can give them a unified experience.

And that's one of the things that we're going to focus on as we look at packaging our offerings and selling these packaged offerings that are sort of purpose built. So, for example, an example of a package would be if you have a corporation and you're rolling out a new product, you have what I would call a set of brand creations tasks out there. It includes securing your domains. It includes securing your IP. And then, once you bring your product out, you want to be able to protect that IP. We can sell that as one package even though it's traditionally been sold by two different business units within Thompson Clarivate and always to different buyers. That's the kind of thing that we can do pretty quickly.

As you move through the year, we're going to continue to focus on developing our analytics narrative, not just to layer on top of our core services because we think that we can move up the value chain even more than we already are by providing more context with our core services, which are already considered the standard. And it makes it tougher to compete with us. But, we do believe that by blending that analytics narrative and those resources with our customer advocacy people that we're going to have the opportunity to enter new markets.

And this is when I talk about getting absolutely brand new customers--this is what I'm talking about. And I'll just give you an example, but I won't talk about it at length. But, we'll just say that we've done some exploratory work here. Risk and insurance--this is a model driven environment. Every business that's out in the world is out there getting errors and (INAUDIBLE) insurance. And these guys are doing an analysis and they're using tools and data to do it. We can feed into a model like that. That's an example of where we think we can take our data with the right partnership and move into new adjacent markets where we can be experts on the data and the things that we do but still capitalize on that opportunity to bring new customers in for our content.

And then, longer term, we're obviously going to have to integrate our platforms. I think Randy did a great job talking about the infrastructure that we're in the--some of the investments that we're making in that space. At the end of the day, there's only so many ways to deliver online content to customers. We don't need five different ways. We need one. So, we're going to continue to focus on integrating our platforms and, in many ways, what I call de-containerizing our data. So, instead of putting data into an online product, we want to put it in the cloud, into BI (SP) environments where our customers who know what they want to do with the data better than we're ever going to know what they want to do with the data can interact with the data and we can learn from their interactions with our content in real time. And that's going to help us again.

That brings us back to new adjacent markets that we're not even aware of that some people might want to interact with their data that's going to teach us even more--give us better information on how we can grow the business in new ways. So, what do I hope you guys are

taking away from this? Other than the fact that these products are really fun and really fit well into the market--the market dynamics in IP are very, very interesting, and I think the dynamics that you see in the market between R&D, between some of the geographic trends, and quite frankly the way that the market has behaved historically has created sort of an opportunity for growth in the market as a whole. And I think we're best positioned to be able to capitalize on that.

The technology investments that we've already started making--that includes acquisitions in some cases where we're buying a capability like we have been for trademark vision--those things are going to enable us to actually move--if you go back to the bubble chart--enable us to move up and to the right into the value chain and help us lead the market, not just by revenue, which is how we lead the market today--in fact, I tell our team we're not allowed to say we're a leader in the market unless you're leading in some way that does not just have to do with size because that's not true leadership. We want to lead by technology innovation. We want to drive the way the market operates by making proper investments in the right technologies or the right partners.

And then, lastly, as we move down the line, a lot of these things we can do right now. But, it's important to note that we're going to get further acceleration as we focus on adjacent markets and trying to acquire new customers in different market segments that we have historically ignored.

So, that's my story with the IP group. It's a fantastic set of business. It's a fantastic set of teams. There's no plant and equipment in this business. It's all people. And these people are impressive across the board, and they're as good as they come in the industry, and they're experts. So, with that, I'd like to introduce my friend and colleague Mukhtar who will talk to you a little bit about the science group. Thank you.

### **Mukhtar Ahmed**

Thank you, Jeff. I took a bio break by the way. Thank you, Jeff. I appreciate it. So, let me just begin by just giving you a quick background on myself and, in particular, the journey that led me to Clarivate. I thought that might put things in context for you. So, I started my career off as an analyst in the world of aerospace. That's kind of where I started the engineering track. And then, at the beginning of the nineties, I thought, "You know what? I'm going to take a change in career," and I took a different track and moved into the world of medical sciences.

And I come from a family of medics. And when I originally went into engineering first question from my father was, "Why? Why aren't you a physician?" So, it was a little late--not quite a physician. But, nonetheless, it was a move into the world of medical research. And I specifically worked in clinical research, leading clinical research and development teams for a number of multinational organizations, two of which I IPOed (SP).

And then, for the last 12 years or so, I've been leading private equity backed technology companies but exclusively focused on life sciences and the broader healthcare market. That's been my core focus. And one of the things that motivated me, in particular, to join Clarivate, what was--what kind of really excited me--it was really sort of three things.

First of all, it was continuity for the science. I'm extremely passionate about medical science and advancing medical science in the innovation (INAUDIBLE) improve patient lives. That's the core of why I do what I do. I've been in this space for nigh on 30 years. The second thing is during my research days, in particular, I actually used some of the data assets, Cortelis, some

of the other products in previous forms, obviously eventually branded as Cortellis. So, I have familiarity with just how important those assets were. And then, the third thing was growth potential of the business. And having obviously worked in private equity for well over a decade, growth, of course, is absolutely critical. So, it was really those three things that brought me to the business. And I joined at the beginning of last year.

So, let me begin and just share with you some really extraordinary industry achievements, things that have shaped society, inventions and discoveries. Professor Stanley Whittingham, 2019 Nobel prize winner in chemistry, invented the lithium battery. Pretty groundbreaking stuff. Then we have Dr. Michael Mayor and Dr. Didier Queloz. Both received a Nobel prize in physics, and they got their Nobel prize because they used some truly advanced analytics, some really, really innovative imaging techniques to discover an extrasolar planet, 51 peg B (SP), for any of you that are budding astrologists in the audience, amazing scientists.

And then, in the world of medical research and medical innovation, we have Mitsubishi Tanabe. They developed Radicava, and this is a really novel drug, the first of its kind to tackle ALS or motor neurons disease. And what was really important is that they set the pathway for others to follow and look at nerve regeneration in a whole different light. That was really the key breakthrough.

And then, we have Merck with Keytruda, cancer immunotherapy drug. Fantastic. Improved patient lives. Absolutely wonderful. And then, we have Abvie with Humira, blockbuster antibody, obviously commercially successful for them. But, really, what was more important from a patient perspective was here was a drug tackling Crohn's disease, tackling really chronic rheumatoid arthritis, trying to deal with all the issues around psoriasis and a bunch of other conditions. That's what made this so special and ultimately why it was a blockbuster.

Incredible innovations. So, you're probably thinking, "Well, what connects all of them together? What's the area of commonality across all of these inventions and discoveries and achievements?" Well, 54 researchers--they were awarded a citation laureate by Institute for Scientific Information, ISI. It's one of our organizational bodies. It's a think tank, and it influences how research is ultimately evaluated. And all of those 54 citation laureates went onto win a Nobel prize, including the scientists that I just shared with you who were all our citation laureates in 2019.

And then, Abvie, Merck, Mitsubishi Tanabe, and a host of other biopharmaceutical companies--they are our customers, and they rely on our data. They rely on our assets. They rely on our expertise to bring novel drugs and inventions to market, drugs that they can put in the hands of clinical practitioners that ultimately benefit patients.

So, we have two flagship offerings or two platforms. You've heard a lot about these so far, and hopefully you've had a chance to have a look at them in the demos from earlier today. Web science is our platform that supports academic research, and it's the means by which we evaluated research and we facilitate and support research and we discover all of those incredible inventors, all of those wonderful groundbreaking researchers.

And Cortellis supports not only drug but also medical device development, so really, really rich data and tools to do so. Both Cortellis and web science--they come together to essentially form our cloud, and that cloud offering is how we serve the research and development needs across industries and across research disciplines. So, it's multi-industry, multidisciplinary. And the way we do this is we collect a ton of data, a lot of structured, unstructured data. And then,

essentially, we've transformed that into highly actionable intelligence, decision making insight, and we apply our secret sauce. And our secret sauce is our tools. It's our data science expertise. It's the fact that we have domain experts in the industries that we operate in.

And that's how we transform that data into really actionable information that we then serve our customers, either through our products, world class products--in some cases, our customers may want to get the underlying data because they want to undertake their own self service analytics. We call that content as a service or data as a service, and Randy talked about that a little earlier on. But, that's really powerful.

And then, the third thing that we do--and we launched this late last year--and I'll talk more about this in due course. We created an alliance and channels program where we could harness the power of a lot of innovation and the innovation of third party applications that essentially we've partnered with and we've hand selected them, certified them, integrated them so that they can serve the needs of our customers. So, if a customer has a really unique need, a really specific use case and they want an app, well, maybe they use our core product. Maybe they might do it through self service, or maybe there's an app out there in our ecosystem that they can use. So, really, really powerful means to get to the data and lots of choice here to be successful.

So, we operate in four core markets, academia--it's extremely strong for us--publishing, government, and biopharma. Those are our four core markets. What are some of the pain points in these core markets that ultimately we're trying to solve? Well, in academia, researchers, in particular--they face a great deal of issues because they have to deal with inefficiency, inefficient research systems, disparate disconnected systems sometimes many of them. And it means that they are carrying administrative burden which takes them away from the research. Their grants are limited. Their funding is limited. So, naturally, they want to expand that on conducting the research itself. So, a lot of inefficiency there.

For biopharma--lots of publicized issues in the biopharma world, drugs coming off patents, threat of generics, the needs for pharma to do more with their budgets, get drugs to market quicker, get it to patient quicker, lots of regulatory reform and so forth. Publishers are really interesting, very important for us. If we look at publishers, their supply chains are the researchers. It's the scientists and the industry--and those supply chains are changing because the workflows are changing. They're being influenced by technology. Some of the things that publishers used to charge for--those are changing because they're available through open access. So, it means that publishers have to look at their business models in a different way and look at how they monetize that value in a different way in the future.

Governments face lots of issues. The biggest one is obviously budget deficit situations and trying to create a surplus from those situations. But, the biggest here is around accelerating policy making, doing things that will obviously help society, in particular. And there are a lot of initiatives for government are to tie their investments and plans and strategies and execution to meet those needs for social outcomes and social impact. So, education, healthcare, environment. These are really, really important drivers and pain points.

So, let me give you two examples of how we try and solve some of those pain points. And I'll start with academic research. And if you look at the academic research life cycle, especially in the context of a researcher, it starts off with a planning and conceptualization of the research. And then, there's an element of funding that occurs to get the research going. It could be from government agency. It could be through a particular academic institute that's sponsoring the research.

But then, the research is conducted to a point where that research is then picked up and published by a publisher, which is typically the first stage of an outcome for research. And then, once that research is published, then it tracks the next round of funding. And to an extent, it's probably more of a continuum than an end to end life cycle. And it is pretty complex, from receiving a grant to getting the first publication can take two plus years. And just in the European Union alone, 33 billion of funds are allocated to research.

So, it is pretty complex, and it is pretty costly. How do we support this? This is what our web science platform does. So, it's extremely powerful tools, unique data, unique content, unique expertise. I think Joey (SP) said it at the outset. We are independent and unbiased. We're not affiliated with any publishers. And that's why researchers use us and like us and respect us. That's really, really important.

But, in the context of how a typical set of user (INAUDIBLE) would leverage the platform. Let me try and put it in the context of an example. So, if we take a researcher--it could also be a scientist in industry. The research will typically got to web science. They would access the citation databases that we have, and they would use that to try and pinpoint literature, materials, references that have a major impact on their research. It can have a huge scholarly influence on their research.

There might actually traverse through all the databases that we have and look for correlations, again, that they can incorporate into their research. And then, they'd use endpoint to compile their references in the bibliographies and they'd use that to collaborate with other researchers. And when they're ready, they would use the same platform to publish that research.

Now, academic institutes--and it could also be government agencies who are funders--they would use all of the metrics that we provide, all of the reports that we provide through our insights, for example, to first of all determine what should they sponsor in the case of academic institutes and universities. And what should they fund?

And then, publishers would use Scholar I to work with the authors, the authors being the researchers or scientists. And they'd review the material. They'd review the manuscripts. And it very much would support all of the processes, all the way through to getting that research published because that's the primary milestone and outcome for research.

And once its published, then (INAUDIBLE) funding, and that funding will come from government agencies. It can come from the corporate sector. But, it drives the next wave of research.

And that's how great research is conducted. It's a continuum. And we support this through Weber Science. Thus, why we're trusted. That's why we're respected and used within the world of academic research.

Let me also talk about drug, drug development. And also, medical device development. Perhaps, some of you are familiar with the processes associated with these industries. But in the case of drug development, very simply put--You know, drug development goes through a discovery phase, and there's pre-clinical research that's conducted, first in human trials, all the way to approval by a regulatory authority. That could be the FDA, it could be the MHRA, it could be Korean FDA, but essentially want the approval. Because then it's about market launch, commercialization, and post approval. And some of you may have read about real world

evidence, or real world research, which is really looking at, how does a drug perform in the real world, as opposed to simulated conditions?

And--You know, medical devices follow a similar process, it is a little different. From conceptualization, you have device RND, submission, and then market launch. But both are pretty complex processes. A drug from discovery to market can take \$1 to \$2 billion. It can take over--You know, over 10 years. Anywhere from 10 to 12 years to get a drug to market. And with medical device, it can take anywhere from four to eight years. And it can cost anywhere from \$400 million up to \$1 billion, depending on the classification of medical device.

So, we're talking about--You know, pretty complex processes. How do we support this with Cortellis? And I hope many of you had a chance to look at Cortellis, but it's a pretty powerful platform. Data assets, wonderful tools, and analytics. But again, in the context of an example, and I'll explain this in the context of a typical pharmaceutical company.

So, in pharma, you have portfolio life cycle teams. And the portfolio life cycle team are the ones that set strategy on drug development pipeline. Is it organic, is it acquisitional? Should they spend the \$1 to \$2 billion, or should they go and buy someone? And typically, they would use our competitive intelligence database to look at the landscape and to make some of those decision points. So, helping to determine strategy.

When it comes to actually developing a drug organically, the drug discovery scientists in the pharma, they would use our discovery database. And they'd use that database to identify targets and the pathways to take those targets to a candidate drug. So, they would look through all of these systems biology data we have, the genomics data, the human chemistry data, the molecular data, pretty unique data that we have that allows them to do those things.

And then, we support our drug through pre-clinical research. If there's any translational signs, or precision medicine design occurring, we'll support that. And then, when that drug gets in first in human trials, we support the RND teams, in pharma, to conduct their clinical trials. Phase one, all the way to phase three.

Timeline and success predictor, that you heard about earlier, and I think Angel also demonstrated that as well, earlier today. That's really important in making some key decisions. So, if you go from a phase two trial, to a phase three trial, it can cost anywhere from \$300 to \$400 million. It's a major decision point. You've got to be really, really sure that you're on a pathway to get that drug approved, and it's gonna do things that you think it should do. So, that's why some of our tools are really important.

And then, when that drug is ready for approval, so it's ready to go to the FDA, or MHRA, then our regulatory intelligence database is used by a regulatory affairs teams to set those pathways, to look at, obviously, the optimal way to get an approval. And thereafter, once approval occurs, hopefully successfully, now there's a whole set of post-approval activities that occur, which we support through our platform. So, this is why we're a partner of choice for the--by the pharmaceutical industry. And also, for the medical device industry because we do something similar as well.

So, what makes us important, not just today, but in the future? What makes us relevant, important for the markets that we operate in?

Starting off with data. So, data isn't decreasing, it's increasing. We still have the same issues that we do with big data, seven or eight years ago, that we have today. You know, there's still an issue of huge volumes, and that data's coming at us pretty quickly--You know, in terms of velocity, and this deliver-ability issue.

So, as that data continues to increase, we need better tools to analyze that data, and to draw actionable insights, and to make decisions on the data. So, it means the tools have to get better. And artificial intelligence isn't a nice to have anymore, it's a de-facto standard, in most industries. Retail defense, in particular, insurance, it's a standard. We're now talking about next generation analytics, next generation AI, and that's what I think, makes us really unique in terms of what we're looking to do for the future.

Asia pacific, as you heard from my esteemed colleagues, is particularly important. I'm sure you've all read about China and what's happening in China. Huge amounts of regulatory reform, the Chinese drug authorities have done some wonderful things, in terms of driving compliance and quality. And that, in turn, has really helped the drug industry, and the pharmaceutical companies in China.

Just really changed their aspirations and how they operate. But from--You know, from a domestic focus, they have a multi-national focus. They're attacking some of the world's most complex therapies, in China. And I'm convinced that the next Blockbuster's gonna come from China, for sure. Just with the rate of--You know, scientific innovation and advancement that's occurring there.

And then, across Asia pacific, medical devices is awfully interesting. A lot of growth in medical device, in particular. Especially with some of the new categorizations of medical device that are now emerging. So, there's one earlier this year, that now classifies software as a medical device. A brand-new, in a segment, within a segment, that's Greenfield. So, lots of growth and opportunity there.

And the other one, is collaboration between private and public, in particular. And as an example, here with Kyoto University and Takeda, working on IPS sale research. If we take Oxford University, they're doing some wonderful things in the biotechnology sector. You know, it's the same, for a number of leading institutes, really, really looking at innovation. But really, what's really interesting here, is we're seeing multi-industry, multi-discipline re-research occurring through these collaborative models. And that's what I think makes our platform and our strategy--You know, particularly interesting.

Our core markets--Our core markets equate to just shy of \$5 billion. And they're growing, anywhere from 5% to 6% or so, maybe a little higher, but they're growing. And it's good to be in core markets that are growing. The key thing for us, is there's lots of addressable opportunity for us, in our core market. There's white space that we can go after, in our markets. That's what makes them really, really interesting.

What's also interesting for us, are the adjacent markets. And the reason the adjacent markets are important for us, is the things that we're doing for our core markets, apply to the adjacent markets because they're governed by the same processes. The regulatory authorities that I've referenced a few times, their span of control and their influence, applies to these adjacent markets as well. And in many cases, we're collecting data and content for these adjacent markets. So, digital health is all about direct to patient, it's post-approval research. And we launched our Cortellis digital health intelligence offering earlier this year.

Pharmacovigilance is an extension of our regulatory database. It's all about managing patient risk. Natural extension, and medical devices they said earlier on, is important for us. So, we're collecting this data, but we have plans to extend what we collect, and what we give to our customers. Particularly, for these new classifications of medical device.

And also, we're seeing another set of medical devices emerge where there's a dual track between the drug--between the medical device and companion drugs. Particularly, in ophthalmology. So, that's created a new area for us to look at.

What's also interesting, are some other areas that are in our radar as well, with the same processes, the same regulatory authorities, have an influence in control. So, cosmetics, and nutraceuticals, food, and veterinary, those are all within our sight. And if we take the FDA, the FDA expands across all of them. The MHRA expands across all of them. That's what makes it really interesting for us. And--You know, these are addressable for us.

Our business plan, what are we looking to do? Well, the end-to-end platform for research and development, what we have is good, but we're not standing still. Our plan is to continue growing, evolving our platform so that we can do the things I said earlier. The first platform that's truly multi-industry, multi-disciplinary, and very powerful in the sense of fantastic products with exceptional analytical experiences for our end customers. Data that no one else has, our data assets. They are fabulous. Gold standard content, through our secret source. No one else has that content. We have.

Our plan is not to stand still. Our plan is to continue to add to it. We want content, gold standard, that no one else has. And that drives our exceptional analytics and outcomes.

Access to the data's important, so content as a service, is something we'll continue to evolve. We launched the first version of this earlier this year. It was exclusively around drug discovery, was the first place we started. So, we'll look to extend that across some of the other industries and disciplines that we have in the future.

Alliance in channels is important. I set up a formal alliance in channels program. And the reason I did so, because it's important to partner with like-minded companies. And a lot of the innovation out there is gonna come from small start-ups. And we want a way of incubating, and working with a lot of that innovation, and getting it to customers because it extends the value of what we do. And we want to tap into that. And in some cases, we might co-develop the IP, but it gives our customers choice, and it's a great incremental revenue stream for us.

Adjacent markets are important. Naturally, we're attacking some organically. We may tackle some through--You know, in organic means--You know, if they allow us to, kind of, accelerate our growth into those adjacent markets, we'll do so. Customers critical for us, naturally. Everything we do in products, how we deliver service and create value for our customer, and how we do business, the other thing that we want to do, is move up the value chain with our customers.

So, yes, we're giving great, actionable intelligence, we're giving great insights to our customers, but they want us to go further and actually help them implement those actionable insights. They sometimes need help with insuring change management. So, I set up a consulting organization earlier this year, and that's what we're looking to do. It's to help customers gain even more value from the things that we're doing.

World-class organization, we have wonderful data scientists. We have wonderful domain people. We will plan to continue to hire the very best. A, because obviously we want to give our customers the best value, in terms of our expertise, but our machine learning, we wanted also to learn from the very best minds, as well.

Let me talk briefly about our eco-system. So, this is through our alliance and channels program. We call it our partner app exchange. And there's a couple of examples here, of some of the apps that we've signed up. There's a whole slew of others. So, hand-picked, certified, sit in our eco-system. And the reason we're doing this, is because, as I said earlier, there's some great innovation happening out there. But typically, it's--You know, a two person company, spun out of academia, they've got a wonderful AI, or technology proposition, it does something really cool, but there's just no pathway to get it from there to the hands of our customers.

And that's--That's really what we've put in place, it's an incubatory facilitator. We'll co-develop where we need to, we'll help monetize, but get the value to our customers. And if our customers have a really boutique need--And in the world of analytics, it's impossible to cater for every use case from customers. And sometimes a customer will come along with something so unique, they don't want to build it themselves, they don't want self-service analytics, but maybe one of our apps will solve that need for them. And that's essentially what we're doing here.

And maybe, along the way, we'll have a blockbuster app that sits in our eco-system for which we have--You know, partial IP ownership, or perhaps--You know, other ways of, kind of, monetizing the relationship. But if it's the next blockbuster app, then that puts us in a great place.

You know, my favorite example is, Air Table, which--You know, the space of four years, the last four years, when they were founded--You know, they're now worth \$1 billion. And what they've done, is they've simplified spreadsheets in the cloud. And they've targeted non-accountants. So, in a space of four years, they've done pretty well.

But--You know, it's the simple ideas that become blockbuster apps. And that's what we're trying to do here, is ultimately, it's about value. But through the process, it's also to get really great innovation, quickly to our customers.

Briefly, three think-tanks that we have. These are organizational bodies that we have, that no one else has. I mentioned the institute of scientific information, ISI. Steep in history, greatly respected in academia, by the means of which we evaluate research. Journal impact factor, journal citation evaluation, that--You know, it all comes from here, very unique.

The other two that we have, is the Center for Medical Research, or Center for Medicines of Research, CMR, premier bench-marking organization. We work with consortia of pharmaceutical companies, we define metrics, we conduct bench-marking, we help them to do process analysis, we help them to look for productivity. Very, very unique, in terms of what we do here.

And then, the other one is our center for innovation and regulatory sciences. It's been around for 20 years, or so, but we work with all of the leading regulatory agencies. Chinese drug authority, obviously the FDA, Korean FDA, and so forth, and we work with all of the leading health technology assessments and payer agencies. And we help them do analysis, and to drive policy

making, and reform, and strategy. So, we're extremely influential in that space, in the world of regulatory.

No one else has these. Only we have these three. That's what makes us so credible in what we do, and the offerings that we give to our customers.

Now, the question that often comes up, is--And Jeff touched on this a little earlier, from an IP perspective, is how do you guys stack up against the free stuff? There's a lot of free stuff out there. And a lot of the free stuff is based on internet search engine companies.

Now, when it comes to research, think of the typical researcher. Before a researcher gains funding and starts their research, they've got to go through this conceptualization planning stage. It's pretty high level. Naturally, they're going to use whatever's available, to help them plan at a high level. Where should they do the research? What's the probability of doing the research and getting an outcome? It's really high level.

But once they're ready to conduct the research, they're gonna only entrust their crowned jewels, in a company like ours, where they know they can rely on gold standard, unique content. And they have the tools to actually go and do that research and get the right outcomes. Great research is based on great data. That's how it typically works. And that's why they come to us.

Now, in the search area, absolutely, of course the internet search engine--You know, providers, are going to do well, because that's their core business, that's their core competency. We support all the search engines, by the way. So, that makes us pretty powerful. And we have plans to continue investing in our products, in our data, in our expertise. And that's what makes us different to all of those out there. And that's really what this chart is meant to depict and show you.

So, our growth. A few things that will help us drive growth. So, happy customers, delighted customers are really important for us. We want to move up the value chain. Naturally, with creating value for our customers, but we want high engagement with our customers, because that's what drives great solutions and great products. And that's how customers will value us. Not necessarily for solving today's problems, but helping them with tomorrow's problems, as well.

Our eco-system's important. I mentioned our app exchange, absolutely critical for us. We realize that we've got great products that we're investing in, but we're not blind to the fact that there's tremendous innovation happening out there, and we want to tap into that. And if we get one blockbuster app, I'd be very, very happy. But that's an important incremental stream for us.

Access to the data, to the content. So, we call it content as a service, we will absolutely continue to do so, because cell service analytics is absolutely critical. A lot of our large customers, they love this business model. It is data as a service. So, its subscription based, to get to the underlying data. But it's pretty powerful, in terms of flexibility for our customers.

Products, huge investment in our products. Over the last year, and we plan to continue to do so, but what we're looking to do, is drive toward peak adoption of our products. Especially, the new products. So, not about the first sale we make, or the first implementation, we want peak adoption in the markets that we operate in, both the core markets, and the adjacent markets.

So, naturally, we're embracing next generation technology and AI. Vocalization is important for us. We released a Chinese version of Cortellis earlier this year, for that market. Our plan is to continue to do so, for certain geographies that we think are important for us. We will continue to localize, not just the application, but--You know, at the data level as well.

And then, if we can accelerate our product plans to acquisition, we would do so, where it makes sense. And then expansion into adjacent markets. You know, naturally we have organic plans, we may accelerate those through acquisition, where it makes sense. And consulting is really important for us. It's a great way for us to re-purpose, re-package, and adapt things for those markets, really, really, quickly. It allows us to move quickly. And we can develop assets, that later on we can productize again. It's a great way to move quickly, in an agile way, into new areas.

So, in summary, what makes us interesting? The core markets we're in--You know, the growth markets with good, addressable opportunity. That's excluding the adjacent markets, where there's even more opportunity for us. Customers like us, we command pretty good renewal rates with our customers. Our plan is not to rest on our laurels, our plan is to create even more value for our customers.

With our products in particular, they've gone through a lot of re-design. A lot of focus on human centered experience, with our products. So, we plan to continue to do so. Designing for the end user is absolutely critical. That's how you build world-class software products. So, we'll plan to continue to do so.

Data is exceptional. Our data assets, our competency and data science, I think, speaks for itself. We'll continue to build on that, and domain expertise. And what's interesting, the business models that underpin the things that I just shared with you, allow us to be agile and flexible. And to do the things that I said, around adjacencies, and expansion, and growth, and flexibility. And this is understanding that things change. Things may change in the industry, for our customers. But we want to be able to respond to those in an agile manor, which is really what great solution providers do, which is how we look at ourselves.

And we think we're relevant. You know, if I take--You know, my favorite example of Novartis, who, over the course of the last few years, have redefined themselves. They don't call themselves a traditional pharma company. In fact, they call themselves a data sciences company, driving--You know, innovation in healthcare. Data sciences being the critical word here. And that's what I think makes us really, really important.

We're not a nice to have anymore, we're almost a component of strategy. A critical component of strategy, for companies out there, across multiple industries.

Thank you, ladies and gentlemen. I appreciate your time.

Let me (--APPLAUSE--) Let me introduce Richard Hanks, our CFO. So, he will tell you all about our business.

(LAUGHTER)

**Richard Hanks**

Okay. Thank you, Mukhtar. That was terrific.

Firstly, thank you all for being here. And spending a few hours of your time to learn more about Clarivate Analytics, and personally, a business that I'm really proud to be part of.

So, I joined Clarivate about two and a half years ago. I had, like Jeff, 20 plus years of experience in information services. So, I knew the market, I knew the operating model, I knew the go to market model, so I wanted to be part of that.

Secondly, this is my third carve out. This was particularly complex. And I wanted to be part of a team that could contribute that, because in the previous carve-outs that I've worked on, I had seen first-hand, the unleashing of the potential that a business has when it's carved out from a larger paring, which is exactly the hypothesis we had at Clarivate.

And then, I'd say, finally, the content assets that we had and the markets that we're serving, they were large, they were global, they were growing. And the assets we had, had high barriers to entry, decades of content that had been assembled, very difficult to compete against.

So, what you've heard today is, I'd classify into three separate areas. Firstly, the establishment of the two product groups led by Mukhtar on the sciences side, and Jeff on the IP side. We've gone from five separate business units, pretty siloed, separate go to market strategies, thorough infrastructure, we're now coalescing these businesses into these two product groups. We will establish scale, and we will provide a platform that we can bolt other tuck-ins, add in the future, larger transactions into that operating model.

Secondly, you've heard about this focus on streamlining and simplifying. Again, orientated around our product groups. You have seen, hopefully, earlier, the product demos that we've completed. And what we've done, is we are starting to provide evidence of wrapping a better envelope around our content assets. We knew that the assets we had were terrific, the UI and the UX that Jeff and Mukhtar described earlier, needed some work. And we're now starting to see the evidence of that come through. So, the content assets and the improved UI, UX we have, is really starting to demonstrate some improved performance.

What I'm gonna talk about, is the financials of the business. I'll start with some historical numbers. And then I'll look at some recent trading results, and then we'll look about--We'll talk about what we're gonna be doing in 2020, from a revenue--Or from a cost perspective. Then, we'll look at capital structure, and then we'll close out with guidance.

Here are some disclosures that Jerre covered earlier. I'm not going to go through them again. Moving on to the business model. Jerre covered this in one of his earlier slides--You know, we are a business information services company. We have very high levels of recurring revenue. Q3 recurring revenue was 83% of our total revenue. So, the incremental margin we derive from each incremental subscription that we make, is very, very high. So, we have this nice flow through, from incremental margin to incremental cash flow.

We have low capital intensity. Again, about 4.5%, 5% of revenue will be what we spend on capital. And we don't spend capital on iron. We spend capital on software development. So, it's human capital engineering, that is associated with our capital spend. All of our assets, all of our platforms are cloud based. Both from a product perspective, but also from a back office perspective, as well. That's where our capital is deployed. So, we have this fly wheel effect, where we have significant incremental margin, significant incremental cash flow, that we can use to either pay down debt, or apply to accretive M&A.

In terms of the revenue balance of the business, both some very nice statistics here. 56% of the revenue stream, this is Q3, is the science business, 44% is IP. In terms of waiting, 83% subscription, 17% transactional. We've said to the public markets, that we like a balance of around 85% subscription, 15% transactional. We're currently 83, 17, so we're getting there.

Transactional revenue will always be an important feature of a business information services company. What we see in the future, is a rich (INAUDIBLE) of opportunity, particularly in the professional services area, which falls in the transactional pie.

Mukhtar referenced earlier, the ISI capability we have. The institute for scientific information. We see that as being a brand that we can build a franchise around, particularly in the professional services space, serving academia. We operate at the highest levels of government, ministries of education. We operate at the highest levels of the research marketplace. And so, we know that we have significant opportunity, we have significant relevance, we have equity in that space. So, we can really drive capability in that sector. So, transactional will always be important for us.

In terms of geographical mix. We are now reporting our geographies around these three sectors, America's, Europe, Middle East, and Africa, and A Pac. 48% America's, 28% EMEA, and 24% A Pac. I would say, that over the next two to three years, would not surprise me if A Pac, or (INAUDIBLE) expectations frankly, or the A Pac will become our second largest region after the America's. why we're looking at double digit growth in A Pac, driven by China. Mukhtar referenced earlier, that 35% increase in RND spend per annum in the life sciences space, 50% of the patents and trademarks are coming out of China.

So, we're investing hard from a sales perspective, not a product perspective, around the Asia Pacific opportunity. So, we see A Pac as being our second largest region, over the next two to three years.

In terms of recent trading performance, revenue growth has been relatively muted. Managements time has been spent, 2017 and 2018, very much an internal focus, separating the business from Toms and Rioters. That was extremely important for us. It was complex. It was multi-faceted. It was global in nature. It was very complicated, and I think we did a very good job. And actually, we completed that exercise, as many of you know, six months ahead of schedule, earlier this year.

And that was quite important to us. It was somewhat precedent, in that it enabled us to complete the reverse merger with Churchill, and actually bring (INAUDIBLE) into the markets. And we did not want to have any overhang of transition services with the form of parent, so surrounding the business at the time of that transaction. So, it was very important for us to get that done quickly, and thoughtfully, and in a sophisticated way. And we did a really good job.

What we are now doing, is we're now transitioning from that internal, sort of mechanistic approach. So, really focusing on the outside world, the outside markets, providing great, great product experiences for our clients, and driving growth.

And you're starting to see, when we look at the mid-point of our guidance range for 2020, we're looking at--Sorry, 2019, I beg your pardon. 2.9% growth. So--You know, single digit growth, low, single digit growth in 17. 1.7% in 18. And then up towards 3% in 2019.

In terms of annual contract values, so as you know, we measured this as a point in time. We measure this every month. We report it publicly every quarter. And what we're looking at here, is

the annualized value of our book of business, of our subscription contracts. And you can see here, that we pretty much have sequential quarterly growth in our ACV book. You do see a bit of a down turn in the first quarter of each year. That's simply because that is the time at which our renewals are highly concentrated. 50% of our book renews in the first quarter.

So, as we are completing our renewal process, we are still negotiating some of those contracts, the end of the first quarter. And contracts are up for renewal, or open and haven't been closed, we remove from our ACV counts. That's why there's a dip in Q1 of each respective period. And then, it picks up in Q2, as those renewals get closed out.

3.9% growth in the book, at the end of the third quarter. Last Tuesday, November 5<sup>th</sup>, when we announced our Q3 earnings, we also announced the disposal of the brand protection assets, which are a part of monitor.

If we normalize our ACV growth, for the sale of those three assets, our ACV growth at the end of Q3 on a pro forma basis, was 4.4%. That's important, because you're starting to see that underlying book of business growing at over 4%. And that's important to us, because we gave a public commitment that we would grow this business exiting 2020, in the 4% to 6% growth range. So, we're starting to get up to that level for our subscription book.

Moving on to margins. Recent margins, 17, 18. You can see some compression in the margins, coming out of 17, going into 18. This is when we were building out our stand alone infrastructure that enabled us to separate from the former pairing. So, there was a significant amount of investment in that period, as we are building out our accounting functions, our tax functions, all of the IT back office, moving all of our assets out of Toms and Rioter data centers. From a product and back office perspective, into AWS, so that was the reason for the compression, 17 into 18, and margins of around 29%.

What you're starting to see now, is frankly, relentless. Relentless execution around the optimization of the assets that we now have. So, you'll see now, the margins are starting to pick up. 30% margins, mid-point for 2019, and we'll articulate later on, our margins expectations for 2020.

Okay. So, carve out's behind us, reverse mergers behind us, we're now in the public markets. We're now transitioning very quickly into that external focus and driving growth.

So, we're starting to see the early signs of this Q1 growth, 2.1%. Just remember, in 2017, the business grew up 0.7%. So, 2% growth in Q1. 2.5% growth in Q2, 3.6% growth in Q3. If we normalize Q3 again, pro forma for the sale of the (INAUDIBLE) brand assets, growth is 4.1% in Q3, on a constant currency basis.

In Q2, we had a good quarter, from a subscription point of view. Subscription growth was 4.9%, let's call it 5% growth in subscriptions in Q2. However, transactional growth was negative. Transactional growth was -8%. But what we said on the earnings call, was that as a management team, we saw some really good signs in the second half of the year, in terms of improving performance from transactional revenue.

What we reported in Q3, 2% subscription growth, mainly because we completed renewals earlier in the year. So, growth, year on year, compared to prior year, was a bit slacker. But we recorded and reported 11% transactional growth. So, we started to deliver the commitments we made in Q2, where we saw improved transactional performance in the second half of the year.

That was driven by text street, partly timing, we had some new standards that came to market in Q3. So, we got a lift from that.

We had a new relationship with standards Australia, which we entered into in July, again for the text street business. We think that's gonna be a good revenue generator for us in 2020. And also, we had some good delivery, and professional services in the life sciences space. So, those are the major contributors to the improved revenue performance in Q3.

So, you're starting to see us tick up, 2% Q1, 2.5% Q2, just over 4% Q3 on a normalized basis, getting to that exit 2020 commitment of 4% to 6% revenue growth. Margins, 25% in Q1, we were just rounding out the closure of our TSAs. Rounding out, framing out--Rounding out the completion of the carve out from the former parent. Then, we saw margins of 30%, 30.2% in Q2. So, a nice, nice pick up in Q2. 31.7% in Q3.

If we normalize Q3, again for the brand protection assets we sold, about 150 basis points improvement in the Q3 results. X for the brand protection businesses. So, we're on that trajectory of improving margins. And you will see that continue quarter over quarter, as we optimize the platforms, optimize our cost space, and get the revenue growth line continuing to improve.

This is what we're doing in terms of 2020. These are some of the drivers that we've articulated to many of you before. I break it up into two sections. The first three bubbles, UI, UX retention rate pricing. Those are all around the product. The product improvements we're making. Then, the final three around what we're doing, from a front office perspective. Improved UI, UX will lead to high retention rates, will result in higher price yields. Particularly, for our subscription book of business.

Our retention rate, through Q3 year to date, just under 91%. 90.6%, so just under 91%. Stripping out the brand protection assets, retention rates 92%. We consider best in class, to be 95%. So, the improvements we're making in the product, we have our sights clearly set on getting our retention rates up to the 95% level. Some of our products already have that today. Particularly in the Weber Science space, where we publicly stated renewal rates are around 95%. What we have to do, is we have to bring up the rest of the portfolio, up to that level, which we will do.

Pricing, 2.1% average yield. We mentioned that earlier in the presentation. We're looking for 100 basis points improvement in pricing in 2020. So, getting price yields up to 3.1%, 3.2% actually achieved in the marketplace.

So, that's what we're doing from a product perspective. Feeding into retention rates and pricing. In terms of the front office, we mentioned earlier, the three senses of excellence for inside sales. We have a, sort of, very nominal inside sales capability today. We have this very long tail of customers that is uniquely positioned to be supported by an inside sales organization. We'll have more touch points with customers, we'll have better pricing, and we'll get better retention rates, simply by touching those customers through an inside sales model more frequently.

America's based in Arizona, and then the inside sales team for Europe, based out of the UK, based out of London, and then we'll have an inside sales capability in Asia, as well.

Consulting I've already spoken about. We're investing heavily behind life sciences and the Weber Science capabilities. There's a rich vein of revenue for us there. and then, on the

Salesforce side, actually in the account management teams, investing there to drive growth. Again, particularly in Asia, where there is significant market opportunity. And as Mukhtar referenced earlier, significant white space for us.

This is all focused on getting us to that commitment of 4% to 6% revenue growth, sustained revenue growth exiting 2020.

So, that's what we're doing from our revenue respective.

In terms of margins and costs, these are the drivers that we articulated last week. Starting with headcount optimization, we started that programming Q4 and Q4 this year, that will run through the earlier quarters of 2020. Facilities optimization, we have a relatively large footprint. We're halving that, we're going from 60 locations, down to approximately 30, and really building scale in certain centers.

Insourcing of application development, this was really surprising to me. When I joined the business, a couple of years ago. You know, 50% of our application development was done by contractors. I'd never seen that before. As Randy referenced earlier, we would expect that to be about 10% max. Max, 10%, to afford us with (INAUDIBLE) capacity.

So, interestingly, we're insourcing that work into our best cost centers. Particularly in Bangalore in India, where we've lit up a new site, and we're gonna do knowledge transfer, from our third party contractors, and bring that work in house.

They'll be cost advantages with doing that, and I am absolutely convinced there will be significant, significant productivity improvements as well, by bringing that under our own custodianship.

Another surprise, to me, having been in the content space for many, many years, was around artificial intelligence and machine learning. Or the absence of, at Clarivate. So, I started working with AI and ML 15 years ago. And became very familiar with the way that the technology learns, and gets better and better, from a content perspective, as you pump more assets and more content through it.

So, with project singularity, which we will complete by middle of 2020, we are re-platforming all of our contents ingestion systems, and reduce our dependency upon human capital. Because so much of this work today, is done by our human curators. Particularly, in India and in Spain. So, they'll be significant cost savings by adding robots and adding AI to that capability.

And then, finally, and not surprisingly--You know, the basic stuff around vendor actualization and vendor renegotiation, which you'd expect any company that's involved in a cost optimization program to be very, very focused on, which we are.

So, those are the drivers we have in 2020, to get our margins up into that 35% to 38% exit range, exiting 2020.

These are the outcomes that we are committing to for next year. Jerre referenced earlier, the exit rate cash savings, for 2020, are between \$70 and \$75 million dollars. In period, op ex savings are between \$35 and \$40 million dollars. And one time cost to implement, straggling the end of 2019, through 2020, and going to 2021 of approximately \$60 million dollars.

So, \$35 to \$40 million in period savings, next year. And some attractive savings exiting 2020 that will drive our margins further up in 2021, as we complete the program.

This is a slide that we like, just for (INAUDIBLE), in terms of the margin accretion, based on improvement we will see based upon, on the y-axis cost growth, and on the x-axis revenue growth. Now, with the cost savings program, it's not surprising that we're gonna be operating in the very low single digit cost growth range, in 2020 and 2021. And with revenue growth that you've seen, was most recently start to tick up, as we get into the 4%, 5%, 6% revenue growth range, on a sustainable basis, we'll see 200 basis points improvement in margin, each year based upon those metrics. Particularly, in 2020 and 2021, when we are harvesting all the optimization programs that we are engaged in.

Moving on to free cash flow. So, starting with a walk from adjusted EBITDA, on the left, through to free cash flow on the right. Starting with adjusted EBITDA and percentage in terms of 100% capital expenses, 5%, 4.5% to 5% of revenue. That's a 17% deduct on free cash flow. Interest expense, 23%. That will run about \$78 to \$80 million dollars on a pro forma basis, sitting here today, to \$18 million dollars off the cash interest cost. With a recent refiner, that's 23% deduct on adjusted EBITDA. That's why it's important for us to get our leverage down through accretive cash flow. Get our debt paid down and start to pinch the cash interest burden on the business. So, we get our free cash flow up into the 70% range, going forward.

Cash taxes, you can almost take that to--You know, that's very, very clear. The guidance we've given there. \$25 million dollars per year, in cash tax expenses for the foreseeable future. We have significant tax shields, that enable us to ensure that that cash tax expense is kept at that modest level.

And then, given our deferred revenue model, and the fact that we invoice our customers, to some degree, annually in advance. Some of them are quarterly, but a lot of the book of business is annually, in advance. We have a positive contribution from working capital each year, about 7%. So, that's the bridge from adjusted EBITDA, to free cash flows. So, 60% free cash flow, on a normalized basis.

Looking at capital strategy and return, we have done a lot. I mean, just putting aside the carve out. Most recently, we negotiated the buyout of the TRA, the tax receivable agreement, for \$200 million dollars. Now, that was important because the cash payments we would have to make for the value of the shields that we had to the shareholders, was north of \$500 million dollars. Now, if we were to pay that \$500 million dollars over many, many, many years, \$30 million dollars a year for the foreseeable future. So, settling that obligation for \$200 million dollars was really important for us.

Secondly, we completed the secondary offering, beginning of September, put about 40 million shares, approximately 40 million shares into the public markets. Increased the flow to 35%, and reduced PE ownership from just over 70% to 58%. So, starting to get some more liquidity into the stock. And then, as I mentioned earlier, we completed the refi. We were delighted with the outcome there.

For B-B2 rated debt, we completed a--You know, from a secured bond perspective, we got the best coupon in history, on \$700 million dollars of debt that we raised. So, 4.5% fixed coupon on that arrangement. And we also extended our maturity to seven years. In addition, we had a \$250 million, we had a bit of an increase in the revolver. We took the revolver of the \$250 million to give us some dry powder. Obviously, it remains undrawn.

In terms of our capital philosophy, as we generate free cash flow, we're gonna be applying some of that cash to the business transformation. You know, the platform investments, the cost optimization program that I've described, and funding that program. At least in the short-term, so we get the cost out of the business, and get margins up to the level that they should be at, exiting 2020.

We'll allocate cash to reduce leverage. And of course, we'll continue with tuck-in acquisitions. We've completed four so far, the most recent one being sequence based, which was in our IP space. Attractive asset, nice content, proprietary content, global application. So, it's those types of deals, proprietary basis, have global application that we can push through our platform that we are very attracted to.

And then, as appropriate--You know, scaled, well-timed acquisitions that can really move the needle, from a revenue in an EBITDA perspective once we've ingested the asset and executed appropriate integration.

So, that's how we're going to apply our capital in the--Over the medium term.

In terms of balance sheet, we have a very simple balance sheet. \$3.65 billion dollars of assets, but that's dominated by intangibles and good wealth. \$3.1 billion dollars of intangibles and good will at the end of Q3.

On the liability side, we have \$2.23 billion dollars of liabilities. \$1.3 billion of debt, that's obviously going to increase with the refi that we completed in October. As we allow ourselves to pay down the taxes (INAUDIBLE) here, of \$264 million dollars. So, we're paying \$200 million dollars to settle a book liability of \$254 million. But I think what's really important, is that we've removed the overhang of that gross cash out flow of around \$500 million dollars over several, several years.

We've got that off the books. And we've now relieved that liability. So, you'll see in our Q4 balance sheet, that liability will be removed. And the difference between the \$264 million in liability and the \$200 million payment, that \$64 million dollars will flow through equity in Q4. In terms of leverage, net leverage, 3.8 times at the end of Q3. That will go up to 4.6 times on a pro forma basis, now that we've completed the refinancing.

Question we often get, is dilution. So, what we have illustrated in previous meetings, is a ladder. How does dilution change, as the start price appreciates? So, we start here, with a start price of 16.87, which was our price at the end of Q3, September 30<sup>th</sup>. And on a fully diluted basis, we have \$330 million shares. \$306 million in issue, fully diluted \$330 million. Management options, dilution for public warrants, and some dilution from private warrants.

And then, you can see how the ladder progresses, 18, 19, 20 a share. Well, I think what's really important here, is that yes, there is 4% dilution as we go up the ladder, but the 16% accretion in value to shareholders are associated with those mechanics.

We also have a call option, of \$18 dollars a share, with a public warrant. So, when we're trading for 20 days in a 30 day consecutive period, we have a call option for the warrants. So, that's a decision that we'll be making in the future when we're trading at that level, in terms of how much of those public warrants do we call and use cash for potential deleveraging, or MNA. So, that's an important feature of our stock structure.

Moving on to guidance. Jerre covered this earlier. We show 2019 with mart monitor, with the brand protection assets that we have announced the sale of. We expect that divestiture to be completed by the end of Q4. But on a--On including those assets, you can see the revenue range here, that we set at the beginning of this year, which we haven't changed. 962 to 995, and in revenue 290 to 310 on EBITDA.

We've shown here, the pro forma effect on an annual basis, or removing the mart monitor assets, the brand protection assets. So, we removed \$55 million dollars of revenue from the high-low range. We haven't changed EBITDA, and we've increased free cash flow by \$8 million dollars, to \$119 million dollars on an adjusted basis for 2019.

Moving to 2020. Obviously, excluding the brand protection assets, we're looking at revenue growth of 2.8% to 5%. So, 3% to 5% growth for 2020. Again, very focused on that exit rate growth of 4% to 6% coming out of 2020, going into 2021. EBITDA, \$330 to \$350 million. That, obviously, includes the up-right, the operational benefit from the cost savings programs.

Margins are between 35% and 36%. Again, very focused on our exit rate commitments of 35% to 38% coming out of 20, going into 2021. And on adjusted free-cash flow basis, excluding one-time costs, free cash flow of \$195 to \$210 million dollars for 2020. So, those are our guidance ranges that we are communicating to you today, for next year.

Wrapping up. Clarivate has a noble purpose. We believe human ingenuity can transform the world and improve our future. We also are highly confident that it can become a very profitable purpose, as well. Thank you.

### **Jerre**

Good Job. (APPLAUSE) Come on up, team. Thank you. So, what we'll do now, is open up for Q&A. I think, if anybody has--There should be mics back here. I'll get my team up here, maybe, if they don't get hurt, of the chairs. (LAUGHTER)

First question. Please. That's you, my friend.

### **Unknown Speaker**

Is there a mic?

Jerre

There's a mic there. You could toss it to him, what do you think? (LAUGHTER)

### **Unknown Speaker**

Hi, thank you. It's (INAUDIBLE) from Stifel. I'm gonna focus this first one on Randy.

Randy, can you talk a little bit, on the technology side, where are you on AWS, are the products just cloud-enabled, or how much of it is cloud--You know, is just being cloud supported? How much are cloud native?

And then, where are you, in terms of hiring data scientists--You know, can you talk about how many you've got, where are you in the plan, a lot of the companies that are info services companies are spending a decent amount of money finding the right info service, or data science people and they're not easy to come by.

**Randy Harvey**

Yeah. No. So, to answer the first question. On the AWS, if you think about it, the migration from our existing platforms, a lot of it was a lift in shift, what we call a lift in shift. So, we've moved the applications as they were written over on to AWS. We have a number that we have cloud enabled and will continue to cloud enable them. And what cloud enabling really buys you, is the ability to auto provision. Now, having--and auto scale.

Now, having said that, we are leveraging some of the AWS capabilities, in terms of moving from your more traditional databases, to RDS is an example, Arora, those types of databases, that are less expensive and sit on those platforms where leveraging some of their analytics and visualization tools that they have out there. quick site is an example.

Having said that, at the same time, we're trying to be somewhat agnostic. And what I mean by that is, the beauty of a cloud is, they give you all kinds of tools. The concern with the cloud, is that you get too embedded in those tools. So, as an example, there's a--You may have heard of this solution set, called Kubernetes, it's an orchestration service, it allows you to orchestrate. We're starting to implement Kubernetes across the platforms. We're starting to containerize parts of the platforms as well.

All of that will lead to more efficiency and more effectiveness and how we use the cloud. But we do have a way to go on that. Because the initial, it was basically, lifting shift out of that.

In terms of data scientists, we have a significant presence of data scientists in San Francisco. We're also starting to hire in a couple other locations. One of them is going to be Bangalore, because you can get, obviously, more cost effective data scientists there.

And then, to just balance it out, within the groups, the groups are also the business units also have a small congregative data scientist that work on specific projects for them on the consulting side. So, all of that is really targeted towards what needs to be developed and what needs to be delivered. But we do have a pretty good, large presence in data science. We'll continue to expand that as we hit the milestones we have, for the growth and the cost savings.

**Jerre Stead**

Next question. Please

**Unknown Speaker**

Hi, this is (INAUDIBLE) with William Blair. Just had a question on the professional services business, or the consulting business in the science group that you talked about a few times. Just wondering, how big a part of the business is that now?

What kind of opportunity do you see that as being in the future? And then, maybe, just as an example, of how that looks in practice.

**Jerre Stead**

I'll start and have Mukhtar pick up on it because it's a really good question. We made the mistake on a historical basis, where we tried to force the last three years, conversion of getting to 85% annual subscription base, at the expense of doing the kind of consulting work we need to.

So, what it will do, is pull through, actually a lot, as Mukhtar described it. If you would think about our--I guess we really didn't talk about that today, but 85% would be perfect. Annual

subscription base would be 15%. Probably, that 15%, the consulting or services, would be 8% to 9%.

And Mukhtar, give them a couple of good examples.

**Mukhtar Ahmed**

Sure

**Jerre Stead**

Because Jeff's gonna do the same thing.

**Mukhtar Ahmed**

Yeah. No. I think the ratio is, as you mentioned are fine. But I think the key thing here, is good services and good consulting pulls product through, as well. And that's a reason why we need to, kind of, move up the value chain, as I said earlier. And really help our customers develop and meet some of their pain points.

So, as an example. You know, with one particular pharmaceutical company, they want us to come in, take some of their discovery data, their own proprietary discovery data and apply our tools and expertise to the discovery data, to help them do some modeling. Some unique modeling. And to build some predictive capabilities around that data. So, that's an example of what we're doing with our customers.

There's another example, where we have another--Actually, it's a biotechnology company, and they want us to work with a couple of their parties to look at how to improve parts of their manufacturing life cycle. And that's exclusively working with them on their supply chain data. Again, applying all of the tools and expertise we have to--What is the different use case, it doesn't mean that we have the data, but we're actually looking at their data as data experts. So, we plan to do more of that.

**Jerre Stead**

Great question. Next question. We can't--Oh, good. (CROSSTALK) Let's go over there, and then I'll be back to you.

**Unknown Speaker**

I saw the copy mark assets that you sold, I think the revenue is \$55 million, it looked like EBITDA was 0. Is that the right way to think about that business?

And then--

**Jerre Stead**

Yeah.

**Unknown Speaker**

Any proceeds that you received, that's just focused on deleverage?

**Randy Harvey**

It wasn't (INAUDIBLE)

**Unknown Speaker**

Heard. Sorry. (CROSSTALK)

**Mukhtar Ahmed**

Yeah. You've got it right. I mean, very low margin business. And absorbed capital as well. Relatively capital intensive.

**Jerre Stead**

Great comment. Next question. Here we go, right here. Yeah.

**Mark Larry**

Hi. Mark Larry, Sandhill Investment Management. Wondering if perhaps Richard, or maybe Jerre, as well. Just want to get, perhaps a little bit more detail on the debt pay down, given that you are, will be above five times. A lot of talk about adjacencies and expanding it to new markets. So--You know, wondering if you might be able to share some more thoughts on the debt pay down.

**Jerre Stead**

I'll start. The expansion to new markets is all covered, plus some insight, the EBITDA we're talking about. Just so we're square. But great question.

If you've follow me historically, I was always below three times trailing. We went up to four, for maybe three of the acquisitions we made and then we're back down within a year. In this world, today, I'm comfortable at 3.5 to 4, particularly where we locked up the (INAUDIBLE), which is great shape. But we want to get down.

What Richard mentioned, which is important, once we're north of 18, for 20 out of 30 days, that's worth \$380 million dollars, if we exercise and take in the cash for those warrants. As you probably saw, that would be a 12.5 billion dilution, at that level. We'd use that to take down the debt quickly. So, that would move. And then, think about the \$210 million of free cash flow, adjusted free cash flow.

You should be thinking about that in 21 and 22 at well north of 300. So, we want to get that down, but that still gives us room to do the tuck-ins we're talking about. Some of the larger ones, which happen to be divisions of other companies, but they're not focused on the business like we are. If we did that, we--If it was accretive, if you remember, we would use equity. And I've never used equity, unless it was accretive into end of year one. We would use that to get the scale, but it's a great question.

So, one, we want to get the debt down where we're comfortable, but still have room to do what we talked about.

Great question. Thank you. Sorry, right back here.

**Unknown Speaker**

(INAUDIBLE) clarify the--Jerre, you said, incremental EBITDA margins are between 75% and 85%, is that right?

**Richard Hanks**

No. We said that--I mean, in the model we have there, on that matrix we were saying 85% flow through. That's just (INAUDIBLE) purposes. But the incremental margin, we have on subscription revenue, very, very high. We have to pay some commissions, and that's about it. so, it's in that 85% range.

**Jerre Stead**

Actually, north of there. (CROSSTALK)

**Richard Hanks**

90% plus.

**Jerre Stead**

Great question. Thank you. There's one coming in?

**Unknown Speaker**

Yes. We have a question coming in from our webcast audience. What is the customer facing synergies for academic or publishing sectors that you see in merging together the science businesses?

**Jerre Stead**

Mukhtar, that sounds like a good one for you.

**Mukhtar Ahmed**

So, what was that? The academic synergies? Could you repeat the question?

**Unknown Speaker**

I will. What is the customer facing synergies for academic or publishing sectors that you see in merging together the science's businesses?

**Mukhtar Ahmed**

Okay. So, I think, it's automating a lot of the traditional processes that have been employed by publishers. And just by virtue of automating them, by applying data sciences, and AI, and connecting those to the source, which is with a researcher because then, it's going to yield more efficiency. It's going to drive more collaboration. And when that occurs, then the outcome is going to be better, which is not just from a research outcome, but it's going to be more efficient and more effective.

**Jerre Stead**

Thank you. Next question. Someone.

**Unknown Speaker**

Jerre, you just threw out a number of thinking about \$300 million of free cash flow in 21, 22, and I guess, I'm looking at that as build. Is that will free cash flow, is that adjusted free cash flow? There's like an adjusted free cash flow guidance, seems like 20, for \$195 to \$210, but about \$37 million or so are one-time costs, from--You know, the TRA that's going away. What else might be in there? In other words, how much of that, when you think forward, would be going down--straight to the bank.

And the other question is, 21 and 22, should I think 21 or should I think 22?

**Jerre Stead**

21 and 22. What my point is--It's a good question. Let me tell you my personal goal, and I've done this for a long time. I believe we'll exit 23, latest at \$1.5 billion and half dollars. This is my goal. I'm not giving you guidance.

We'll exit north of \$1.5 billion. We should be growing this, 9% to 10% organically. That's one of the reasons we were so eager to get you all together today. When you see what our potential is.

Point one. And so, that's important. Point two, I think this is a 42% to 43% EBITDA business. We'll exit 2020 at 38%. If you think about growing at 5% organically, that generates \$250 basis points a year. So, we're gonna be well into the 40's. And that will happen in 21 and 22. And it will grow from there.

And then, think about us driving down, especially using the cash from the use of trading the warrants out. That will drive down the debt a bunch. And that takes straight into. That will take straight interest out.

So, think about us then, moving to 70%, 65% to 70% of free cash flow. So, my personal goal for you all, is we'd be a billion and a half. We'd be 42%, 43% adjusted EBITDA. You do the math, it's 650, you get 70%. And then you'll see us at 450 in four years or five years. That's my personal goal.

Think about what we will do in 21 and 22, because those will be clean as a whistle. Yeah. Real free cash flow. Great question.

By the way, when I said those, back--Jane and I were laughing the other day, when I gave those personal goals at IHS, nobody believed me. We beat them.

My favorite story, just so you know my history. When I got to Ingram Micro, who was an \$8 billion business. I said we'd be at a \$31 billion business in four and a half years and we beat them.

So, you choose what you want to choose. But my belief is, this is the best single business I've ever been part of. And with this team, that I love, here. We'll make that happen. This one is right to deliver. That's personal goals. Jane won't let me--I used to put them up on my wall. I can't do that anymore, but that's a personal goal. Great question. Next.

Others? Another one? Good.

### **Unknown Speaker**

Another question from our webcast. When can you get your stated annual pricing growth at 3.1% expected in 2020, to a sustained 5%?

### **Richard Hanks**

Yeah. So, I've got--Yeah. As we said on the presentation, 3.1% for 2020. We need to see our retention rates come up from 92% to 95%. I think when we're at that level, we can go on an absolute--go on a 5% price increases. Got to see the renewal rates go up to that level first.

### **Jerre Stead**

Next question. You're on a roll. That's alright.

### **Unknown Speaker**

An incentive comp. And we haven't seen an incentive comp structure for the whole company yet. And how should we think of that? I know you have Jane working on that, but--You know, as part of the dilution thoughts, and people are getting in there, how should we think about incentive comps?

**Jerre Stead**

Great question. From an equity standpoint, the most we would allocate it is 1% a year, of outstanding sharers, and we'd cover that with buy backs. So, that's the way to think about it.

And my hope is, that we would end up doing the same thing, which pays back 100 times, is provide the opportunity for every colleague, full time, on customer delight, some sharers each year. We did that--I test for 12 out of 12 years. That will significantly, by the way when we do that, and again, that'd be inside the 1% maximum allocation of equity a year. That, when we did that, we reduced our turnover in India, Poland, every place, under 4%.

So, the trade-off is good. But those are all at risk. Those are not granted, unless we meet or exceed our customer delight. When you meet or exceed your customer delight, that helps drive the organic growth, well north of 5%, 6%. Great question. That's subject to board approval, obviously.

What I'm gonna do then, is one, thank the team very much. Great job. (APPLAUSE)

Two, is thank all of you, a lot, for being here today. It's been a heavy day, a busy day. This is an amazing company. As I said, the opportunity to do what we're doing and have fun doing it, is here. Three, we'll do our very best to keep you all posted as we move forward. And four, just remember, the beauty of the system, is it provides free cash flow when it's executed well better than any other system in the world.

And the last slide, I think it should be up, would be--Actually, that's it, apparently. (LAUGHTER)  
There it is. Just remember what we've set out to do. And that--You can pick that chart up with all the others, as we said, that went online. So, I thank you very, very much. This is a fun time.  
Good luck, everybody. Thank you. (APPLAUSE)