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PRESENTATION

Brandon Couillard *- Jefferies - Analyst*

Good afternoon, everybody. Welcome to Jefferies 2020 Virtual Global Healthcare Conference. I'm Brandon Couillard. I cover the life science tools and diagnostic sector, here at the firm, we're very happy to have Fluidigm with us back at the conference this year. And here to give us an update on what's going on, CEO, Chris Linthwaite. Chris?

Chris Linthwaite *- Fluidigm Corporation - CEO*

Thank you, Brandon, and thank you to Jefferies for including us in the 2020 Virtual Healthcare Conference, looking forward to this new milestone of conference approaches.

I'm just going to jump right into the Fluidigm Corporation story. So, you guys can track, as it's always the first test. Let's see. Okay.

So, of course, the presentation, we'll be making some forward-looking statements. For full disclosure of our forward-looking statements, please reference the Fluidigm website under the Investor Relations section. There will be also some non-GAAP financial information will be shared towards the end and use of trademarks.

The story of Fluidigm is really about improving life through comprehensive health insight. And what we mean by that is really capturing three elements, one, harnessing technologies to discover new insights into health and disease; second, to identify meaningful new biomarkers; and third, to accelerate the development of more impactful therapies, all within our goal towards improving life itself.

From an investment highlights perspective, there are really six major takeaways. So, first, we have a market-leading mass cytometry franchise but as a consumables-rich portfolio that's been accelerating in its growth over the last number of years.

The second is that we're a leader in the high-growth underpenetrated more than $3 billion immunome market, which is something that we believe is a unique insight. It combines both the genomics market and the proteomics market in a novel way to look at multiple signatures, biological signatures, in a novel way to unlock the full power of the insights of the immune system.

We're well-positioned to benefit from tailwinds in addition to the immuno-oncology market to new tailwinds in the global -- the battle on infectious disease, which is highlighted today by the war on COVID-19 but it really writs large against our entire global pandemic preparation, and other infectious diseases. We think we'll have a nice new durable market segment that we are poised to enter in the large way.

We're demonstrating clinical research and real-world utility that's driving continued adoption. And we're -- in the last update, we have more than 70 clinical trials that we're participating in and there are now more than a thousand publications, many types of clinical research that's deploying our technology.

All of this is gearing to drive utilization and accelerating consumables pull through. Our basic business model is instrument placements with recurring revenue streams coming from captive consumables and services associated with those instrument placements.

And couple with that operational efficiencies and a long-term focus on sustained revenue growth. And like we believe we can accelerate into the mid-teens based upon the addressable market segments with the potential to have accelerating growth beyond that to sustain our fair participation,

right to participate looking at about mid-teens revenue growth. So, our eye is on balancing operational efficiencies but not at the expense of long-term revenue growth.

We're the leading provider of indispensable tools and consumables with harnessing the power of intellectual power of more than 550 employees worldwide. Last year, we generated $117 million annual revenue. We have attractive margins, both on a GAAP and a non-GAAP basis.

We're headquartered in California, just outside of San Francisco and South San Francisco with manufacturing and research and development operations in Singapore and in Toronto -- in the greater Toronto area in Ontario province of Canada.

More than a thousand mass cytometry publications alone. We've been seeing strong double-digit growth in those cytometry publications over the last few years and all this is based upon or the foundation is more than 670 issued or pending patents worldwide.

The difference in the Fluidigm story is I think we've really seen a unique opportunity to harness insights related to the immune system and those insights for the immune system, say, for instance, immune response and immune monitoring, really weave a narrative through hundreds of various categories of diseases, those include the classics we might associate with immune response such as autoimmune disorders, chronic inflammatory conditions, oncology, and very notable, an apropos or contemporaneous is our impact on infections disease, including vaccine response. And so, we'll also touch on that later in the presentation.

But you can see that there is a huge optionality for new market verticals, all thread together through an understanding and deploying of durable solutions for measuring immune response and characterizing the immune system in the immunome in its entirety.

We straddle two very large markets on one side, the proteomics tools market, which is greater than $9 billion; and on the other side is the genomics market or genomics tools market, classic tools market, which also is approximately about $9 billion. Both of those markets are growing in the high single digits over a long period of time.

But what we do is we've crossed over the intersection, a Venn diagram of which we have camps in both genomics tool space and the proteomics space. And partially that's because our technology staff or technology platform enables detection in both the genomics space as well as in proteomics, so what's classically characterized as our microfluidics technology has historically been genomics but it's also increasingly -- increasing in its exposure to biomarker discovery and protein based biomarker discovery.

Similarly, our mass cytometry technology has the ability to measure not just proteins but also to measure RNA signatures. So, we stick with this confluence of technologies that's really unlocking the full power of the immunome, the immunome being a $3 billion addressable market opportunity, which is partially genomics, partially proteomics, and growing at a rate of more than 14% per year.

The current Fluidigm market size is approximately $3.6 billion. So, that's a combination of heavy exposure in the genomic space or classic exposure in the historic genomics space and the proteomics space. And when you drill down to the immunome portion of that, the immunome market, Fluidigm has a value proposition to serve about $1 billion of the addressable market in the immunome space alone.

The overall markets that Fluidigm has a -- or has a higher exposure to is about 12% growth on a per annum basis. And the immunome market, we think, is growing at about 50% higher rate than the core underlying markets that Fluidigm services today.

So, we see the immunome and the total addressable opportunities for the immunome market for Fluidigm to have the potential to be as large as $6 billion as we move to the -- through the decade. And the overall addressable market for the Fluidigm technology platforms to exceed $10 billion in the measurement period.

Fluidigm harnesses fundamentally two core technologies. One of those is a technology we call CyTOF. The second is microfluidics space technology. On the CyTOF side, what we've done is we have enabled the ability to using rare earth metals to assign very specific analytical channels of measurement that enable you to look at many simultaneous signatures in both a qualitative and highly quantitative basis.

And so, there's a lot of features and benefits associated with that, but that's the core of our technology and it's focused on biological-based questions. We deployed in suspension. So, analogous to a flow cytometry type model but using the advantages of the CyTOF technology as well as an imaging application, high content, high parameter, high measurement intensity imaging.

The second is microfluidics. And so, microfluidics is about harnessing the power miniaturization and automation, reducing the amount of reagents that are required and then ability to massively parallel -- parallelize the analysis of many different assays or questions with many different samples simultaneously.

And so, we'll talk about that in a COVID context in a few minutes. We're capturing this chip, harnessing the power of the chip in a way to make thousands of measurements simultaneously on every single experiment on a chip that's cartridge size or just about the size of 96 or 384-well conventional plate. All these are used in various features and formats for defining the immunome.

So, let's turn a little bit to some of the contemporaneous things that are in the news today. There's a large fast growing market opportunity that's emerged centered on COVID-19, a market opportunity that has far surpassed perhaps even the numbers we are talking about in our classical market opportunities in genomics and proteomics in the immunome space, which has been catalyzed by a series of well-documented things in the public domain right now.

From our perspective, there are multiple questions that need to be addressed, all which are relevant to Fluidigm value propositions. So, working from left to right. In the diagnostics and surveillance space, we see that there's a need for throughput that requires millions of tests a day worldwide.

In the United States alone, in the back half of this year, those national targets to enable as much as 50 million tests to be processed per month. That's going to require a scale -- a factorial scale increase in the amount of capacity and ability to process timely tests to get answers within 24-hour period to people around the world.

We have -- we need a robust and a cost efficient platform for unlocking at least more than 50 million tests just in the United States alone in the fall and they need the ability to eliminate the complexity of the first generation test that came out and they need to be increasingly able to support more diverse sample types beyond the classic nasopharyngeal swabs that the first generation test that was authorized.

And finally, we need to simplify. We need to eliminate key steps of waste in the process that both consume time and expense in delivering these timely results. And so, areas like elimination extraction and extraction-based chemistries and secondarily to further automate the processing of these massive numbers of samples that need to be, again, analyzed in a very timely period.

Over the longer term, we think there's opportunities with Fluidigm and others to integrate new pathogens and broaden screening to the entire population to move beyond purely disease and symptomatic, to move into broad-based surveillance programs that could potentially transform the way that we look at infectious disease and do preventative care and durable population monitoring and elimination of hotspots.

On the other side of the equation is immune profiling. So, we see a vast opportunity in the immune space, a need to characterize immune response, to understand the durability of that immune response to understand the durability of that immune response and to conduct longitudinal studies of the population to understand how the virus has impacted and activated the immune system and what other impacts that leads to over a longer measurement period.

Second is there's a need to stratify the population response. So, while there are some subpopulations having a stronger antibody reaction in the so called cytokine storm, while others being asymptomatic but are massive spreaders of the virus to -- without being symptomatic and then what's happening in the background, what's unique about their immune system response and by uncovering that that identifies novel or new biomarkers that can be used for assessing patient health. And additionally, it can also be genomics targets identified, further improving our virus diagnostics and surveillance tools on the DNA and RNA side, the RNA side in this case.

Third, there's a need to support more vaccine and therapy development. There are hundreds of these programs that are being rushed right now against incredible timelines, all of which need tools to assess the vaccine, both in terms of efficacy and effectiveness, and what is the impact on

the immune system and as well as there are tools and there has already been publications of mass cytometry technology on measuring or assessing therapy developments or therapy applications and what are the impact on patients in those early therapies that are being accelerated to deployment of hospital setting.

Over the long term, we think there's an opportunity to develop toolkits for future pathogen outbreaks that help further create a durable approach to measuring immune response during longitudinal studies, setting standards that help us mobilize as new viruses or pathogens appear in the future.

So continue on to the SARS-CoV-2 tests, we see we're advancing on multiple fronts. And so, this is primarily tied to the microfluidics portfolio in this portion of the discussion. There are four basic vectors of advanced or avenues of advance that we're pursuing.

One is throughput and accelerating throughput, so our systems today and we'll talk about the solutions in a moment, has more than 4,000 to as much as 6,000 tests per day that can be processed. And we think there are opportunities here to further headroom on accelerating throughput on the platform.

Eliminating RNA extraction is another program in and of itself. So, that's another we think important advancement, we can certainly support RNA-based extraction -- or extraction-based approaches as well as we think providing a very novel approach to doing this on extraction free basis.

Third, there's a need to develop novel sample introductory, whether it's through nasopharyngeal or it's through anterior pharyngeal swabs or through saliva-based approaches and other sample substrates for collection and to be able to process all those, again, capturing throughput, RNA extraction approaches, et cetera.

And then finally, the need to be flexible, the ability to flex to new assays that may be developed, new strains that may start to circulate in the population and to start to contemplate the need to evaluate populations that may present symptomatically but with very similar comorbidities but in fact they have a different strain or different virus or pathogen in the background. So, we see opportunities across this entire spectrum to advance Fluidigm technologies.

So, we'll talk just to touch on the Fluidigm approach today. So, what -- suddenly, I've been using this analogue around the hub and spoke. So, at the hub or the core is the Biomark HD, which enables PCR -- quantitative PCR and digital PCR-based analyses and what we call the Juno platform, which does library prep or sample automation to be prepared introduced into either a real-time PCR instrument, in our case, the Biomark HD or into a sequencing platform.

Our workflow from a COVID-based testing is Juno plus Biomark. And we coupled that with our IFCs, our integrated fluidics circuits, that sit in the center of this. And the showcased platform for this is what we call our 192.24 Dynamic Array IFC. In this case, we have 192 different inlets that allow you to titrate and our automated system allow you to introduce 192 different patient samples and then interrogate up to 24 using those assay inlets, 24 separate questions that you want to ask biologically.

So, this provides an incredible amount of throughput per experiment, an incredible amount of data, all massively done in parallel in this data generation process. So, it's creating really unprecedented throughput capabilities, all oriented on the COVID challenge today. And then we couple that with the reagent kits that help prepare the samples for interrogation genomically.

So, we're enabling automated high throughout workflows at nanoliter scales. So, I haven't brought up that point. So, our ability to reduce the amount of active reagents compared to other suppliers is profound. So, depending on whether we're using 96-well format or 384-well format, which are the traditional industry standard, our approach allows you to reduce by as much as 100x in the amount of material that you need.

You also have the ability to change very easily across these assay inlets to add, remove or replace assays on demand because our assays are not fixed or pre-spotted in a factory. We use our automated system to load those. So, it gives you flexibility to change from A to B, B to C or A to C or any other combinations.

And you can analyze multiple pathogens and interrogate all samples against all assays in every single experiment. So, we think that's going to be -- and there's a huge power when coupled with controls to ensure that we have the level of sensitivity and specificity required in a clinical setting.

What we begin to talk about just in the last few weeks is a very important breakthrough. So, the Fluidigm approach is -- that I want to talk about today is extraction free that ends -- extraction free with a sample substrate that's using saliva collection.

So, we present in a very simple cartoon here is to present using a standard saliva collection to introducing through -- with thermocycling without extraction moving on to loading and preparing onto our Juno platform and then analyzing on our Biomark platform, all within under three hours and less than 30 minutes of hands on operator time, and incredibly powerful throughput potential.

A single chip again processes almost 200 samples, 192 samples, every three hours and running in parallel you can essentially about every 30 minutes release another batch of samples and introduce the next batch. So, this provides a very attractive alternative, particularly when coupled with the saliva-based approach. This will also work with nasopharyngeal swabs.

But the package EUA submission that we're advancing today is tied to the saliva collection. This provides a new painless saliva sample collection approach to streamline pre-analytical workflow that has no extraction required. It's rapid and scalable, potentially run from 4,000 to 6,000 samples per day with the potential to further boost throughput on the platform.

And we think it also has some nice features and benefits related to safety. So, it removes the need for interaction from a healthcare worker to have to apply or to using the swab into the potential infected patient.

Changing gears just a little bit from the genomics-based approach, I'd like to talk about how we're advancing also immune profiling work. So, in this case, we see kind of four basic vectors of innovation that Fluidigm is deploying on our mass cytometry platform. There's a need for immune profiling and immune monitoring. There's a need for patient stratification. There's also a need to support therapy development and also to assess vaccine efficacy.

Our solution is these two technologies. So, the CyTOF technology to your left is what we call the Helios platform. That's our suspension-based platform, which does comprehensive interrogation of cell phenotypes and function, looking at more than 50 biomarkers simultaneously, all from a single tube.

We also have secondary technology when coupled with an imaging platform and that you can deeply interrogate tumors and tissue in the micro environment using more than 37 biomarkers all in a single slide.

So, on the left, you can look at patient, let's say, blood sample and looking at their immune system response at single cell level. On the right, using our imaging system, you can look at the tissue. You can look at disease or infective liver tissue, lung tissue, heart tissue, brain tissue, and understand what happened with the immune system response in that tissue with its context around it.

And particularly with the SARS-CoV-2 pathogen, it's incredibly important because this ACE2 protein, it sits in many different tissue types throughout the body. And so, understanding what its impact is on various tissue types is a very important scientific question that work has just really began on.

The Maxpar Direct Immune Profiling Assay is our suspension-based solution. This is providing a standard for assessing the population health of the infected population and seeing what is a baseline sample or baseline single tube, 37 populations matched with an informatics five-minute to data analysis that was awarded the Gold Award last year for Most Innovative New Cell Biology Product, which is perfectly mated for questions right now related to COVID.

So, it's an out of the box standard that can be used across many different centers, across the globe to do analysis of very large population cohorts that are being generated by the infected population. It also provides flexibility in our intrinsic panel design in which you can enhance specific questions to add additional arms to the standard population study.

So, in these three examples, you can identify -- you can -- you add in additional. We keep channels open to spike and then add additional targets if you have questions you want to ask. So, you can further elucidate the leukocyte population. You can assess intracellular cytokines expression, which is very important right now in the overexpressed or overactivated cytokines that are occurring from the virus, or perform in depth T cell profiling. That's three simple examples of ways you can enhance the standard.

Kind of shifting from COVID, which we spent a lot of time talking about COVID, I was just going to touch on a few other things lightly. In addition, a few weeks ago, we announced our therapeutic insight services. So, part of our approach to the market is we've been selling instruments and driving consumables based upon and recurring revenues streams off of an install base.

We've also acknowledged that there is a significantly large portion of the addressable market for us that is not ready to make a commitment to an instrument platform. And so, we've stood up a therapeutic insight services group to help that segment of the market to access our technology to generate meaningful data that seeds both just as researchers who don't have access to instruments, researchers who are in facilities but that are capacity limited, people who are potential instrument owners that are interested in getting early proof of principle data or people who are waiting for their instruments to be set up to do studies with them. I think this is an important new arrow in our quiver to fully advance the potential of mass cytometry technology.

We also announced early in the year, just -- it seems like forever, but it's only been a handful of months, two additional product offerings. So, on the left, we've launched the AccuLift Laser Capture Microdissection System. This allows precise accurate and gentle capture of samples down at the single cell level.

We provided -- we're providing new innovation in the segment in the laser capture microscopy or microdissection market that has been very stagnant, very old technology, and we think we have a very interesting and novel approach that is very synergistic with other portions of our population -- of our portfolio. And in this case, it's going to open up another nice access of advance for us that supplements or complements our existing portfolio.

In addition, we've announced in the first quarter the acquisition of the InstruNor platform. It offers an automated walk-away sample prep product that's perfectly mated into our mass cytometry suspension platform. And so, it allows automated staining and preparation for this high volume studies. It also has applicability in the flow cytometry market. It's an attractive $1.3 billion market in and of itself of which about $225 million will be our serviceable market in the early days. And we expect or anticipate a Fluidigm branded product to be available here in Q2 2020.

So, I'm just going to lightly touch over the balance. We have a number of new applications, both in terms of content, software, and new workflows, both across our microfluidics and mass cytometry platform. We have a large install base that's active, more than 292 systems in mass cytometry, more than 500 systems in our Biomark HD and EP 1 and more than almost 200 Juno and Access Arrays.

And with that, you can see that we're generating significant operating expense, reducing operating expenses quite significantly, gearing and improving margin performance and creating more and more recurring revenue streams.

So, I think overall you can look at the Fluidigm portfolio and see we're already at the beginning and the cusp of unlocking a very powerful business model that couples instrument placements with recurring revenue streams and consumables and services and should unlock sustained strong double digit growth for years to come.

With that, I'd say thank you.

Brandon Couillard - *Jefferies - Analyst*

Thanks for being here, Chris. I appreciate it.

Chris Linthwaite - *Fluidigm Corporation - CEO*

You bet. Thank you, Brandon.