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FLDM - Q1 2020 Fluidigm Corp Earnings Call

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PRESENTATION

Operator

Ladies and gentlemen, thank you for standing by, and welcome to the Fluidigm First Quarter 2020 Financial Results Conference Call. (Operator Instructions). Please be advised that today's conference is being recorded. (Operator Instructions) I would now like to hand the conference over to your speaker, Ms. Agnes Lee, Vice President of Investor Relations. Please go ahead.

Agnes Lee - *Fluidigm Corporation - VP of IR*

Good afternoon, everyone. Welcome to Fluidigm's First Quarter 2020 Earnings Conference Call. At the close of the market today, Fluidigm released its financial results for the quarter ended March 31, 2020. During this call, we will review our results and provide commentary on our financial and operational performance, market trends, strategic initiatives and our response to the COVID-19 pandemic.

Presenting for Fluidigm today will be Chris Linthwaite, our President and Chief Executive Officer; and Vikram Jog, our Chief Financial Officer. During the call and subsequent Q&A session, we will make forward-looking statements about events and circumstances that have not yet occurred, including plans and projections for our business, future financial results and market trends and opportunities.

Examples include statements about expected financial performance, the anticipated positive impact of various strategic and operational initiatives, prospects for our products and technologies, potential customers and collaborators and trends in competition, markets, research funding and customer demand. These statements are subject to substantial risks and uncertainties that may cause actual events or results to differ materially from current expectations.

Information about these risks and uncertainties and other information affecting our business and operating results is contained in our annual report on Form 10-K for the year ended December 31, 2019 as well as our other filings with the SEC. The forward-looking statements in this call are based on information currently available to us, and Fluidigm disclaims any obligation to update these forward-looking statements, except as may be required by law.

During the call, we will also present some financial information on a non-GAAP basis. Non-GAAP information is not prepared under a comprehensive set of accounting rules and should only be used to supplement an understanding of the company's operating results as reported under U.S. GAAP. We encourage you to carefully consider our results under GAAP, as well as our supplemental non-GAAP information and the reconciliation between these presentations. Reconciliations between GAAP and non-GAAP operating results are presented in a table accompanying our earnings release, which can be found in the Investors section of our website. I will now turn the call over to Chris, our President and CEO.

Stephen Christopher Linthwaite - *Fluidigm Corporation - President, CEO & Director*

Thank you, Agnes. Good afternoon. We find ourselves in a starkly different world than the one we knew a few short months ago. It is one of extraordinary challenge on the broadest possible scale, but also a moment of great opportunity for the life sciences tools industry and the overall health care sector. I believe we will rise to the challenge and accomplish incredible things much faster than we imagined possible. For health care, diagnostics and life sciences companies alike, this pandemic is the public health equivalent of 9/11. Even as we rush to manage the current crisis, a new paradigm is emerging, and with it, there is a dawning realization that we need to make a huge step forward in biotechnology investment, development and deployment of new tools on a global scale for the benefit of all mankind.

We have a strong point of view that genomic and proteomic tools are essential in all facets of the fight and that an understanding of the immune system and immune response is foundational to long term safety. Working together with a global research community, we believe we can do amazing things to support pathogen surveillance, immune system monitoring and therapeutic as well as vaccine development.

Furthermore, as we rapidly deploy tools to address the current crisis, we believe that governments and public health bodies will be resolute in preparing for future pandemics. And that Fluidigm will play an important role, both in the near-term and longer-term horizon, as governments deploy new tools that demand higher throughput, flexibility, integrated data monitoring and a public-private partnership of national stockpiles and new collaboration networks that will enable faster response to future threats.

Our products, technologies and expertise enable important research on multiple frontiers of human health. And starting in Q1, we pivoted to support the global scientific community in the fight against the unprecedented COVID-19 pandemic. A growing number of governments and medical institutions are engaging with Fluidigm for immune profiling and virus detection and testing. Given the powerful capabilities of our 2 technology platforms, mass cytometry and microfluidics, it is no surprise that we are at the forefront of this extraordinary global effort. We remain committed to serving research needs across scores of diseases. However, for the near term, we are reconfiguring our core products in a cohesive manner to address COVID-19 needs.

Our innovative technology powering biomarker discovery and deployment puts us in the right place at the right time, focused on the right opportunities.

Shifting to Q1. We began the year in a good position with a strong pipeline and backlog. As the first COVID-19 cases emerged in Asia, we moved swiftly to organize a sustained response, holding daily executive meetings aligned around 3 simple themes. First and foremost, we focused on employee safety. We sent masks to our Chinese employees, built stockpiles of supplies in our Singaporean facility and moved to a protective posture, locking down our manufacturing facility from outsiders, implementing temperature checks of employees, wipe down procedures and social distancing all staff, moving more than half of our team into remote work environments for safety.

Later, we cascaded this general model around the world in San Francisco, Toronto, Paris, Tokyo and the U.K. I'm pleased to report we have had no confirmed infections of our employees, and the organization is performing at a high level.

Second, we organized customer-facing activities in a new way. As our customers quickly shut down their operations first in Asia around the Chinese New Year, Europe in late February, early March, followed by North America in mid-March, we refocused our business along 2 vectors: pathogen testing and immune monitoring. We selectively sent our field service engineers into operational facilities with enhanced PPE. Internally, our R&D and marketing teams constructed COVID-related value propositions, reconfiguring our existing tools with customized solutions for additional needs. For pathogen testing, our microfluidics platform is uniquely well suited. As the U.S. FDA issued guidance for emergency use authorization, we began deploying Biomark and Juno systems into testing centers, new customer segments for us.

One single Biomark-Juno combination utilizing our 192.24 IFC can process as many as 6,000 bulk RNA detection tests per day, or more than 2 million tests per year. Our miniaturization technology requires 1,000x less reagent than the 96-well format of other platforms. And we have an automated approach that reduces the need for human interaction.

We worked with labs to configure extraction procedures and complete workflows. In Q1, the revenue impact from these microfluidic instrument placements was incremental to our historic placement numbers. Given our lack of brand awareness and channel in this customer segment, we've

been pleased with this early success. Our value proposition, assay flexibility, high sample throughput and conservation of reagents compelled numerous labs to purchase systems. We collaborated with these early adopters to submit lab-specific EUA submissions.

Many of these collaborations have been shared on our website, social feeds or in press releases. I'm particularly proud of our work with the University of Oklahoma Health Care System in deploying a statewide testing program at a record pace.

To increase our competitiveness and reduce the burden on customers, we are working on a Biomark-based EUA this quarter. We believe that this submission will help close more opportunities in our growing pipeline and partially mitigate the impact on lab shutdowns in other customer segments. We have a pipeline of additional assays in development that will leverage this initial EUA system submission and address testing needs in the second half of the year and beyond.

For immune monitoring, our mass cytometry platform is an excellent tool for COVID-related programs. On the suspension side, we combine flexibility of panel design with a robust reproducibility that allows large consortia to develop databases, integrating samples from geographically diverse cohorts. Working from our base panels, researchers have rapidly built custom panels linked to COVID-related questions.

We've added new antibodies to our catalog and our recently released new metals enabled deployment of large investigational biomarker panels. Most impactful, our Maxpar Direct Immune Profiling assay, the 2019 best new product in cell biology, provides an amazing backbone for the large multi-site studies required to assess immune system response in the COVID-infected population, providing common reagent kits in a simple format. This same assay provides a useful tool for supporting vaccine and therapy strategies by providing immune profiling data.

Other groups are using our imaging mass cytometry in new ways. For instance, COVID researchers at the Yale School of Medicine are analyzing lung tissue to understand the impact of the virus on the immune response in critical organs.

Programs and consortia have formed around the world at an incredible pace, and there are already 5 papers detailing COVID-related insights gleaned from mass cytometry. We are sharing these stories with customers in our social feeds as fast as they emerge, so everyone can benefit as we mobilize as a single community against this common threat.

Everything I've described ties to our immediate response. However, we have additional products in development, including a potential game changer called the ECHO program being funded by DARPA. The ECHO program will create a rapid detection platform powered by microfluidics that could process thousands of samples a day per system while measuring host cell infection, potentially giving evidence of post exposure infection much sooner than conventional real-time PCR RNA test or serological or antibody-based solutions.

The ECHO program is a collaboration with Mount Sinai's Icahn School of Medicine and the Department of Defense. We will give updates as they become available, including dates on EUA submission and commercial availability. Our partners will make the final decision on deployment time lines, and we all recognize the importance of balancing speed with robust scientific validation of this novel approach.

The third area of daily discussion has been oriented on cash management. Vikram will provide ample color in his section. In short, we're leaving no stones unturned as we preserve cash during the sharp industry downturn. However, I cannot overemphasize that our core business thesis is intact, and we believe we will emerge an even stronger organization as the research community gets back to work in the coming quarters.

We discuss cash management activities every single day. We have made business trade-offs to preserve near-term health without fundamentally compromising our longer term trajectory, and we are benefiting from legal settlements and sponsored research funding from groups, such as the DARPA-related COVID work.

As I transition to a discussion of our views on Q1 results and potential impacts in 2020, I want to reinforce one last point. The immunome market, our term for the comprehensive analysis of the immune system and the tools related to these endeavors is more viable than ever. Over the last few years, most of our focus has been on immunome questions linked to oncology and immune system related disorders. But infectious disease was part of our business before and is accelerating today.

Roughly 10% of our mass cytometry publications are related to infectious disease. For Fluidigm, the COVID pandemic provided a unique catalyst for tying our portfolio together into a menu of infectious disease oriented offerings. We remain committed to oncology and other therapeutic areas, but we believe that infectious disease work is going to expand rapidly, and we can support this additional market vertical with modest impact on our prior endeavors. In essence, they are symbiotic or complementary to most of our core programs. We anticipate that the microfluidics business could accelerate upward on the heels of the COVID response.

Rounding out the commentary, we saw a pronounced negative impact on our business, as most customer segments shut down operations by the middle of March. We entered Q2 with approximately 60% to 70% of our global academic research community, either closed or working at a slower pace. Basic research projects have been put on hold but not canceled. Customer activities will depend on when the community returns to a new normal and what budgets will be available.

Our instrument funnel remains strong, and we built backlog due to facility closures or delays in facility renovations that have been gating items for putting systems online. We anticipate a sharp near-term deceleration in unit placements, not related to COVID work. And we have heard similar commentary from other analytical instrument companies.

We've adapted selling and marketing motions to reach customers who are working from home offices. We believe that budgets are intact and orders will flow, once organizations get back on their feet later in the year. For consumables, we know that many of our core labs have major backlogs of samples to run, and they are anxious to return to normal operations. As part of our comprehensive COVID-19 response, we accelerated another important program on our strategy road map that merits additional commentary.

Today, Fluidigm announced the broad commercial launch of a professional services lab, we call Therapeutic Insights, or TIS. We incubated the program in Q1. The TIS menu includes a range of imaging and suspension-based mass cytometry services from experimental panel design, custom antibody sourcing, conjugation and verification, staining, data acquisition and data analysis. There are many elements to this offering. We are seeing immediate demand to run samples from labs that are not operational or cannot access their core facilities.

In addition, we provide surge or backup capacity for CROs who are selling mass cytometry related services, allowing them to market services without concerns for testing capacity constraints.

The Fluidigm TIS lab provides access to newly developed but not commercially released mass cytometry innovations and provides a collaboration vehicle for partner institutions developing new panels that could become part of our standard kit business portfolio.

For accounts waiting on instrument funding, they can generate data or conduct important studies. The fee-for-service lab is staffed and running projects. We believe it will open up new market segments for our technology and accelerate the pace of innovation, especially in light of near-term disruption by the pandemic.

In summary, COVID-19 has brought short-term challenges to our business, but we are incredibly excited about the role we are playing in pandemic response and preparation as well as the new opportunities we see on the horizon.

I'll now turn the call over to Vikram, our CFO, for a complete review of our financial results.

Vikram Jog - *Fluidigm Corporation - CFO*

Thanks, Chris, and good afternoon, everyone. Total revenue was $27.6 million in Q1 2020, an 8% decline compared to Q1 2019. Changes in foreign exchange rates had minimal impact on revenues for the first quarter of 2020.

Excluding license revenue of $3.1 million, revenue was $24.5 million, an 18% decline compared to Q1 2019. We observed a significant slowdown in customer activity during the quarter, beginning in China and spreading to all regions of the world as the quarter progressed. Widespread adoption of work-from-home policies caused many of our customers to reduce or suspend their activities, which adversely affected our revenue in the first

quarter. Our revenue exposure to academic customers represents approximately 2/3 of our revenue, and we estimate that approximately 60% to 70% of our customers' labs are currently shut down.

With that context, I will move into details of our first quarter financial update. Mass cytometry revenue of $15 million in the first quarter decreased 20% year-over-year, primarily due to lower instrument revenues. Consumables revenues were flat year-over-year. Mass cytometry instrument sales were affected by delays in orders, as core labs and academic research centers closed. We built instrument backlog during the quarter. Consumable sales were also affected by the slowdown in customer activity outside of COVID-19 related work. Microfluidics revenue of $12.6 million increased 11% year-over-year, primarily driven by license revenue and higher instrument revenue associated with new products, partially offset by lower sales of consumables. Excluding license revenue, microfluidics revenue declined 17% year-over-year. The lower sales of consumables were primarily related to slowdown in key account activity, partially related to the COVID-19 pandemic.

Turning now to a regional perspective for Q1 2020 compared to the prior year period, Asia Pacific revenue declined 48% to $4.7 million, primarily driven by lower mass cytometry instrument revenues and, to a lesser extent, lower microfluidics revenue. Americas revenue grew 14% to $14.8 million, primarily driven by license revenue and higher microfluidics instruments revenue, offset by lower sales of mass cytometry instruments. Without the license revenue, America's revenue declined by 10%. EMEA revenue declined by 1% to $8.1 million, primarily driven by lower microfluidics revenues, almost completely offset by higher mass cytometry revenue. Foreign exchange rates had an approximately 2% negative impacts on 2020 revenues.

Moving now to operating performance. Product and service margin was 53.8% in the first quarter of 2020 compared to 56.4% in the year ago period and 54.7% in the fourth quarter of 2019. Non-GAAP product and service margin was 67.3% in the first quarter of 2020 compared to 67.7% in the year ago period and 64.9% in Q4 2019. The year-over-year decrease in non-GAAP product and service margin was primarily due to lower ASPs and an unfavorable product mix, partially offset by lower service costs and improved manufacturing efficiencies.

Sequentially, the increase in non-GAAP product and service margin was primarily due to lower service costs, favorable product mix and lower inventory reserves. In the case of GAAP product and service margin, the year-over-year decrease in non-GAAP margin was coupled with fixed amortization over lower revenue. The decrease in sequential product and service margin was a result of fixed amortization over lower revenue, more than offsetting the lower costs and reserves noted earlier.

Operating expenses on a GAAP basis in the 2020 first quarter increased slightly by 1% year-over-year to $31.4 million and operating expenses on a non-GAAP basis of $28.2 million was in line with the year ago period. The increase in GAAP and non-GAAP operating expenses was due to higher facilities, compensation and litigation expenses, partially offset by lower business development expenses. GAAP operating loss for the first -- for the 2020 first quarter was $14.9 million compared to $14.2 million for the same period last year. The year-over-year increase in GAAP operating loss was primarily due to slightly higher operating expenses and lower product and service margin, offset by license and grant revenue in the first quarter of 2020. The non-GAAP operating loss for the first quarter was $8.5 million compared to $7.9 million for the year ago period.

Please note that the reconciliation tables between our GAAP and non-GAAP measures are provided at the end of our earnings press release that was issued earlier today.

Moving on now to the balance sheet and cash flow. Cash and cash equivalents, short-term investments and restricted cash at the end of the first quarter of 2020 totaled $49.6 million compared to $60.7 million at the end of the fourth quarter of 2019, reflecting a net decrease of $11.1 million in the first quarter of 2020. Cash flows in Q1 2020 included $5.2 million of cash consideration paid for the acquisition of InstruNor AS and $3.5 million of cash received pursuant to a licensing and legal settlement.

In addition, days sales outstanding was 47 days at the end of the first quarter compared to 53 days at the end of fourth quarter. At year-end, the borrowing base under our asset-based revolving credit facility was $8.6 million, none of which was utilized. In April 2020, we extended the maturity date of this credit facility by 2 years to August 2022.

As Chris has mentioned in his remarks, we are focused on preserving our liquidity. We have taken several steps in evaluating expenses beyond the obvious areas like travel and have started implementing reductions in our operating expense structure, including salary reductions and constrained

hiring, until the business returns to more normal volumes. We have withdrawn our annual guidance in light of the uncertainty surrounding the ongoing and evolving COVID-19 pandemic.

We expect to update our outlook at such time as the effects of the pandemic in our business becomes clearer.

To help guide investors on revenue, we can provide a little color on our thinking, which is dependent on many factors that are unpredictable, including the timing and cadence of when our customers go back to work, impact from a second wave of infections if any and timing of therapeutics and vaccines to address the pandemic.

We believe that the second quarter will reflect a further decline in revenue as the first quarter did not reflect the full impact of customer shutdowns in all the regions of the world. We are assuming for now that labs and research facilities begin reopening in the third quarter, with customers picking their projects back up and resetting their work priorities for the rest of the year. We currently do not expect customers to be able to recapture the time that has been lost, so there will be limited consumables catch up.

In addition, it should be expected that due to the length of the selling cycle that some capital purchases that were expected to have been placed in 2020 would move to 2021. As customers start to fully execute on their pipeline of research projects, we would expect sequential revenue growth in the fourth quarter. This all assumes that there isn't a second wave that necessitates another global lockdown on the scale of this first phase of the pandemic or even on a greater scale. As a potential offsetting item, we are also seeing demand for our COVID-19 testing and research solutions, but revenue growth would depend on the number of testing centers that employ our technology and the ramp of customers using mass cytometry and imaging mass cytometry for clinical research work and immune profiling. This adoption has already begun, mainly in the Americas and in Europe, but we do not yet have enough visibility to fully forecast the potential impact of this opportunity. As a result, we expect 2020 product and service revenue to be lower than 2019, not including any revenue from COVID-19 opportunities.

Based on these assumptions, 2021 should be a stronger year, as our customers come back to a more normal state with their current projects, assuming vaccines and patient treatments are in place.

And with that, I will turn the call back to Chris for closing remarks.

Stephen Christopher Linthwaite - *Fluidigm Corporation - President, CEO & Director*

Thank you, Vikram. This pandemic has completely transformed our world in a very short amount of time with an unprecedented scale of lab shutdowns. However, it has also created an opportunity for us to showcase the power of Fluidigm's technologies, products and solutions. Similar to the new market opportunities created after 9/11, we believe that there will be a durable response from governments and public health agencies to prevent future outbreaks, and Fluidigm will be well positioned to play a role for years to come.

We are unwavering in our fundamental business thesis. Understanding and unlocking the power of the immune system is critical to improving life. Fluidigm is uniquely positioned to measure genomic and proteomic information across biological systems and for integrating these insights into new health care paradigms.

From an investor perspective, we are prudently managing our cash and have implemented cost savings initiatives to see us through this pandemic. I'm confident in our ability to pivot our technologies to serve our customers in the fight against COVID-19, providing a new vertical of growth in infectious disease, along with the longer-term need for biomarker discovery in diseases like cancer.

We believe that our activities around COVID-19 will strengthen our portfolio and provide new innovation for the future. As always, I thank our over 500 employees for their contributions this past quarter. I'm so proud of how quickly the team moved to support customer demand for COVID solutions, while many of our employees transition to working from home. We're in awe of our customers who are moving mountains to develop tests in short time frames and shifting their immunology research to advance clinical studies that support the development of vaccines and therapeutics, as well as research to understand this novel virus. We are humbled by our role in this critical work.

On a final note, I want to share some changes in our Board of Directors. After more than 20 years of incredible service, Sam Colella, our Board Chairman, has elected to retire from Fluidigm effective at the end of June. Sam has been a tireless advocate for shareholders and a trusted advisor to me and my colleagues. I deeply thank him for his many insights, stewardship and thousands of hours of time invested in Fluidigm. I wish him well with his future endeavors.

Dr. Carlos Paya, a trained immunologist, infectious disease expert and physician, has been elected as our new Chairman. Carlos brings a unique talent to the chairmanship, and he combines scientific and medical knowledge with operating experience as a CEO and Executive in drug development.

In addition, Pat Jones, our current Audit Committee Chairman, is retiring from the Fluidigm Board effective at the upcoming annual meeting. For more than 9 years, Pat has played a critical governance role, including overseeing a very successful IPO. Pat has been a valuable mentor and colleague who'll be missed.

Laura Clague will become our new Audit Committee Chairwoman, and she brings the right level of financial acumen and operating experience as a seasoned public company CFO to ensure we build on the legacy Pat established.

Please join me in thanking Sam and Pat for their service and welcoming Carlos and Laura to the new roles.

With that, I'll open the line for questions.

QUESTIONS AND ANSWERS

Operator

(Operator Instructions) Our first question today will come from Sung Ji Nam with BTIG.

Sung Ji Nam - *BTIG, LLC, Research Division - Director & Life Science and Diagnostic Tools Analyst*

I was curious about -- to the extent that you can comment on it, could you talk about what the cost structure for the epigenetic test for COVID-19 could look like in comparison to the PCR-based testing? I'm just trying to get a better sense of whether these tests are going to go hand in hand or do you think they might be competitive to each other? How the epigenetic testing might be deployed, is it more for surveillance purposes, do you think, or are there opportunities for actual testing detection as well?

Stephen Christopher Linthwaite - *Fluidigm Corporation - President, CEO & Director*

Sung Ji, it's Chris. Thanks for the question. It's kind of a difficult one for us to answer right now because we have an agreement with Mount Sinai and the Department of Defense, who are both -- Department of Defense is funding this work, and the Mount Sinai is the primary contractor, so owns the overall program. And as the final product configuration is set then we'll have more flexibility to talk about intended use and all the details related to the cost structure.

So without kind of deviating too far from that, I think you'll get a pretty good sense that it harnesses the same microfluidics architecture that we use in our other offerings, things like our bulk RNA offering. That can give you a pretty good indication of the kind of target cost points probably related to it. But the final configuration of the product, the availability of it commercially and the intended use are all decisions that are owned by the prime.

Sung Ji Nam - *BTIG, LLC, Research Division - Director & Life Science and Diagnostic Tools Analyst*

Okay. That's fair. And then just as a follow-up, the InstruNor acquisition sounds very interesting. Could you talk about how much of -- how much is sample prep a bottleneck for mass cytometry adoption. And you guys, I think, mentioned a pretty sizable addressable market in the near term, and I was wondering how quickly do you think you can capture that? What's kind of the growth potential do you think for that business over the next few years?

Stephen Christopher Linthwaite - *Fluidigm Corporation - President, CEO & Director*

Great question also. So yes, the InstruNor acquisition, and we'll announce the trade name here very shortly, is very exciting. So I think what it means for us is a huge market opportunity. As you know, it's well suited both for flow cytometry as well as mass cytometry. For us, it was about primarily for putting it in front of the mass cytometry workflow. It matches very well with the throughput of the Helios platform and, in particular, with the MD-IPA, our pre-configured leading top product from 2019 in cell biology product offering. So it's a great way to further automate the workflow and reduce some of the manual preparation steps that sit in front of all cytometry platforms, both mass cytometry and flow cytometry. So it's initially targeted for our greater than 292 unit installed base. And then we'll have addressability for the clinical market, the clinical flow market and other aspects of the flow market.

I think obviously, our channel strength sits within the mass cytometry space, so that will be the target for us in the first wave, but I would suspect that we'll pick up opportunities in other addressable market segments outside of our core addressable market segment. And without really kind of speculating on the curve of that, I think it's early days for us. So -- and certainly, with the COVID-19 backdrop, it's harder to speculate, even more so on the product adoption curve. But since it aligns very well with our MD-IPA assay and our existing mass cytometry base, that's where we're going to focus first. And I think as it becomes a meaningful contributor to overall portfolio in terms of revenue in the coming quarters, and I think we'll be better positioned to give an indication of what it could look like as far as how well we can penetrate that overall pretty large market.

Operator

And our next question will come from Dan Brennan with UBS.

Daniel Gregory Brennan - *UBS Investment Bank, Research Division - Senior Equity Research Analyst of Healthcare Life Sciences*

Chris, I was hoping to go back to the epigenetic opportunity, while you discussed how, obviously, DARPA and Mount Sinai, a lot of it's in their hands in terms of the development, I guess, speed or control of the news source. I was wondering if you could help us think about the Biomark itself and the technology. I think an important aspect is the ability for Biomark maybe to be differentiated from traditional PCR in terms of whether it be through epigenetic markers or other these earlier detection opportunities. So whatever you can provide that would help us think about what is differentiated about the Biomark and is it something that would be unique in terms of this earlier detection capability.

Stephen Christopher Linthwaite - *Fluidigm Corporation - President, CEO & Director*

Thanks for the question, Dan. Yes, there's a number of things to build off of. So kind of first and foremost, the core power of the microfluidics, this is something we've been trying to talk about for multiple quarters because it's been one of the areas that's been holding back the overall performance of the company in terms of needing to see microfluidics grow on a sustainable basis. And we've made investments in this area. As you well know, we're related to RNA-Seq and then supporting the Olink applications. And so this offers a third -- ultimately the core technology, the microfluidic chip and architecture, its throughput, its ability to process and flexibility, the number of different matrices or the number of samples that you can process simultaneously within -- and massively parallel sequence or process, sorry, with a number of assays that you want to interrogate, provides a lot of flexibility.

So whether it's a 96-96 format asking 96 questions and processing 96 samples simultaneously, or what's being used primarily in the bulk RNA testing for COVID-19, that's the 192.24. So that gives you 24 different pathogens you can screen against and process 192 samples simultaneously.

In addition, the miniaturization of reaction volumes. Remember, we talk in terms of nanoliters instead of microliters, so we're seeing a thousand-fold -- 1,000x reduction in the necessary reagents. And then you also have this automated process for processing -- for loading and then processing the samples themselves. This power has many, many different applications of which everything from biomarker discovery to RNA sequencing prep to things like -- and that's on the Juno. But on the -- and to the COVID based testing on the 192.24, illustrates the power of that what I was trying to get the microfluidics architecture overall.

So this is a huge opportunity, both in bulk RNA testing. And then when you look at the epigenetics, you carry all those same benefits forward into the epigenetic question that needs to be asked or answered. If you're looking at methylation patterns and fold gene expression changes and you're able to look at -- capture all the same advantages in terms of throughput, the flexibility of the panel itself and the marker set that you choose, the miniaturization of reaction volumes and then the speed and cost profile related to the Biomark architecture, so you can see -- now we've used a couple of different applications here to show what -- there's really huge potential for microfluidics. And these are 2 great examples right now that we're seeing right in front of us happen in real time.

Daniel Gregory Brennan - *UBS Investment Bank, Research Division - Senior Equity Research Analyst of Healthcare Life Sciences*

Great. And some of the news articles we've read suggest that when the work is done, that the researchers are going to open up the insights and allow other labs to maybe utilize some of the insights. Can you comment at all in terms of -- to the extent, it sounds like they're planning to file an EUA shortly if they haven't already filed it, would the plan -- or whatever you can discuss publicly, would the plan be that it would be utilized on the Biomark? Or would there also be plans to leverage it to other labs and they could develop this kind of capability on their own platforms?

Stephen Christopher Linthwaite - *Fluidigm Corporation - President, CEO & Director*

Yes, I think the simplest way to talk about this is that ultimately the Department of Defense and DARPA, specifically in this case, has a broad mission statement, and that's pandemic preparation and, obviously, putting -- investing in next-generation technologies and making that technology available for the benefit of the entire country, as well as the United States collaboration partners around the world in which they share information.

The microfluidics architecture provides these really unique advantages in terms of throughput, flexibility and miniaturization so -- and cost architecture. So I'd be -- it's ultimately their decision. I'm sure they'll make the -- I would suspect that they'll make the signature very visible. But as well as -- but capturing the amount of throughput that's required and all the other benefits, I think, is going to be very difficult in other platforms.

Daniel Gregory Brennan - *UBS Investment Bank, Research Division - Senior Equity Research Analyst of Healthcare Life Sciences*

Got it. I'm sorry to beat this, but is the throughput and the amount that you could process, is that related to the ability to like whatever level of sensitivity or limited detection you need to get to, is that something that's related to the possibility to find the signal earlier than you might be able to find on something that doesn't have the ability to look at all these targets at once? Is that related to -- because I'm still not clear enough if -- the Biomark sounds like it's very differentiated on throughput, very differentiated on flexibility, very good function of flexibility, growing on speed, on cost. But this idea that you can make a 1-day detection possibly versus 5-day and real-time PCR, is that something that you think would be unique to the Biomark?

Stephen Christopher Linthwaite - *Fluidigm Corporation - President, CEO & Director*

The basic mechanism of PCR, which is the final detection of the signature, is ubiquitous across other PCR platforms. So I don't think -- PCR is PCR. What this does is this is a blood extraction. So you'll convert it into a format that can be read and amplified on a PCR or thermocycler platform. But there's so many other incumbent advantages to our architecture and support that I'd only be speculating on how easy it will be ported to other technologies.

So I think that coming back to the core, the assay itself is measuring -- is likely to measure methylation pattern changes and gene expression changes in the signature. So the basic advantage is not the speed. There's only 2 basic methodologies for doing viral detection right now. You're either doing it through viral load and you're looking for the shedding and the signature. It takes time for the amplification, for the -- basically for the virus to shed enough of its RNA or DNA into sufficient quantities to be measured by the limits of detection of most technologies.

So that's why we have this lag of many, many days from time -- from infection until we can measure or detect, whether it's in saliva, blood or if it's in a pharyngeal swab.

The second is antibodies. And the antibody detection, as you well know, is limited by the ability of the body's acquired immune response to generate sufficient antibodies to be then be detected by the limited detection, again, in the blood in this particular example. That process also intrinsically takes 5, 6, 7, 8, 9 days based upon the robustness of your immune system.

So what host cell detection allows is that the cell itself is coming under initial stress. It's being attacked by the virus. At that moment, it begins to send out signals. The cell itself is becoming under stress. That's the signature. That's the speed that we're talking about. That's why it's potentially a game changer because you're able to unlock a third potential way to measure an infectious disease or infectious agent that's attacking the cell. That's the fundamental difference. It's not the PCR itself.

Daniel Gregory Brennan - *UBS Investment Bank, Research Division - Senior Equity Research Analyst of Healthcare Life Sciences*

Got it. All that color is super helpful. Maybe one more on that aspect, if you don't mind and then I can turn over and I can always come back in. Would there be -- to the extent this gets filed and then ideally gets approved, can you comment at all on how we might expect the rollout to occur? I know it's not in your hands or maybe what you can disclose, but is this something that might sit at DARPA? Is it something that might get broadly distributed? Is this something that might sit at Mount Sinai? Can you comment at all in terms of how we might expect this to roll out, if in fact it's successful and gets approval?

Stephen Christopher Linthwaite - *Fluidigm Corporation - President, CEO & Director*

Yes. I mean, again, I'd be speculating, but I mean, there's going to be -- there's going to need to be a kitted solution for this, ultimately, if -- the governments -- I believe, that the government's goal for this is to make sure it's widely available. So therefore, it's going to have to be kitted and made available into central testing labs in multiple geographies. So as part of that, that's part of the government's entire pandemic response strategy. I think Mount Sinai is the research partner in this, so they'll need to have industrial -- they'll need an industrial partner, of which I think Fluidigm, obviously, is well positioned to be a leading industry partner.

Operator

Our next question will come from Paul Knight with Janney Montgomery.

Paul Richard Knight - *Janney Montgomery Scott LLC, Research Division - MD, Head of Healthcare Research & Senior Equity Research Analyst*

Chris, you mentioned earlier the Biomark network. What's the installed base? What's the pushback on getting more of these out in the field? And then the second part of the question is on the testing market, is this pricing going to be the below $10 per testing? Can you talk about where you think pricing will be on the test?

Stephen Christopher Linthwaite - *Fluidigm Corporation - President, CEO & Director*

Thanks for the question, Paul. Good to hear your voice. So I guess 2 parts. So kind of similar to how I responded to Sung Ji, I can't really -- I don't want to be speculating on what the final costs might look like. I've given you some indication of the configuration of the potential end products,

you can kind of work the maths out yourself. But there's certainly nothing that's set until the final configuration is prepared and approved by the proper regulatory agencies.

The second part is about the Biomark installed base. So we do -- I think I don't have it right at my fingertips, I'd have to look it up, we can get back to you with that. But I don't think we break out the Biomark specific. We measure it. And we shared with you, and I think in our last -- in the investor deck that was just posted, we'll have an updated Biomark installed base, and I think it's a Biomark plus EP1 installed base, if I go from memory. And I think the combined number is about 500, but you'll have to fact check me on the website.

Vikram Jog - *Fluidigm Corporation - CFO*

Yes, that's correct, Chris. It's about 500.

Stephen Christopher Linthwaite - *Fluidigm Corporation - President, CEO & Director*

Thank you. I keep forgetting. Thanks, Vikram.

Paul Richard Knight - *Janney Montgomery Scott LLC, Research Division - MD, Head of Healthcare Research & Senior Equity Research Analyst*

And with the mass cytometry technology, my understanding would be that they're -- you're -- they're working, you're working -- the customers are working with the defined library set on the detection element. Where do you think customers are getting the correct libraries around the antibodies needed to be detected with this COVID virus?

Stephen Christopher Linthwaite - *Fluidigm Corporation - President, CEO & Director*

Yes. So if I understand the question, Paul, what you're asking is -- so for mass cytometry suspension, looking for what's the COVID signature and what are the kind of standard questions that they're going to ask in a COVID configuration, how close are they? Is that the question? Just to make sure I get it right? Yes. So what we're seeing right now, at this moment is it feels like they're mostly looking -- they're using our broad MDIPA signature, which you remember is kind of a great backbone, and there's a couple of examples in our investor deck also that shows different configurations of the MDIPA assay and how we leave open channels.

So the beauty of that assay is we hit some of the most common immune signature types. And then what they're able to do is then use the additional metals that we released in the fourth quarter and couple that with the additional channels that we had available already, so they can put up to almost 50 marker panels that they can run, starting with the MDIPA backbone. They buy our conjugation kits or metal kits, and then we also are offering additional antibodies rapidly for derivatives of COVID-19 related questions. So I can imagine that we'll likely have a COVID configuration very soon. That will be more of a consensus COVID panel. But it appears to be the majority of the research community is starting with our derivative -- our backbone since it's a very, very good place to start.

Operator

And our next question will come from Steven Mah with Piper Sandler.

Steven Mah - *Piper Sandler & Co.*

So I just have one question with regards to your new Therapeutic Insight services. How should we think about in terms of long-term strategy of the business? Is this something that's going to be a big focus? And second, how big do you think the opportunity is, if this is a long-term strategy change?

Stephen Christopher Linthwaite - *Fluidigm Corporation - President, CEO & Director*

Great question, Steve. So I think the Therapeutic Insights was definitely -- was very, very high on our strategic -- on our road map and priorities. So we had already started doing programs in the first quarter as we are prototyping it and making sure we could scale that business, and that's why then we move to the broad commercial release concurrent with this earnings announcement. I think it's a very big opportunity. So if you remember, think about our total mass cytometry strategy, our business -- our core business model has been -- initially was to place instruments and drive and then build out the toolkits to more complete the workflow. So using examples of that, we've often been launching more metals, antibodies pre-configured panels for some of the most common questions, putting those into lyophilized format for ease of use, adding the InstruNor, or acquisition to do upfront staining in preparation for that workflow and then layering in software solutions on top of that to complete -- to more complete the workflow. And then on our business model, we had built that ability -- and then we opened up new customer segments through contract research organizations. And using -- going beyond the core labs and the core academic centers to begin open up the pharmaceutical and biotech segments of the market.

In parallel, we've been striking partnerships with organizations. For instance, we announced the Georgetown collaboration in the prior quarter call that are developing novel content with us that are for specific biological or therapeutic questions of interest. So all of this fit together. What we wanted to have is we knew there's a segment of the market that would not be willing or ready or able to purchase an instrument outright, and they needed to have or support programs very quickly. They had samples already and wanted to run those. And they're either in the long queue to get into those larger core centers or those CROs. And so we saw this as a huge opportunity to open up another segment of the market. And so this is really also being pulled by our customer base to create this capability.

And so I think it could be quite significant. I think a very healthy business will likely have a good mix of programs and projects that are run through our Therapeutic Insights labs. We'll continue with instrument placements. We're going to continue to launch new technologies that are complementary to our existing instrument base. And this also provides a laboratory for people to access those new improvements that we're making, and then for us to run real projects, real-life samples and challenges and get that technology and pressure test that technology before we decide if we want to launch it as a kitted format for the broad market. So this is really a symbiotic product offering or service line extension that fits within the context of our instruments, our software solutions, our kits and individual antibodies and labeling kits. Hopefully, that's been helpful.

Steven Mah - *Piper Sandler & Co.*

Yes, that's very helpful. And you're going to run the services out of your existing San Francisco facility?

Stephen Christopher Linthwaite - *Fluidigm Corporation - President, CEO & Director*

Yes. In this particular case, we do run it out of San Francisco. But as you know, the majority of our mass cytometry business is in Canada. So we have a backup facility also there, so they can work together as a team.

Operator

And we do have a follow up from Dan Brennan with UBS.

Daniel Gregory Brennan - *UBS Investment Bank, Research Division - Senior Equity Research Analyst of Healthcare Life Sciences*

Chris, you mentioned during your prepared remarks that you plan to submit your own EUA on that real-time PCR test, as opposed to just relying on some of your customers. Can you just describe what the process is, their timing and how that would impact the opportunity?

Stephen Christopher Linthwaite - *Fluidigm Corporation - President, CEO & Director*

Yes. With the bulk RNA test, we felt that having our own EUA submission would be another critical building block. It's actually part of a multi-generational, multi-quarter story for expanding the utility, the access, for COVID-related question. So having an EUA on our own platform and our own product configuration, we think is a logical next step. And this provides a very -- a wonderful opportunity. We were able to kind of -- the reason why we didn't rush out to do it immediately as it gave us a huge -- we got to collaborate with these early adopters to work out what an EUA configuration would look like on our own product. And so this gave us, I think, a really good running start into preparing our own filing submission. So I feel this is a top priority for us. It's something that you should expect from us very shortly. So ultimately, the final decision, of course, is with the FDA on the timing for that, but the work -- we have a very clear road map on our side on what we're going to do.

Daniel Gregory Brennan - *UBS Investment Bank, Research Division - Senior Equity Research Analyst of Healthcare Life Sciences*

And your boxes, like do you need to get them monitor how it's working in local? I'm saying a lot of your biomarks are probably RUO. So if you get the EUA, like does it enable any customer who wants to run the test on their box to do it? Just maybe help us think about the opportunity, I guess. A lot of other companies have helped us frame this real-time PCR testing opportunity, you've got 500 placements. I don't know which one of those are really applicable for running a real-time PCR test for COVID detection. Maybe just give us a little color on how we think about the opportunity.

Stephen Christopher Linthwaite - *Fluidigm Corporation - President, CEO & Director*

Yes. We see many different flavors of this. I mean, first off, the EUA itself, there'll be no change or configuration in the box itself. So if you have an RUO box, then you're going to have an EUA cleared box. You still will take the kitted solution, and you will have to do some work on your side. Every lab has to do that.

But it's a very expedited process. So this will unlock the potential for those additional units those -- that are out in the field to potentially be run using COVID testing. And in fact, we have seen customers who have taken Biomarks that were sitting in other portions of their academic medical facilities and moving them into core testing facilities that could support COVID-based testing.

So there's many different methods for which we may drive incremental unit placements or see higher utilization than we've historically had on our Biomark platform, on the backs of COVID-based testing. And they can use this EUA kit configuration with our recommended approach and that will include extraction. So you have to have everything from extraction all the way through to a final answer. So we're putting that whole kitted solution together. And that filing plus the instrument becomes the EUA.

Daniel Gregory Brennan - *UBS Investment Bank, Research Division - Senior Equity Research Analyst of Healthcare Life Sciences*

And can you -- is there any way to size something reasonable that could occur from this when you're competing with -- obviously, a lot of these big box diagnostic companies that have significant installed base and workflows and things like that, but you offer, obviously, a very low-cost alternative with a lot of other benefits. But any sense on -- from some of the early interest and uptake, how this might play out for you?

Stephen Christopher Linthwaite - *Fluidigm Corporation - President, CEO & Director*

Well, I can give you some simple math. So if you imagine, just with the throughput we've described, it would take -- one of the national targets or goals for the United States right now is to run 1 million tests a day. You can run 1 million tests a day in 160 Biomarks. So we're not talking about -- I mean, even with our existing installed base, just mobilizing our existing installed base, simple math would run more than 3 million tests, approximately 3 million tests a day. So there's massive firepower and potential sitting in these boxes, which is why the government has been very encouraging of us to move forward. And you've seen groups like Mount Sinai embrace this technology. Obviously, Oklahoma saw the potential, and there's been numerous others.

Daniel Gregory Brennan - *UBS Investment Bank, Research Division - Senior Equity Research Analyst of Healthcare Life Sciences*

Got it. And then maybe one last one, maybe for Vikram or Chris. But can you -- is there any color on what the Q2 range could be? You gave, obviously, qualitative color on consumables and instruments. But is there any way to frame what a reasonable kind of guidepost would be in terms of that? And then you mentioned that the funnel is in good shape. Have you seen any cancellations on the instruments? Or how do we think about -- any quantitative color on the backlog and the ability to convert that backlog into instrument growth after we get through the depths of this Q2 issue?

Vikram Jog - *Fluidigm Corporation - CFO*

Yes. Sure, Dan, this is Vikram. Obviously, as you know, in the tools industry, a lot of the business end of the quarter happens in the last month/last 2 weeks. So even in the normal course, it's hard to give color. But I can tell you is we are not in a normal course, obviously, that goes without saying. But we have tracked our business, our bookings and our revenues in April. And while this is not intended to be a guide for Q2 by any stretch of the imagination because of what I just said, we're tracking at about 70% of the year ago period.

So compared to April of 2019, both our bookings and our revenues are tracking in -- at about 70%. So that's neither here nor there. The other metric that we will internally be tracking and -- which is our -- the speed at which our customers get back online. So we entered Q2 with 60% to 70% of our customers either completely shut down or in a state of suspension or doing very limited COVID-19 work.

So hopefully, that gives you a little bit of color. But again, I'll stress that you can't really draw conclusions on month 1 performance for the quarter as a whole.

With respect to your second question, right now, we don't see any evidence of order cancelations. We don't think that the consumables orders are likely to get recouped. But for now, our assumption is that the instrument orders will get delayed. But we have not seen any order cancellation, and the delays could extend beyond 2020 into the following year. So hopefully, that gives you some color of what we're looking at as we sit here in the first week of May.

Operator

And thank you, speakers. I'm showing no further questions in the queue at this time. I would now like to turn the call back over to Ms. Agnes Lee, for any further remarks.

Agnes Lee - *Fluidigm Corporation - VP of IR*

We'd like to thank everyone for attending our call today. A replay of this call will be available on the Investors site of our website. This concludes the call. We look forward to the next update, following the close of the second quarter 2020. Please reach out to us if you have further questions. Good afternoon, everyone. Sherine, you may now close the call.

Operator

Thank you. Ladies and gentlemen, this concludes today's conference call. Thank you for your participation. You may now disconnect.
