CytoSorbents Corporation (NASDAQ: CTSO)
2016 Earnings and Operating Results Conference Call
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This official company transcript has been edited for clarity and does not differ materially in content from the actual conference call except where noted. Slide numbers have been inserted to allow readers to follow along with the associated presentation

Operator:

Good day everyone and welcome to the CytoSorbents Fiscal 2016 Financial and Operating Results Conference Call. Today's call is being recorded. At this time I'd like to turn the conference over to our moderator, Amy Phillips, Please go ahead.

Amy Phillips – Moderator:

Thank you and good morning. Welcome to CytoSorbents 2016 Financial and Operating Results Conference Call. Joining me today from the company are:

- Dr. Phillip Chan, Chief Executive Officer and President
- Vincent Capponi, Chief Operating Officer
- Kathleen Bloch, Chief Financial Officer
- Dr. Christian Steiner, VP of Sales and Marketing, and
- Chris Cramer, VP of Business Development

Before I turn the call over to Dr. Chan, I'd like to remind listeners that during the call, management's prepared remarks may contain forward-looking statements which are subject to risks and uncertainties. Management may make additional forward-looking statements in response to your questions today. Therefore, the Company claims protection under Safe Harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995. Actual results may differ from results discussed today and therefore, we refer you to a more detailed discussion of these risks and uncertainties in the Company's filings with the SEC. Any projections as to the Company's future performance represented by management include estimates today as of March 3, 2017, and we assume no obligation to update these projections in the future as market conditions change.

During today's call, we will have an overview presentation covering the financial and operating highlights for 2016 by Dr. Chan and Ms. Bloch. Following that presentation, we will open the line to your questions during the live Q&A session with the rest of the management team.
At this time, it's now my pleasure to turn the call over to Dr. Phillip Chan. Dr. Chan, go ahead, please.

Phillip Chan - CEO:
Thank you very much Amy. Good morning and welcome everyone to the call.

Slides 5-7:
CytoSorbents is a leader in critical care immunotherapy. When we talk about immunotherapy, we are talking about manipulating the immune response to fight illness.

There are more than $100 billion in sales of immunotherapy products on the market today, ranging from things that are designed to stimulate an underactive immune response such as vaccines and cancer immunotherapies, including CAR T-cell immunotherapies, for example. And at the other end of the spectrum, they also include things that are designed to try to quell an overactive immune response such as drugs and biologics that help treat diseases like asthma, allergy, anaphylaxis, as well as autoimmune diseases. But where there is a major unmet medical need today in modern medicine, is in the treatment of life-threatening massive inflammation seen in the intensive care unit (ICU) and this is exactly where CytoSorb and our company are well positioned. We are leading the prevention or treatment of life threatening inflammation in the ICU and cardiac surgery using our CytoSorb blood purification technology.

It is an unfortunate fact that millions of people die every year of uncontrolled deadly inflammation from life-threatening illnesses such as sepsis, which is the overzealous immune response to a life-threatening infection and is one of the top ten killers around the world afflicting 30 million people and killing approximately 10 million of them each year. It also includes many other diseases and conditions such as trauma, burn injury, cytokine release syndrome due to cancer immunotherapies, liver failure, surgical complications, pancreatitis, lung injury, complications of influenza, and many other illnesses where inflammation plays a detrimental role. And this is what CytoSorb was designed to address. CytoSorb removes the fuel to the fire of inflammation and targets a $20 billion opportunity in critical care and cardiac surgery. It is the only specifically approved product in the European Union to reduce cytokines and it is approved for use in any situation where cytokines are elevated.

CytoSorb is particularly good at removing a broad range of inflammatory mediators, not just cytokines, including things like free hemoglobin, bacterial toxins, myoglobin, and activated complement, for example. And very important to our business model is that we are a plug-and play cartridge that works with standard dialysis and heart-lung machines found in most hospitals and operating rooms today. So far, CytoSorb has been safe and well-tolerated in more than 20,000 human treatments, which is up from 9,000 a year ago, and our goal is to try to control this deadly inflammation as a way to prevent or treat organ failure; and in doing so improve patient outcomes and survival, while decreasing the crushing costs of ICU care. In more than 20,000 human treatments that have been performed so far, this has been one of the things that we have been seeing. Because of this, we believe that we are standing at the edge of a potential true revolution in critical care medicine.

So, with that, I'd like to turn it over to Kathy to discuss the financial highlights for the fourth quarter and full fiscal 2016 year. Kathy?

Kathleen Bloch - CFO:

Slides 9-15:
Thank you, Phil and good morning everyone. For today's call I will be providing an update regarding CytoSorbents' December 31, 2016 financial results including our product sales progress and an update around our working capital and cash runway.

Turning to our annual financial results, CytoSorbents product sales for the year ended 2016 were $8.2 million, an increase of 103% over 2015 product sales of approximately $4 million. Grant and other income grew 77% from $748,000 in 2015 to $1.3 million in 2016, and our total revenues, which includes product sales and grant income, increased by 99% to $9.5 million for the year 2016 as compared to $4.8 million for 2015.

Now we'll take a look at our quarter-over-quarter product sales. Our fourth quarter 2016 product sales of approximately $2.6 million represents our best quarterly product sales ever. This was an increase of 22% over the previous quarter and is in fact our seventh consecutive period for which we have reported quarter-over-quarter product sales growth. It is also our sixth consecutive quarter of record sales. And with $2.6 million in quarterly product sales, our annual run rate at the end of 2016 now exceeds $10 million.

With regard to our annual product sales growth, we remain very pleased with the overall trajectory we are experiencing. Our compound annual growth rate, CAGR, was 115% over the last three years. I also want to note that the drop in the Euro in late 2014 had a dampening effect on our 2015 and 2016 reported product sales. If the dollar to euro exchange rate had remained unchanged from 2014 when it was approximately $1.329 to €1, our 2016 reported sales in dollars would have been approximately $9.7 million, and the three year CAGR would have been a 127%.

For the past two years, we have guided that sales of CytoSorb in Germany represented more than half of our product sales. With our 2016 annual report on Form 10-K; for the first time, we are presenting a breakdown of our revenues in Germany and then the rest of our territories. Germany's product sales were $545,000 in 2013, our first full year of commercialization. In 2014 direct sales increased by $860,000 [to $1.4 million]; then in 2015 direct sales increased by $948,000 [to $2.4 million]. In 2016, direct sales in Germany more than doubled, increasing by $2.6 million or 112% [to a total of $5.0 million]. And you can see from this chart a clear inflection upward in Germany's product sales that occurred in 2016.

This is because in Germany we've established strong key opinion leader support, we've received recognition and support from the major-medical societies, we have established reimbursement, and we have a strong sales and marketing presence. Germany is the market that we've been in the longest and we believe it provides a prototype as to how we might expect our other territories to develop overtime.

And next, we present a summary of our worldwide sales where we've layered CytoSorb product sales in the countries outside of Germany - that is the orange area on this chart on top of the

sales in Germany in blue. Of the 37 countries where we currently have distributors or partners, only about a dozen have been actively commercializing CytoSorb in their territories for two years or longer. These non-German markets in general remain in the early stages of development. As we have seen in Germany, we experienced modest increases in sales in the early years of commercialization, and then sales accelerate with more time in the market.

Outside of Germany 2016 sales, sales in the territories outside of Germany were $3.2 million, which is an increase of $1.5 million or 91% over the prior year. So, while these other territories are not as mature as Germany, we expect that over time these other territories should develop similar growth patterns with sales acceleration that we have seen in Germany. As we develop these existing markets, remember we are continuing to add new distribution in new countries.

Let's look at the world map and here we've highlighted the 42 countries where we are selling direct or through distributors. And I would just like to mention a few significant drivers of sales for 2017. First, effective January 1, 2017, we've received a dedicated reimbursement code for CytoSorb in Germany. Already in Germany, one direct sales hospital has more than $1 million in 2016 sales representing 11% of our total revenues. And with more than 400 major university hospitals with more than 400 beds in Germany, you can see the revenue potential for Germany alone as we continue to grow in usage and adoption there.

In addition, with the Fresenius launch in May of 2016 and Terumo's launch in December 2016, these strategic partners are expected to have a positive impact on sales growth for the future as well. Phil will speak into greater detail about these revenue drivers in a few minutes, but lastly, I'd like just to take a look at our working capital position.

As of December 31, 2016, we had approximately $5.2 million in cash which is expected to provide funding for our operations into the second half of 2017. In addition to increased gross margins from higher expected product sales and the additional $5 million in debt that we have available to drawdown from our credit facility with Bridge Bank, we are looking at a number of different strategies to obtain the funding required for our future operations and clinical studies including leveraging the balance sheets of our current and potential strategic partners, additional research and development grants and contracts, non-dilutive sources of capital and traditional equity financing among other mechanisms.

As of December 31, 2016, we have approximately 29.3 million common shares on a fully diluted basis. And now, I'd like to turn the call back to Phil. Phil?

Phillip Chan - CEO:

Slide 16
Great, Kathy. Thank you very much. The main message that we want to convey to our investors today is that we believe that we are on the verge of a number of major value creating milestones. The first major milestone is that we expect to achieve operating profitability within one to two years.

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It is important to remember that CytoSorbents is a pure-play high margin disposables business where CytoSorb is the high margin razorblade in someone else's razor machine. These razor

machines are like the dialysis or continuous renal replacement therapy machines or ECMO machines in the ICU, or the heart-lung machines that are found in the operating room. Today we have blended gross margins of 67% that blend higher margin direct sales with lower margin distributor and partner sales. But with economies of scale and manufacturing efficiencies, we expect that we can drive blended gross margins closer to 80%.

The average selling price of CytoSorb is approximately a $1,000 per cartridge and depending on the disease state that is being treated, one can expect that one to ten cartridges are typically used per patient. Patients undergoing open heart surgery typically use one to two cartridges, a person undergoing treatment for sepsis typically uses three to five cartridges, and a person with very severe illnesses such as severe acute pancreatitis could be using up to ten cartridges for that patient. But it is important to note that this therapy is actually quite affordable and an entire course of sepsis treatment is roughly the cost of approximately one day in the intensive care unit compared to the $50,000 to $60,000 average total cost of treatment in patients with sepsis, for example.

Looking at this in the microcosm of Germany, the critical care and cardiac surgery markets have a total addressable market of approximately $1 billion to $1.5 billion. There are more than 2,100 acute care hospitals of which 400 hospitals have more than 400 beds; these are the very large public and university hospitals. But each of these hospitals typically sees 300 to 600 sepsis patients a year and at three to five cartridges per patient, that represents a revenue per patient of about $3,000 to $5,000 per patient. But what that also means is that it represents a potential revenue per hospital of about $1 million to $3 million for sepsis alone. And for the first time, we are able to publicly disclose that we have a number of large accounts that are moving towards this milestone and one of those customers now accounts for more than $1 million in sales of CytoSorb in 2016. This gives you a glimpse of how large this business could be with just with small number of dedicated hospitals.

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As Kathy mentioned, in addition to what we achieved in 2016, we are looking forward to driving growth in 2017 and beyond. Recently, there have been some major milestones that we've hit that will help drive both direct sales as well as indirect distributor and partner sales as well. One of the major accomplishments that has happened recently, has been the award of a dedicated reimbursement code for CytoSorb in Germany. Germany is the third largest medical device market in the world and the largest medical device market in the European Union, and as you have seen from our results, our most important market. We were able to achieve this CytoSorb reimbursement code with the initiation and support of major medical societies across many different medical specialties in Germany today. We feel this helps to further validate the importance of our therapy to physicians in the country.

This is a code that took effect in January 2017 and is expected to result in much higher reimbursement compared to the more generic code that we've used in the past that had covered roughly 60% to 100% of the cartridge but did not necessarily cover the cost of the procedure itself. And we believe, having provided three years of cost data, that hospitals are well-positioned to achieve both reimbursement of the device as well as the reimbursement for the procedure, which would reduce a major impediment for usage and sales. We expect that this will help catalyze a steady and growing increase in CytoSorb usage and adoption throughout

Germany, and we believe that this will also have a positive impact on reimbursement and usage in other countries going forward.

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In terms of indirect and distributor sales, we have also had a number of recent significant developments that are expected to drive international growth. One of those major developments is the expansion of our Fresenius partnership. As we discussed before, in December of 2014 we had signed with Fresenius to be our exclusive distributor in six countries including France, Poland, Denmark, Norway, Finland and Sweden. After about a year and a half worth of internal certification and validation, Fresenius and our company helped launch the product in May of 2016. In January 2017, just a little more than a month ago, we announced an expansion of this mutual partnership where we have extended the partnership by three years to cover this exclusive distributorship in these six countries.

But importantly, we went from annual minimum payments to maintain exclusivity to now an increased commitment on Fresenius' part to guaranteeing quarterly orders and payments for CytoSorb that is evaluable every year and a half. But maybe more importantly, has been the expansion of our agreement to now a co-marketing agreement across all the countries were CytoSorb is sold, where possible. With one stroke, this increases the "effective" salesforce of people talking about CytoSorb in these countries by 2X to 3X in each of the countries. Fresenius will provide a written endorsement of CytoSorb as a preferred therapy on their multiFiltrate and newer multiFiltrate PRO platforms and CytoSorb will be put on the multi-filtrate PRO as an option that technicians can turn to, to be able to set-up and use the CytoSorb therapy easily.

We just signed this agreement in January, and are in the process of developing marketing materials, training, and other things and we expect that the impact of this agreement will begin to accelerate into the second half.

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Another major partnership that we announced last year was Terumo Cardiovascular. Terumo Cardiovascular is a division of the Japanese conglomerate Terumo and is the leading cardiac surgery disposables company in the world. Terumo is also one of the top four cardiac and vascular surgery companies in the world, next to companies like Medtronic, LivaNova, as well as Maquet. We entered into a multi-year partnership agreement with Terumo to distribute CytoSorb for cardiac surgery applications in France, Denmark, Norway, Sweden, Finland and Iceland; keeping the ICU separate for Fresenius. And with a lot of hard work on both sides, CytoSorb was launched in these territories in December 2016. This is expected to be another catalyst for 2017. But beyond sales, we believe it represents strong validation of our technology and opens the door for potential expansion into other countries such as Japan, which is the second largest medical device market in the world, next only to the United States.

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And last but not least, Biocon – the largest biopharmaceutical company in India - is our partner in India and Sri Lanka. They have combined their critical care antibiotics with our CytoSorb blood purification technology to create one of the most comprehensive treatments for sepsis and critical illness today. Last year they reorganized CytoSorb into its own division with its own

resources and sales force, and we have seen tremendous progress on that front from Biocon and expect even stronger growth going forward.

Slides 22-23
In addition to these strategic partnerships, our existing distributor and independent distributor partners have also been doing very well and collectively it is one of the reasons why sales that do not include Germany have risen 91%. But what this means is that we are driving rapidly towards operating profitability and when you look at this chart, the red line is our fixed operating expenses that exclude clinical trial costs and non-cash option expenses. Here, [between 2014-2015], you can see that we have spent quite a bit in terms of building the infrastructure of our company over the past several years but that our fixed operating expenses have started to plateau and we expect that this trend will continue with less than a 10% increase in operating expenses going forward in this next year.

But meanwhile, the product sales of our company continue to rise very rapidly seen in the blue line. And the gross margin line is not far behind. This is one of the reasons why we feel confident about reaching operating profitability within the next one to two years at product sales of about $20 million. Once we hit operating profitability, we expect that $0.40 to $0.50 on every $1 will drop to the bottom line making this a very cash flow rich company which we believe completely changes the overall investment profile of our company.

Slides 24-25
The second major milestone that we expect to achieve is to begin the path to U.S. approval later this year with the initiation of a U.S. cardiac surgery REFRESH 2 Trial. As many of you know, last year we completed the first of two studies designed to get CytoSorb approved in the United States and that was called our REFRESH 1 Trial, or the REduction in FREe Hemoglobin Trial. This was ultimately a 46 patient, nine center study evaluating the safety and efficacy of intraoperative use of CytoSorb in a heart-lung machine, during complex cardiac surgery where patients were expected to be on heart-lung bypass for more than three hours. This included a wide range of complex cardiac surgery procedures ranging from aortic reconstruction, congenital defect repair, multiple valve replacements, and other types of procedures.

We worked with major cardiac surgery centers including Columbia, Texas Heart Institute, University of Pennsylvania, University of Pittsburgh, and many others. Our primary endpoint for the study was safety and the reduction in free hemoglobin. In this first RCT using CytoSorb in high-risk cardiac surgery patients - and again, there have been a number of smaller RCT studies and one larger RCT study in mild-to-moderate risk cardiac surgery patients - but in this first RCT in high-risk cardiac surgery patients, we; one, demonstrated the safety of the therapy; two, we identified surgical procedures in this complex cardiac surgery group where patients had the highest levels of plasma-free hemoglobin. This is very important because we believe it will allow us to enrich the next trial for those at greatest risk of organ injury due to these high levels of plasma-free hemoglobin. This could potentially allow our trial to be more focused, smaller, less expensive and faster to execute. Last but not least, we demonstrated that CytoSorb removes key inflammatory mediators in a statistically significant way during the treatment period.

An abstract of these data have been sent and submitted to the AATS, or American Association of Thoracic Surgery, Conference that is taking place at the end of April. But meanwhile, we plan to confirm our clinical trial strategy with the FDA and expect to begin a registration trial later this

year designed to seek approval for CytoSorb in the U.S. for the application of cardiac surgery. And depending on our discussions with the FDA and depending on the clinical path that they guide us on, approval could happen anywhere in the 2018 to 2020 timeframe. When we have more detail on the exact path, those details will be forthcoming.

Slides 26-27
Last but not least, this is why we believe that CytoSorbents is a very unique company. We believe that it is a "de-risked" hybrid that combines the greater visibility and lower risk of a med-tech company with the massive potential of a biotech company. We have a razor blade high margin disposables business model and strong technology validation. You have seen that technology validation in the $8.2 million in 2016 sales; the 70+% direct margins, the 20,000 human treatments and growing, and the broad adoption in the marketplace particularly amongst our oldest users who have had the most experience with the technology. But it also includes more than $18 million in grants and contract funding as well as validation from major multi-national corporations such as Fresenius Medical Care, the largest dialysis company in the world; Terumo, the largest cardiac surgery disposables company in the world; and Biocon, the largest biopharmaceutical company in India.

It combines this with the upside profile of a biotechnology company with more than a $20 billion worldwide market opportunity in critical care and cardiac surgery. But we can attack that market, not by going through multiple phases of expensive clinical trials that you see with drugs and biologics, but rather with a relatively straightforward clinical path of doing a single pivotal registration trial in the United States.

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In 2017, we are expecting a pivotal year, and we plan on continuing to achieve multiple value creating milestones and expect to meet the investment criteria for a wide range of high quality fundamental institutional investors, as well as retail and high net worth investors as well. As of the fourth quarter, we have already exceeded a $10 million in sales run rate which is a key revenue threshold for many fundamental institutional investors. Importantly, we also expect to achieve operating profitability with expanding sales and gross margins within the next one to two years which would completely change the investment profile of our company.

Last but not least, following discussions with the FDA, we plan to initiate a pivotal registration trial for CytoSorb in the United States; putting a timeline for the first time on a potential U.S. approval.

With that, we expect 2017 to be a major year of visibility and progress for our company to the benefit of all of our shareholders.

That concludes our formal remarks. Now let us go into the question-and-answer period. Amy?

Amy Phillips - Moderator:

Thank you Dr. Chan. Operator, we are ready to pull for questions.

Operator:

Thank you. As a reminder, if you do have a question, that is *1 on your touchtone phone. Please make sure your mute button is turned off to allow your signal to reach our equipment. We will take our first question today from Jason Kolbert with Maxim. Please go ahead.

Jason Kolbert

Good morning guys. Congratulations, what a great quarter and greater progress. Can you just talk a little bit about what you think the real potential of Germany is, looking ahead five years; how big could revenues be there? And the reason why I ask the question is because that acts a little bit as a surrogate to me because I think the launch in Germany is a little bit more advanced than the launch in the other countries. And then Phil, could you go back and add a little more commentary on the steps you are taking to enrich the U.S. trial, because I found that very interesting, both in terms of the size of the market and enriching the trial for success. Thank you.

Phillip Chan

Sure, thank you Jason. As we mentioned, the market in Germany is the third largest medical device market in the world. They have about 154,000 severe sepsis and septic shock patients every year in Germany alone. And that does not even account for the other critical illnesses that are seen or the high numbers of cardiac surgeries that are done every single year. This is one of the reasons why we estimate that that total addressable market is approximately $1 billion to $1.5 billion in Germany alone. We believe that within five years we could potentially access potentially 10% of that market or potentially $100 million in sales. You have seen that the foundation in Germany has been laid for broad growth in the country, and as you have seen, one of our customers has already hit the $1 million mark in terms of product sales, and there are ~400 hospitals that are of that size that could approach that number in the future. They are not all of our customers obviously, but that represents the opportunity for us in Germany. Importantly, we expect to be profitable even before we get approval in the United States and that is something very important to note.

And the second thing is that, if we only focused on Germany and nowhere else in the world, we could be a very profitable and very successful company. But obviously, we view this as a much broader opportunity than just Germany because critical illness is killing millions of people worldwide and that is one of the reasons for our broader commercialization strategy.

Now to answer your second question about enriching the trial…heterogeneity is the death knell of most clinical studies. What often happens is that you may observe a strong effect in one population, but it is negated by not seeing an effect in other populations. On a blended basis, you will see no benefit of your therapy in total, despite having this very strong subgroup benefit. We know that free hemoglobin is a very deadly toxin. In fact, when they had developed free hemoglobin as a blood substitute many years ago, clinical development was discontinued because it actually increased mortality and killed patients. The reason why it does this is because iron and free hemoglobin creates oxygen radicals that causes lipid peroxidation, membrane damage and blood vessel injury, and that is bad.

But free hemoglobin is also a very potent scavenger of nitric oxide which is your major vasodilator in your body. Without this vasodilator helping your blood vessels expand, what happens is that during surgery and immediately after surgery these blood vessels will contract and create very high resistance for that very vulnerable post-operative heart to need to now

pump against. So imagine you have just delicately sewn in a couple of hard valves and now the heart has to beat against a very high resistance – that is not good. Also, this high resistance is also decreasing perfusion of blood in vital organs, potentially increasing the risk of intestinal ischemia, kidney failure, stroke risk, brain injury and others. This is one of the reasons why free hemoglobin is so dangerous. But there are a host of other inflammatory mediators like cytokines, activated compliment, and others that are contributing to this injury.

Now what is very interesting about our REFRESH I Study is that when we have looked at the types of procedures that have been done, what we have seen is that not all complex cardiac surgery procedures are created equal in terms of generating free hemoglobin - which often occurs because of either long procedure times on the pump and shear forces that create hemolysis and a breakdown of blood products, hemolyzing blood cells and releasing free hemoglobin into the plasma. Also, because there is a lot of bleeding when you cut into the heart and you are suctioning blood from the field under negative pressure, that also causes hemolysis. So the longer you are doing an operation, the more hemolysis you get and the higher your free hemoglobin levels get.

This was never characterized before in such a granular level, but with our data we now have identified those subgroup patient populations that are truly at high risk. Collectively, these represent more than half of the patients in our clinical study. In these high risk subgroups, we have also demonstrated the ability to reduce key inflammatory mediators in a statistically significant way. There are many studies that show the higher the free hemoglobin, the higher the risk of acute kidney injury, and therefore, the higher the risk of adverse organ injury. Now having identified this subpopulation that is at highest risk, we believe that we can again enrich the future REFRESH II study with these patients.

Jason Kolbert
Perfect, Phil. Thank you so much.

Phillip Chan
Thanks very much, Jason.

Operator
And we'll go next RK Swayampakula from H.C. Wainwright. Please go ahead.

RK Swayampakula
Hi Phil. I had a few questions. In terms of your relationship with Terumo and Fresenius, obviously, it's taken off very well. How do you see this developing in 2017 and how important will this be going forward?

Phillip Chan
What we have seen in all of our accounts is that it takes time to get out in the market, introduce CytoSorb to key opinion leaders and key accounts. It takes time for them to try the therapy and to get used to the therapy before they move on to higher volume usage and using it in more than just a handful of procedures. So as you have seen from our ramp in Germany, for example, this represents a kind of prototypic example of how we see sales growing in other countries - not just strategic partner accounts but other accounts as well. But that said, I think unlike Germany, where when we first launched we had very little market recognition, very little clinical

data, and although we had some major key opinion leader support, the numbers were relatively small…fast forward several years, all that has really changed where now there is a lot more market usage and clinical data. In cardiac surgery, for example, there have been now four randomized control trials in cardiac surgery patients, more than 4,000 open heart surgeries have been done safely. This will help Terumo sell CytoSorb. In critical care, there have been many case reports, case series and even small single-arm prospectively defined studies where the device has been used successfully, and that amounts to more than 16,000 human uses. This is something that Fresenius can leverage as well.

Because of this, I think that we have the ability to accelerate both Fresenius and Terumo. Part of the on-boarding and training process is to transmit a lot of our experience to them so that they can get up and running as quickly as possible. The nice thing about our therapy is that it is not rocket science. It does not require a tremendous amount of training and hand-holding. For these respective partners that are leaders in their field in either dialysis and extracorporal blood purification or heart-lung machine treatment in the operating room, this is very simple. So the first year is always going to be a little slow but I think that this will ramp up very significantly going forward. Fresenius will be finishing their first full year as of May 2017, and Terumo has gotten a great start out of the box. Both have been very aggressive in getting this to key opinion leaders and key accounts in their territories.

Although we can't quantitate what that looks like today…Fresenius, of course, is committed to quarterly payments that we have not publicly disclosed, but Terumo is also expected to be a major contributor, as is Biocon. Certainly, however, on a go-forward basis we expect that those numbers will begin to become very real and meaningful, and one of the reasons why we believe we can drive to a $20 million sales number, and operating profitability, in one to two years.

RK Swayampakula
Great, Phil. I know I'm one of the guys who have been asking the management about sales by region. With the permanent code from Germany, what impact will that have in terms of 2017 increased sales from 2016?

Phillip Chan
We believe that it will have a steady and growing positive impact on our direct sales going forward. I will let Christian talk a little bit more about his perspective. But I think a lot of the feedback that we've gotten from the field is that clinicians wanted to use the therapy, but because of the suboptimal reimbursement, hospital administrators were forcing clinicians to be much more selective about the cases that they used CytoSorb on. And I think in follow-up discussions with both hospital administrators and clinicians, they both view this direct reimbursement code as significant validation of the technology - again it was supported by major medical societies in the country – and a significant development that would allow the opening up of more uses of CytoSorb. Christian, do you have any more color to add on that?

Christian Steiner
Yes, sure Phil, thank you. First of all, one has to say that it was really a great accomplishment in this relatively short time to achieve such prominent dedicated reimbursement – faster than even many of the major players in dialysis, like Gambro, Baxter, and Fresenius. This new code became active starting January 1, 2017. We think it removes a threshold barrier for hospitals to buy this product because cost control is a big issue for the accounting and procurement

departments at hospitals where they scrutinize the payments going out and the reimbursement coming in. So I think we can assume that doctors will have less resistance from those departments. Secondly, one has to understand the nature of the code to what implications this has for sales. The code represents additional reimbursement for the hospital and this can be negotiated every year during the budget negotiations between the hospital and the reimbursement agency. And later, the hospital can up-negotiate the value of the reimbursement every year. So from this perspective, one can assume that as reimbursement improves, it will also accelerate use of CytoSorb.

RK Swayampakula
Thank you, that is very helpful. In terms of the Middle East and Russia, where are you in terms of getting products out in these geographies and what is your expectation at least for 2017 from these regions?

Phillip Chan
I think let me talk to the Middle East and let Christian talk about Russia, which I think is very interesting. The Middle East has been suffering from the drop in the price of oil and that has had significant reverberating impacts throughout their regional economies, including healthcare. Although the price of oil has stabilized a little bit, the impact on Middle East healthcare is still unclear. We have a number of tender orders out there for our product. And the Saudi FDA came to audit our facility, in person here in New Jersey, and we passed that audit. We also have a significant amount of key opinion leader support in Saudi Arabia and countries like Kuwait and Qatar, and others.

So there is good reason to believe that once these cost pressures abate - and people are hoping that this will abate soon - that the Middle East will become a significant contributor to our revenue over time.

In terms of Russia, Christian can you please give a little bit of your thoughts there?

Christian Steiner
Thank you. First of all, Russia is a very interesting market for extracorporeal therapies. The medical community is, in general, very open-minded for such therapies, similar to what we have seen in other countries. We achieved registration in Q2 2016, after more than two and a half years in the registration process. Nevertheless, this was a little bit late for the budget process in Russia where we missed the 2017 budget negotiations for the hospitals but we are now in the middle of the 2018 budget negotiations and prospective tenders. We have seen in the first few quarters of business in Russia that there is a huge interest off the community, and we are working through the relatively rigid mechanisms of tenders and budgeting.

We have had already significant sales over there because some hospitals, especially military hospitals are very interested in this technology. We believe that the Russian market is going to be a very big contributor in the future, mainly and substantially contributing from 2018. But nevertheless, we should see a good increase in 2017 sales from Russia.

RK Swayampakula
Thank you, Christian.

Operator
Thank you. We will go to our next question. We'll go to Andrew D'Silva with B. Riley. Please go ahead.

Andrew D'Silva
Good morning guys, thanks for taking my questions. Just to start off - just a couple of quick book-keeping questions. First, related to stocking orders, were there any larger ones during the fourth quarter, or was it a steady state scenario? And then the second question, the Fresenius expanded partnership will be implemented in the third or fourth quarter this year, correct? It has not actually begun to impact the P&L yet?

Phillip Chan
Kathy, if you want to talk about the stocking orders; and Chris, if you wanted to talk about expected timing of that program?

Kathleen Bloch
Hi Andy. There were no significant stocking orders in the fourth quarter. So it's pretty much been steady state. Chris?

Chris Cramer
Hi Andy. For the co-marketing program, you are correct. We are actively working with FMC to develop the program itself. I think Phil had mentioned developing joint marketing materials, training and planning for the roll out. The current thinking is that we will start with big countries first and as we perfect and tweak the model, we will roll it out more broadly. So, we're tracking towards a second half of 2017 rollout, but obviously, there is benefit to both parties to launch it sooner. I think with co-marketing, we benefit from having expanded sales coverage. FMC also benefits by having incremental pull-through of their products. So there is just a natural incentive to get this out in the market as quickly as we can. But right now I think as I look at the program, I'm thinking that we really start to ramp up in second half of this year.

Andrew D'Silva
Okay, great. And as far as your distributors go, they've been pretty open to the expanded partnership, obviously in regions where Fresenius doesn't have an exclusive arrangement with you?

Phillip Chan
Yes, I think that we've made it very clear in the FMC contract that in terms of selling CytoSorb, those sales will go to us or to our distributors and partners that we have established in our various countries. Fresenius will only sell the ancillary disposables associated with that, including the hemofilters, the bloodlines, the fluids and other things. They also view this therapy as a way to potentially drive volume of extracorporeal procedures in the ICU, which will help the Fresenius reps sell even more dialysis machines which they are very interested in doing. So I think that we've made a very clear division between those two aspects and for the most part we've have not gotten any negative feedback on this co-marking arrangement. I think everyone sees it as a way to increase the “feet-on-the-street” talking about the product and view Fresenius's commitment to introduce their clients and their key opinion leaders to the distributors as a very positive thing.

Andrew D'Silva
Great, thank you. Great color, Phil. And just moving over to the dedicated reimbursement code in Germany; you obviously touched on this in the prepared remarks and in the previous question, but can you provide a little inferential data that you are seeing after the dedicated reimbursement was established? Has it started to resonate with doctors more? Is there a point where it almost becomes negligent that they don't use CytoSorb where there is a reimbursement code established. Are there any data points like that you can point to in your core market?

Phillip Chan
Yes. Christian, do you want to maybe give some color on sort of physician feedback or hospital administrator feedback about this new code?

Christian Steiner
Yes, thank you Phil. The whole process of starting with a new code takes a little bit of time. Obviously the users are coding the procedure from January 1 but the up-negotiating happens during the negotiations for the hospital budget. Nevertheless, we have a very positive response from the field. We see, for example, that that the doctors who were hesitant in the past are now open to speak again and I think we can approach reluctant new accounts again. With the right data, I think this will accelerate the whole issue. In your question, you have mentioned one thing and this is really true; I experienced this two weeks ago at the conference where it was the first time that actual and potential customers mentioned that it might be unethical in the future to not use CytoSorb. Although this is anecdotal, it has happened now three or four times and never happened before. So I think it is a great step forward on how people are thinking about this therapy.

Andrew D'Silva
That's very positive, definitely, thank you. And then, if we could just briefly move over to your REFRESH I trial and the release of efficacy data. I've been getting this question a lot -- I've had my own response but it would be great to hear it in your own words. What was the rationale on waiting to release the efficacy data at the AATS [American Association of Thoracic Surgery] Conference in April? Have you had time to review the data and compile different sets of it and looked beyond just inflammatory mediators? Are there other stats you have been able to compile and should we expect more than just REFRESH I efficacy data to be released…maybe things related to clinical benefits such as reduced hospital time or anything like that?

Phillip Chan
Yes. The genesis of the delay in release in the free hemoglobin data and other inflammatory mediator data really stems from guidance from our Cardiac Surgery Advisory Board, investigators, and our own internal advisors. The feeling was essentially this: people have known for a long time that free hemoglobin is a toxin that should not be there during or post-cardiac surgery. They have known for a long time about the toxicity of this particular molecule but no one has been able to really eliminate or reduce that molecule before in cardiac surgery. This was also the first randomized controlled trial of CytoSorb in a high-risk cardiac surgery patient population - another major milestone.

This was a U.S. trial done at U.S. sites and the feedback from our U.S. investigators and U.S. cardiac surgery advisors was that we should not be releasing this at the European Association of

Cardiothoracic Surgery Conference [EACTS] but really at an American cardiothoracic surgery conference. And we should be not releasing these data in a press release, but in a scientific forum where it would be most impactful and wouldn't be perceived as hype.

We take our advisors guidance very seriously and that is what we elected to do. That being said, we have given the market some visibility at what we've seen and what we found. Going into the FDA, we feel very confident about the data and believe that it will support moving to a REFRESH II Pivotal trial hopefully to start later this year, which is our plan. So, we'll see. As I said before, we'll give the market more feedback on that when we have more visibility. That being said, to answer the second part of your question, we will have more data to present.

As you can imagine, there's a tremendous amount of data coming out of these studies and many different ways to look at data. We want to make sure that we do this right and we want to make sure that we get as much information as possible to inform the design of the REFRESH II pivotal trial, which in essence will look very similar to REFRESH I. But we plan to use our analysis of the data from REFRESH I with the goal of trying to refine REFRESH II to make it easier to conduct, to give it a higher chance of success, and to select the clinical and economic end-points that would make the study most impactful. I guess that is a long way of saying that we are actively looking at our data and continue to analyze the data to put our best foot forward in front of the FDA when we do meet with them.

Andrew D'Silva
No, that's great. So thank you, best of luck in 2017 as well.

Phillip Chan
Thank you very much Andy, we really appreciate it.

Operator
And we'll go next to Brian Marckx with Zacks Investment Research. Please go ahead.

Brian Marckx
Good morning, congratulations on the progress and the results. Relative to REFRESH I and the sub-population that you've identified, I think you mentioned that those patients made up about 50% or more of total enrollment in REFRESH I. Is that 50% plus proportion also reflective of the broader population of patients that would be candidates for that type of surgery?

Phillip Chan
The sub-populations that we've identified are very common in the overall high-risk cardiac surgery population overall, not just in our trial program.

Brian Marckx
Okay, I think you mentioned that you expected REFRESH II to be potentially smaller in cost and in patient enrolment. Number one, did I get that right? And number two, if I did, what are your thoughts today in terms of size of enrollment?

Phillip Chan
The value of enrichment is to reduce the heterogeneity of the trial and to potentially be able to speed up the trial by having fewer patients enrolled because you have a stronger signal, a more

focused signal, and a more homogenous patient population. I think for right now, ahead of an FDA meeting, I guess we'll just say that there is that possibility, but I don't think I can commit to anything at the current time.

Brian Marckx
Okay, fair enough. On to the general guidance that you gave for 2017 and beyond, you mentioned operating expense would potentially only be up about 10% from 2016 numbers. That includes the clinical trial expenses for REFRESH II…I assume everything is in there? And then, I guess the bigger question had to do with cash versus non-cash…that does not just assume cash operating expenses is that correct?

Phillip Chan
So I'll ask Kathy to give a little bit more color on this. But when we talk about a 10% increase, we're talking about fixed operating expenses which excludes non-cash stock option expenses as well as clinical trial costs. So this is really the fundamental expense line that keeps our business up and running and excludes clinical trial costs.

Brian Marckx
Got you.

Phillip Chan
Kathy, I don't know if you'd like to comment a little more beyond that.

Kathleen Bloch
No, no. I think you've got it just right there. We took the clinical trials off because we were looking at operating profitability and that just really swings things out of proportion.

Brian Marckx
Yeah, understood. Okay.

Kathleen Bloch
Okay.

Brian Marckx
Yes, appreciate the clarity. Still Japan sounds like it could be a big market, if you could just kind of talk about what you're plans are there? And then, I guess a broader sense what is the regulatory path and what will it be like in Japan?

Phillip Chan
Yes, so to get into the Japanese market really requires that you have a Japanese company sponsor to get in there. That just makes things a lot easier. So, Terumo - as one of the big multi-national corporations based out of Japan - fits that bill. There is certainly an interest on both sides to move into Japan. Any kind of regulatory approval in Japan would require that a trial be done there, but you can imagine that if a deal were struck to do that, then the partner would bear the cost of that trial.

That said, we have a lot of interest from the various partners in cardiac surgery, all of major ones know of our technology. That provides a potential additional option for us to fund a clinical study here in United States including REFRESH II. And so, those are all within the realm of possibility and we'll see what happens.

Brian Marckx
Okay. I'm kind of jumping all over the place here. This is the last one I got. Relative to 21st Century Cures Act, does that potentially applied any way with your current cardiac surgery pathway or any other potential application in terms of an FDA pathway?

Phillip Chan
The Cures Act represents a potential fast track for therapies that can address major unmet medical needs and certainly in the area of critical care as well as in cardiac surgery… particularly high risk surgery…there is that potential path. We were actively investigating this as it was just recently announced, and we're actively assessing our options in that area.

Brian Marckx
Alright, great. Thanks Phil, appreciate it.

Phillip Chan
Absolutely Brian, thank you.

Operator
And we will go next to Jason Wittes with Aegis Capital. Please go ahead.

Jason Wittes
Hi, thank you for taking the question. First off, I noticed SG&A popped up this quarter. I don't know if you could discuss that and also in terms of the SG&A spend for next year, how should we be thinking about it?

Phillip Chan
Kathy, would you like to take that?

Kathleen Bloch
Yes, let me take that, so one of the largest items that was impacting the G&A was a $2.6 million non-cash stock compensation expense. That was the big driver of that increase.

Jason Wittes
Okay. So that's not going to repeat? So basically, it should go back to kind of what we saw in the previous quarters for 2017?

Kathleen Bloch
Yes, that is correct. It was really the recognition of milestone option awards based on 2016 performance which we typically do once a year.

Jason Wittes

Okay, and obviously German reimbursement - a catalyst here; can you give us a sense or an update in terms of reimbursement decisions or progress in some of the other regions in Europe and other countries that are under coverage?

Phillip Chan
CytoSorb is paid for through either direct reimbursement, through either a DRG - like a lump sum payment reimbursement, a dedicated line item reimbursement as we have in Germany, through tender orders, or through self-pay or through other mechanisms like private insurance and others. It varies country to country. Last year, we hired a reimbursement expert to initiate reimbursement or enhance reimbursement in our key markets. This is an active goal of ours and although we can't go into a lot of detail on our progress, we think that we are making good progress.

Jason Wittes
Okay. I don't want to push it harder since it sounds like there is not a lot of detail you can provide right now, or willing to for competitive reasons. Also as you mentioned there's no stocking this quarter in the revenue number. How do we model that, quarter to quarter in 2017 when I think you are going to see a lot more of your partners participating in the revenue line? Should we assume that there is going to be some lumpiness due to stocking throughout the year or how should we be thinking about that?

Phillip Chan
Kathy, do you want to take that?

Kathleen Bloch
Yes, let me start on that. There are some stocking orders generally with new territories coming on. But they are minimal in terms of size compared to our reorders. So I think what we are now beginning to see and how you should think about modeling it, is that we are typically receiving at least quarterly orders, sometimes twice in a quarter and sometimes monthly from our distributors. So we are not going to be expecting that irregularity. The only thing that might cause that to happen, that I can think of, would be, if we were to receive some kind of huge tender order from say, Saudi Arabia or something like that.

Jason Wittes
Okay, great.

Kathleen Bloch
I think of the revenue as more routine and recurring for the year.

Jason Wittes
Great, thank you. I will jump back in queue.

Phillip Chan
Great, thanks Jason.

Operator
And there are no further questions at this time. I'd like to turn the conference back over to management for any additional or closing remarks.

Phillip Chan - CEO:
Thank you everyone very much for taking the time this morning to get on this call. And again, if you do have questions that were not answered on today's call, feel free to reach out to Amy Vogel at avogel@cytosorbents.com and we'll try to get a response back to you where possible.

Thank you very much everyone and have a wonderful weekend. Take care.

Operator:
Thank you. That concludes our conference for today. I'd like to thank everyone for their participation. Have a great day.