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Q1 2017 Energy Recovery Inc Earnings Call

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PRESENTATION

Operator

Good day, and welcome to the Energy Recovery's First Quarter 2017 Earnings Conference Call. Today's call is being recorded. And now at this time, I'll turn the conference over to Mr. Chris Gannon. Please go ahead, sir.

Chris M. Gannon ***Energy Recovery, Inc. - CFO***

Good morning, everyone, and welcome to Energy Recovery's earnings conference call for the first quarter of 2017. My name is Chris Gannon, Chief Financial Officer of Energy Recovery, and I'm here today with our President and Chief Executive Officer, Mr. Joel Gay.

During today's call, we may make projections or other forward-looking statements under the safe harbor provisions contained in the U.S. Private Securities Litigation Reform Act regarding future events or the future financial performance of the company. These statements may discuss our business, economic and market outlook, the company's ability to achieve the milestones under the VorTeq licensing agreement, growth expectations, gross profit margins, new products and their performance including MTeq, cost structure, and business strategy.

Forward-looking statements are based on information currently available to us and on management's beliefs, assumptions, estimates or projections. Forward-looking statements are not guarantees of future performance and are subject to certain risks, uncertainties and other factors. We refer you to the documents the company files from time to time with the SEC, specifically the company's Form 10-K and 10-Q. These documents identify important factors that could cause actual results to differ materially from those contained in our projections or forward-looking statements. All statements made during this call are made only as of today, May 4, 2017, and the company expressly disclaims any intent or obligation to update any forward-looking statements made during this call to reflect subsequent events or circumstances, unless otherwise required by law.

We will make some references to non-GAAP financial measures during this call. You will find supplemental data in the company's earnings press release filed yesterday with the SEC, which includes reconciliations of the non-GAAP measures to the comparable GAAP results.

Now turning to the financials. I will begin with a brief analysis of our financial results on a consolidated basis. I will then turn to a segmented examination of our financial results to provide further transparency and clarity to our business. As such, I will discuss our 2 segments, namely water and oil & gas, as well as corporate expenditures. I will conclude with a discussion of our liquidity position. I will begin with our Q1 2017 consolidated results.

Revenue totaled $13.5 million in this year's first quarter, an increase of 20% compared to $11.3 million in the comparable period last year. Q1 2017 represents the strongest first quarter top line performance in our history. Product revenue was $12.3 million, representing a $2.2 million or 22% increase over the prior year, while license revenue totaled $1.3 million in both periods.

Of the $2.2 million increase in product revenue, $700,000 relates to the water segment and $1.5 million relates to the oil & gas segment. The $700,000 increase in water segment product revenue was driven by higher MPD sales. While the $1.5 million increase in oil & gas segment product revenue was entirely due to percentage of completion revenue recognition associated with the previously announced sale of multiple units of our IsoBoost system.

Product gross margin, which is to say gross margin associated with water and oil & gas product revenue and their corresponding costs, was 62.4% in the current period compared to 63.4% in the first quarter of 2016. Gross margin was weighed down by lower margin oil & gas POC revenue in the current period. Total gross margin was 65.9% in the first quarter, including license revenue of $1.3 million.

Operating expenses were $9.5 million, a reduction of $250,000 or 3% from $9.8 million in the first quarter of 2016. This decrease was principally driven by the elimination of nonrecurring expenses associated with the General Counsel transition and delayed R&D activities. These declines were partially offset by increases in corporate development and sales and marketing activities.

With record revenues, healthy gross margins and lower OpEx, the company reported a quarterly net loss of $400,000 or a loss of $0.01 per share as compared to a net loss of $2 million or the equivalent loss of $0.04 per share in the prior year quarter.

Now turning to the segment analysis, beginning with the water segment. This segment generated product revenue of $10.7 million, which represents an increase of 7% year-over-year. As discussed earlier, this increase was driven by increases in MPD sales.

Water segment gross margin of 67.1% represents a 370 basis point improvement from 63.4% in the prior year. This increase was driven by favorable PX sales mix and manufacturing efficiency gains. As a result, the first quarter of 2017 represents one of the most profitable Q1s in our history.

Water segment operating expenses were $2.2 million, an increase of $400,000 year-over-year. This increase was primarily driven by higher sales and marketing and general and administrative expenses related to our strategic efforts to enhance and/or preserve our share in the desalination market, to include, PX Prime, Energy Services Agreements and others strategic initiatives within the water segment.

With higher revenues, higher gross margins and increased OpEx, the water segment contributed $5 million in operating income for the first quarter or 46% of revenue. Comparatively, the water segment generated $4.5 million in operating income in Q1 2016.

Now I will transition to the oil & gas segment, which consist of hydraulic fracturing, gas processing and chemical processing.

The oil & gas segment generated total revenues of $2.8 million, an increase of 124% year-over-year. This increase was driven by the previously mentioned percentage of completion product revenue of $1.5 million, which occurred in 2017, while we did not recognize any product revenue in Q1 2016. We recognized $1.3 million of license revenue in both periods.

Oil & gas segment product gross margin was 30%, while license revenue gross margin was 100%. Accounting for product and license gross margin, oil & gas segment total gross margin was 61.1%. Total margin declined by 38.9 points year-over-year as 2017 was weighed down by lower margin product revenue, and we did not have any product revenue in Q1 2016. However, and of significantly more relevance, total gross profit dollars increased by $460,000 or 36.6% year-over-year.

Oil & gas segment operating expenses were on par year-over-year at approximately $3.2 million. Comparing to the prior year, we strategically shifted our focus from direct sales activities to corporate development activities, which Joel will discussion shortly.

Now transitioning to corporate OpEx, the company incurred $4.1 million in corporate operating expenditures for the first quarter of 2017, representing a decrease of 12% year-over-year. This decline was primarily driven by the elimination of nonrecurring General Counsel transition expenses experienced in 2016. This was partially offset by a strategic shift towards corporate development activities.

(technical difficulty)

Operator

(technical difficulty)

Joel Gay ***Energy Recovery, Inc. - CEO, President and Director***

market through mutually beneficial supply agreements and indeed, the benefits of operating leverage amidst a desalination market upswing.

Operator

(technical difficulty)

Joel Gay *Energy Recovery, Inc. - CEO, President and Director*

offering; and four, to monetize our centrifugal product line, IsoBoost and IsoGen in gas processing and pipelines applications.

Let's begin with an update on our efforts to achieve proof-of-concept of one derivative of the pressure exchanger annually. Central to Energy Recovery's investment thesis is the ubiquitous value proposition of our technology, specifically the pressure exchanger. In developing offerings and ultimately markets, we seek to evaluate the preponderance of 3 distinct criteria: number one, high rates of fluid flow; two, large pressure differentials; and three, high degrees of capital intensity in the form of pumps or pumping infrastructure.

When these criteria exist, we are able to deploy our core competencies of fluid physics and advanced material science to create value, specifically we arbitrage wasted pressure energy and/or isolate and preserve pumping assets or infrastructure. Our product development road map is, therefore, replete with potential applications where a clear opportunity to unlock pent-up demand or radically change the capital cycle within a given market. In contemplating our product to market development criteria, oil and gas emerges as the most target rich, and indeed, we have chiefly allocated our R&D and marketing resources here. In 2015, we launched an initiative within the company known as Operation Gatling. The mission objective was to rapidly develop derivatives of the pressure exchanger, specifically it's utilization as a pump to extend the life expectancy of incumbent pumps subject to hostile processing conditions. We further articulated a goal to take a product from concept to proof-of-concept in a 24-month development cycle, meaning; in 2017, and every year thereafter, a new pressure exchanger round would be fired from our theoretical gun.

As you know, earlier this week, we announced the MTeq, an entirely novel solution for mud pumping in oil & gas drilling applications. Concurrently, we also announced the first early-stage partnership for this technology with Sidewinder Drilling. Mud pumping is an integral process within the drilling of a well, whereby multiple positive displacement plunger pumps pressurize mud to a given pressure to lubricate the drill bit, remove cuttings and maintain the hydrostatic pressure of the wellbore. The mud is recirculated in a close-loop system, which becomes contaminated with cuttings and debris from the wellbore. As a first order mitigant, drilling service providers employ various forms of filtration to cleanse the mud, such as desilters, desanders and shale shakers. Despite this equipment, particulate remains in the mud and, therefore, passes continuously through the mud pumps. As a result, pump and process reliability is challenged, resulting in excessive operating and capital expenditures as well as the opportunity cost of downtime which is currently addressed through redundancy.

As an integral component to a drilling rig, the MTeq will address these and other inefficiencies by allowing pumps to process and pressurize clean fluid. Said clean fluid is sent into the MTeq where the hydraulic energy is transferred to the particulate-laden mud. The pumps are thus isolated from the process fluid. And in the final analysis, the fluid physics and material science superiority of our pressure exchanger allow it to more cost efficiently pump the mud in effectuate the drilling process. Most notably, the MTeq will forge a radical change in the system level design of drilling rigs through the introduction of centrifugal pumps as replacements to the incumbent positive displacement plunger pumps.

Centrifugal pumps are a superior option due to their reliability, significantly greater life expectancy and drastically reduced size and weight. However, they are not well-equipped to process particulate-laden fluids. And as such, the option of utilizing centrifugal pumps in mud pumping in drilling operations is only made possible through the MTeq.

The market potential here is sizable for our company even in today's relatively low rig utilization regime. We sized the market opportunity assuming an immediate migration to the centrifugal pump model, given that pumps capable of generating typical flows and pressures within mud pumping exist off the shelf, and secondly considering, the steady yet progressive market upswing in oil patch recapitalization where an increasing number of service providers are opting to procure new and higher-spec rigs as opposed to unstacking those that have been idle since the onset of the downturn.

The MTeq, therefore, presents 5 tiers of value creation: the first being reduced repair and maintenance expenses; secondly, lower depreciable expenses over a given capital budgeting cycle given the significant life expectancy delta between plunger pumps and centrifugal pumps;

number three, a reduction in the opportunity cost of downtime given an increase in pump reliability; number four, the reduction of mobilization or logistics costs as a result of footprint consolidation given the reduction in the number of pumps utilized and the physical dimensions of the centrifugal pumps; and lastly, a reduction in safety incidents, given an overall improvement in system reliability, a reduction in footprint, and ultimately, fewer people exposed and for shorter durations to dangerous, high pressure drilling equipment.

We estimate the total value per rig to be approximately $600,000 per annum. At today's active rig count, this equates to a gross, recurring total addressable market in the $1 billion range. Upon commercialization, Energy Recovery expects to extract an equitable portion of these gross rents or total addressable market.

Concurrent with the unveiling of the MTeq technology, we announced an early-stage partnership with Sidewinder Drilling, a well-respected technology-focused service provider with, according to ISI Evercore, a total of 42 rigs, approximately half of which are in our ideal target market specification. All testing, to date, has been performed at our R&D center here in the broader Silicon Valley area. And while the test results have been positive, the technology must be fully vetted in the field and in conditions that are most emblematic of those found at the wellhead. It is precisely here that Sidewinder will prove invaluable to Energy Recovery and the MTeq. We will work with Sidewinder, and through a battery of field tests, endeavor to fully define the product's technical envelope, determine the best mode of rig integration, and ultimately, forge a clear path to full commercialization.

Our business model is increasingly that of a licensor of technology, where we can execute within the scope of our core competencies, and ultimately, deliver premium risk-adjusted returns to our shareholders. Our go-to-market strategy for this and future products is easily identifiable to our shareholders, a model that was born through the VorTeq licensing process. In this, and in parallel with the field test for the MTeq, we will continue the corporate development process to select the ideal late-stage partner to whom we endeavor to license the MTeq. While the drilling service provider market appears quite fragmented, the top 4 operators constitute 67% of the high-spec target market by active rig count, and hence, the option to exclusively license the technology exists. Importantly, however, our corporate development outreach spans beyond the service providers to capital equipment and diversified industrial manufacturers. The key here is optionality, all of which we will have in abundance to the extent that the MTeq performs to our expectations.

Optionality is a central theme to the Energy Recovery investment thesis. With the MTeq, we have deliberately increased our upstream exposure as the volatility of that segment of the oil & gas market amplifies our value proposition. Mud pumping and hydraulic fracturing are, but 2, of many potential opportunities within the upstream segment of the oil & gas market, where hostile fluid processing results in significant economic deadweight loss. And indeed, our product development road map contemplates these opportunities, and further, we are funding several initiatives herein. Through a post-facto lens, mud pumping was an obvious target for product development, but there are many other applications that are equally obvious even prior to a future product release. Any application with high rates of flow, large pressure differentials and high spending on pumps is a potential bogey for our company. This translates to the broadest imagination of frontiers. We will continue to endeavor toward the objective of achieving proof-of-concept of one PX derivative annually and find that the MTeq is a worthy first child of our program. I look forward to providing updates on our progress to full commercialization upon the conclusion of field trials.

Now for an update on our VorTeq development and commercializing efforts. Having suspended testing on the missile prototype back in December of last year, we immediately initiated a comprehensive redesign process to produce the second-generation VorTeq system consisting of the third-generation cartridge, the third-generation equipment housing and the second-generation missile. To produce the best missile possible, we partnered with Caterpillar Kemper to design and manufacture the actual manifold, an announcement made late in the first quarter. This 3-legged design effort represents the most comprehensive and intensive R&D initiative in the company's history. If we consider the cartridge and the equipment housing as a single component, I will distill the design methodology in very simple terms. The cartridge is being designed to be as impervious to its environment as possible, from those exogenous forces, such as pressure and force pulsations that impeded our ability to meet the KPI standards as enumerated in the contract with the product licensee.

Conversely, the missile is being designed to isolate, if not insulate, the cartridges to the greatest extent possible such that it does not excite to a point where detrimental energy is transferred to the cartridges. To achieve these objectives, we have executed a highly iterative phenomenological and experiential R&D process, which employs of the most advanced computational fluid dynamics and finite element

modeling in the world. Cartridge testing heretofore has been very encouraging. However, we are fully appreciative that lab results are not easily replicated in the field under full flow and pressure conditions. And as a result, we endeavor to design a product that accounts for the largest sample of possible failure modes.

The missile design is also progressing in a very encouraging manner as we are leveraging Caterpillar Kemper's expertise to the fullest. As for the precise critical path to executing the first milestone test, the following applies. We will first conclude the detailed design process. We will then manufacture and fabricate the system. We will then commission and test the system, followed by, and importantly, private full-scale testing. Predicated on positive results from full-scale testing, we will then reattempt the first milestone test with the product licensee. We would not expect to do so until the latter portion of the second half of the year based on manufacturing lead times and the conclusion of the design process. So based on the facts and circumstances today, we remain confident that milestone success can be achieved before the year's end.

Progressing now to an update on our efforts to enhance our market position within the global desalination market. The overarching theme here is horizontal integration as a means of increasing the total addressable market, and more importantly, the economic value opportunity for the company to a number significantly greater than the current $50 million estimate, which, of course, only contemplates Energy Recovery devices.

As you know, earlier in the quarter, we announced the partnership with Duchting Pumpen, a German manufacturer of pumping technology. This partnership expands the company's offerings to include high-flow, high-pressure pumps as well as other equipment integral to the high-pressure reverse osmosis loop within a desalination plant. It allows us to bundle their technology with ours, resulting in a valuable and differentiated solution to the market entirely unique to the partnership, this as it relates to new build and retrofit activity.

Here, we find that formally activating the retrofit segment of the market will allow for the most immediate and substantive result. In the past, we generated significant retrofit revenue within our service and aftermarket sales channel, yet these windfalls were the result of stochastic plant failures, which we assumed -- in which we assumed a reactive posture to the market. As opposed to waiting for an unfortunate plant failure, we segmented the global installation base to identify those plants that would be most apt to upgrade what is, in many cases, antiquated and obsolete technology. To stimulate demand, we created several new procurement vehicles, all of which are only possible in the new Energy Recovery era, where our balance sheet allows for project financing. We have discussed one such procurement vehicle in the past, namely the Energy Services Agreement or ESA, which is an adaptation of performance contracting specific to desalination. Our partner, Duchting, is integral to this financial product as they too will flex their balance sheet to stimulate demand in the customer segment in question. Additionally, we are offering operating and capital leases applicable to all PX products. This for those customers who may find the ESA to be too esoteric or foreign for their liking. In addition to financially engineering a more NPV positive outcome for the company through the aforementioned financial products, we continue to develop the PX Prime and expect to unveil several new PX Prime sizes in addition to the existing PX Prime 330, in essence "priming" the entire PX line.

Given the continued strength of the global desalination market in what appears to be yet another year of growth, our several initiatives may not seem imminently critical, but the cyclicality of this market must be accounted for. And we will continue to develop this business to withstand if not performed well in the next downturn.

Lastly, an update on our efforts to monetize the centrifugal product line, namely IsoBoost and IsoGen for gas processing, pipelines and ammonia applications. Recently, we announced an exclusive licensing agreement with Alderley, a U.K.-based vertically integrated oil & gas capital equipment manufacturer. Said licensing agreement presents a field of use of gas processing and pipeline applications within the Gulf Cooperation Council countries or the GCC. As you will recall, 2 years ago, we rationalized our geographic focus, first to only the GCC and North America, and then later, exclusively to GCC. This a function of the size of the installation base, and more importantly, the energy density arbitrage possibilities through the implementation of our technology. Our strategy was 2 phased: phase 1 was to establish a beachhead or a critical mass of feature installations; phase 2 was to license the technology to a firm whose distribution channel was far superior to ours in its scope and complexity. We successfully completed the first phase of the program in securing the largest purchase order in the company's history, totaling up to $11 million for multiple IsoBoost systems for the world's largest oil & gas company. These future installations, coupled with the IsoGen device already in service within one of Saudi Aramco's larger plants constitute the desired beachhead.

The aforementioned licensing agreement with Alderley is, of course, the successful completion of Phase 2. In short, we have executed precisely to the prescribed plan.

The agreement with Alderley will allow for more consistent income streams against this portfolio of IP. Importantly, our scope of supply is limited to the differentiated components, namely the rotating assemblies, hydraulic turbines and hydraulic turbochargers. In this, while our royalties per unit will be less than the revenue that would have been generated had we continued to develop business through our distribution channel, gross profit dollars will meet or exceed the previous benchmark. We will work closely with Alderley to provide technical sales support and any other assistance required to propel the partnership forward. Our next objective is to secure a licensing partner for North America, a corporate development effort that began last year. Despite challenging midstream oil & gas market conditions, we remain confident that we can consummate yet another deal for this product line one that will maximize the IP value for our shareholders. As and when updates to this extent arise, I look forward to sharing such with our shareholders.

In closing, the first quarter was a massively encouraging start to the year. Departing from a base of sound and fundamentals operational and financial performance in the first quarter and the days beyond, we executed against our strategic plan with precision and at a breakneck pace. In addition to significantly advancing the design of the Gen 2 VorTeq system, we consummated 3 strategic partnerships: one with Duchting to horizontally integrate our desalination business; one with Alderley to drive greater consistency and economic value from our centrifugal product line; and finally, early in the second quarter, we announced the MTeq mud pumping solution and our partnership with Sidewinder Drilling to achieve field validation of the technology. Our ambitions are high, and our resolve to succeed on all fronts has never been more resolute.

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

QUESTIONS AND ANSWERS

Operator

(Operator Instructions) And we'll go first to Tom Curran with FBR Capital.

Thomas Patrick Curran ***FBR Capital Markets & Co., Research Division - Senior VP and Senior Research Analyst***

Joel, for MTeq's early stage testing and validation, I assume that 2 of your strategic priorities were launching with a new oil field partner and launching in the right place. Meaning, onshore North America ideally in the heart of the U.S. market. That clearly rules out Schlumberger, as Schlumberger's already a solid relationship that would have resulted in concentration not diversification. And of its 411 rigs worldwide, I think, it has just 12 in the U.S, but that still left you with a diverse array of potential candidates. As one of the largest, most reputable private land drillers, Sidewinder strikes me as an excellent outcome. But could you share some background on how and why Sidewinder ultimately emerged as the early-stage partner?

Joel Gay ***Energy Recovery, Inc. - CEO, President and Director***

Yes. Absolutely. And thank you for the question, and very prescient insight on your part. Yes, look, it was never a question between Sidewinder or driller X, Y or Z. And in Schlumberger, as you rightly noted, our product licensee for the VorTeq, while in fact, they do own and operate drilling rigs, does not necessarily have a prohibitive market share or market position in North America. And when we think about most quickly monetizing the MTeq and taking it to market, of course, North America is the most target-rich environment given the preponderance of total rigs, and more specifically, the AC or high-spec rigs. I believe the activity rig count in North America right now is around 850, 900 rigs. And so as it relates to the corporate development and selection process for Sidewinder, and some of this commentary will be familiar to our shareholders, who were around when we consummated an agreement with Liberty Oilfield Services as our maiden test partner for the VorTeq, we seek a number of things out in our early stage partners. Number one, how forward thinking and how technology focused is the management team? Sidewinder's team more than adequately satisfied those criteria. Number two, is it a company that can keep pace with Energy Recovery? As you know, we are a very small entrepreneurial small cap. We do not have bureaucracy and, therefore, we are able to allocate capital, make decisions and ultimately execute a number of programs, in this case, an R&D program, with a great degree of alacrity. And so as we think about simple cash flows from a time value of money standpoint, we must partner with someone who can keep pace with us. And that typically equates to a smaller, albeit, not small early-stage partner. So again, Sidewinder satisfied that criteria. And then from a existing technology standpoint, as you know, approximately half of their rigs are AC spec. And clearly, that is the direction that

the market is going. So as we think about the MTeq as an integral component to a rig that could one day become a fully integrated component to a rig as opposed to a standalone skid. We certainly were attracted to Sidewinder's rig proportion as being high-spec or AC. But obviously, we're absolutely smitten with them as a company. We're massively excited about this partnership and this technology. Tom, waking up this morning, I can tell you earlier this week when we were preparing our scripts and our press releases, we felt pretty good coming into the week. Maybe not quite like a phoenix rising, but upon waking this morning, felt a bit more like Icarus. So hopefully, in time the message will get out and there'll be an appreciation for this product and certainly the progress we've made on the VorTeq year-to-date.

Thomas Patrick Curran ***FBR Capital Markets & Co., Research Division - Senior VP and Senior Research Analyst***

Thanks for that overview, Joel. Turning to VorTeq, did Schlumberger have any input on the choice of Kemper for the second-generation missile design? And whether they did or didn't -- just what have you heard from them about the decision to go with Kemper?

Joel Gay ***Energy Recovery, Inc. - CEO, President and Director***

Look, we are in lockstep with the product licensee, Schlumberger. They remain as supportive and as patient of a licensing partner that I can think of. Clearly, there are areas that they are more expert in than we are. And conversely, there are areas that we are more expert in than they are. And so the decision-making process as it relates to who we select as vendors to produce a prototype, we have the final say there. We are the ultimate arbiter. But as with any good relationship, we keep Schlumberger abreast of what we're doing, and to the extent that they would oppose a given decision, we would take that under consideration and ultimately make the best decision for the product and the partnership. But with that all timing on things in very specific terms, I can just tell you that they remain very supportive.

Thomas Patrick Curran ***FBR Capital Markets & Co., Research Division - Senior VP and Senior Research Analyst***

Great. And then turning to the licensing agreement for IsoBoost and IsoGen in the GCC, would you clarify for us whether Alderley's minimum performance standard is time or volume based? And maybe just provide some details around how that works, so that -- as you look out over 10 years, you can hold them to some sort of minimum expectation for the royalties you would expect to earn?

Joel Gay ***Energy Recovery, Inc. - CEO, President and Director***

Yes. Sure. So I'll provide some color there. And we're equally excited and enthusiastic about the licensing agreement that we were able to consummate with Alderley. I'm not quite sure if that was fully appreciated by the market. But, of course, we structured that deal with minimum unit sale requirements over a given period. And we're not going to disclose what those requirements are, those minimum sale quotas just out of respect for our partner and a desire not to compromise their competitive position in the markets that they are playing. But in essence, very similar to how I structured the deal with Schlumberger, if certain requirements are not made as it relates to minimum units sold and, therefore, minimum royalties' growth by Energy Recovery, they would lose exclusivity, and we would be able to exit the relationship. But when we structure these deals, Tom, we try not to litigate the divorce before we've even cross the marital threshold. So we're very much in the early stages of that agreement. I can tell you that we view it as a more NPV positive outcome than what we would have been able to create or generate through our own distribution channel or else -- why consummate the deal. So there will be a trade-off between revenue and gross profit dollars given the scope of supply, where Alderley will procure, manufacture and fabricate all of the noncore components. The semi-differentiated component, shall we say. The skid, the valves, the piping, et cetera, we will manufacture and supply the rotating assemblies. Those components that are essential to our core competencies and those components that have actual intellectual property protection, mainly the hydraulic turbocharger and the hydraulic turbine. And so as a result, we will be paid a unitary royalty for each unit sold by Alderley within the GCC. And the gross profit dollars on those royalties will be greater than what we could have otherwise enjoyed had we taken on the full scope of supply and continued to proliferate those products through our own distribution channel. So you've often heard me talk about the 3 dimensions of risk that we evaluate when we're doing business: capital risk, execution risk and technology risk. And so this agreement with Alderley presents the ideal balance of those risk dimensions or risk variables. And yes, we're excited about it.

Operator

And now we'll take a question from Trey Stolz with Coker Palmer Institutional.

Earl Anthony Stolz ***Coker & Palmer Investment Securities, Inc., Research Division - Senior Analyst - Oilfield Services***

Couple of questions here. First on -- you've given us a little detail on the current iteration of the pressure exchanger with the VorTeq and some of the tech hurdles. Can you give us a little more detail on how that differs from the MTeq? And how that path to monetization specific detail of how that might be easier, how that might be accomplished in a shorter time frame?

Joel Gay ***Energy Recovery, Inc. - CEO, President and Director***

Yes. Look, great question. It goes without saying that the MTeq is a first -- it's a first derivative of the pressure exchanger and then it's a second derivative of the VorTeq. It operates under the exact same fluid physics principles. It operates under the same value proposition principles in as much as we are isolating pumps from a process fluid that results in deadweight loss. Now it's important to delineate between hydraulic fracturing and mud pumping. And that delineation is actually quite favorable for our company and certainly the prospects for the MTeq. Number one, mud pumping is in a much lower pressure regime, okay? It peaks out at around 7500 psi, most mud pumping applications are somewhere between 5,000 psi and 7,500 psi. So obviously, lower pressure equates to a lower technical hurdle with respect to the design of not just the cartridge, but the system itself. Number two, you are in a much lower flow regime, instead of doing 80 to 120 barrels a minute, let's say, you are 10 to 20 barrels a minute. So the combination of lower flow rates and lower pressures equates to less energy density. And therefore, from a physics and engineering standpoint, it's a far less complex problem to solve as it relates to producing a reliable and valuable piece of equipment. Number three, and importantly, the process fluid. Mud has some parallels to frac fluid, but it's a very, very dilute form as you think about the particulate content. In fact, mud does have particulate, but the majority of that particulate is eliminated through the filtration equipment that you find on any drilling rig and then the particulate size is smaller. You don't have 2 to 5 pounds per gallon added a propene. So when we think about lower pressures, lower flows, less particulate, fewer pumps, therefore, less kinetic energy, less vibrational concerns and so forth, overall, it's just a much lower technical hurdle for us to overcome in terms of getting a product out there in an acceptable time frame, shall we say. And I'll take a step further to explain that. I think it was on the last call that I used the analogy of the trickle-down tree of research and development, or the economics of trickle-down R&D at Energy Recovery. The MTeq is exactly that. I mean, we are taking the latest and greatest technology from the VorTeq. So this new cartridge and the new bearing and the new equipment housing and all of the structural, heat transfer, modal analysis, the acoustics and vibration analysis that we are performing that is shaping the design of the Gen 2 VorTeq system, that is being immediately exported to the MTeq and mud pumping. And that's a good thing, obviously, because as I've stated previously, the operational hurdles are much lower. So -- I mean, I guess all that sums to, we're bullish on the technology, and we're excited to get it out there with Sidewinder.

Earl Anthony Stolz ***Coker & Palmer Investment Securities, Inc., Research Division - Senior Analyst - Oilfield Services***

And as I understand it, a lot of it depends on moving to a centrifugal pump there in the mud pumping system. What kind of a hurdle is that in terms of investment from your client? I mean, is that -- how necessary is that in the early stages?

Joel Gay ***Energy Recovery, Inc. - CEO, President and Director***

Yes. So great question. So the value is not entirely predicated on moving to a centrifugal pump. Approximately -- so we've estimated the market to be $600,000 per rig on a recurring basis. So let's just say about 40% of that value -- 40% to 50% of that value is unlocked by way of moving to a centrifugal pump. In terms of the technical hurdles, we recently purchased 2 centrifugal pumps from General Electric. And for those who will tour our facility in the future, they can come and see it as part of our test loop. So we purchased 2 of these pumps off the shelf that are capable of providing the flows and pressures that are emblematic of, let's just say, 80% of the drilling and mud pumping operations out there. So as compared to hydraulic fracturing where there are not many centrifugal pumps that exist today that are capable of 10 to 15 ksi, 120 barrel limited operations, they can be developed, of course, but mud pumping, when you're dealing with lower flows and lower pressures, those C pumps, or centrifugal pumps, already exist, and we will begin testing with those centrifugal pumps here in the near future. And frankly, we fully intend to take those centrifugal pumps into the field and test them as we're running through the field trials. So this change in the system level design for drilling as it relates to the transition to the centrifugal pumping model is much more imminent than it is in fracking because, again, this technology is all but off the shelf.

Earl Anthony Stolz ***Coker & Palmer Investment Securities, Inc., Research Division - Senior Analyst - Oilfield Services***

All right. And one more for me. Previously, on the – I'm going back to the VorTeq, you've given a time frame of maybe about 6 months from -- between fabrication, commissioning and testing, and with the announcement at the end of March, is that time frame still holds putting you kind of towards the end of September for that Milestone 1 testing?

Joel Gay ***Energy Recovery, Inc. - CEO, President and Director***

Yes. I mean, Trey, I can appreciate the question and the attempt to get me to commit to September or any date. There is nothing like being hoisted up by one zone petard, and we suffered that last year when we were unable to achieve the milestones. But I'll answer your question with respect to the 6 months, yes, that still holds. I believe, we announced the partnership with Caterpillar Kemper on the 29th of March. So if you think about 6 months design manufacturing, clearly that gets you into the latter part of Q3. And then as stated in my prepared remarks,

let's go back to the critical path, we're going to complete the design process and we're close to doing that obviously. We are going to manufacture and fabricate the skid -- the primary skid, not the skid, but the trailer and then the ancillary components. Then we're going to commission them, obviously, you've got to shake the system down and make sure everything works. And then we're going to do private full-scale testing. And I'll provide some color as to what that means. Private full-scale testing will consist of a practice run that meets the criteria that are enumerated in the contract with the product licensee with respect to the first milestone test. I do not intend on pushing 5 stages, but we're going to do a full-scale, full-flow, full-pressure test. And the distinction as it relates to it being private is, you don't want to make sausage in front of the customer. So we're going to make sure that the system is fit for purpose. And that the system meets or exceeds the KPI standards pursuant to the first milestone test before we invite our friends over at Schlumberger to come and witness the first milestone. And then with respect to providing an actual date, Trey, as much as the trolls on the message boards, would like me to commit to a discrete date, look, I'm not going to do that. We don't manage for those who trade on catalyst events. We manage for the long-term sustainable value creation for our shareholders. So hopefully that gives you some more color. We stand by our statement, we're confident, by the end of the year, we can achieve milestone success.

Earl Anthony Stolz ***Coker & Palmer Investment Securities, Inc., Research Division - Senior Analyst - Oilfield Services***

All right. Got it. Six months and I guess that'll do it for me, I'm going to go prep my petard.

Operator

(Operator Instructions) And we'll now move to Chris Denison with Stephens.

Christopher G. Denison ***Stephens Inc., Research Division - Research Associate***

I apologize, I had to hop in recently, if this has already been asked, but you talked about -- I heard you talk about the trickle-down effect on the engineering side from VorTeq. Is there perhaps a trickle-down effect that you've learned from the contract structuring? And how you would maybe approach the later stage contract?

Joel Gay ***Energy Recovery, Inc. - CEO, President and Director***

Yes.

Christopher G. Denison ***Stephens Inc., Research Division - Research Associate***

Comparing and contrasting?

Joel Gay ***Energy Recovery, Inc. - CEO, President and Director***

Yes. Look -- great question. When we signed the deal with Schlumberger, I think most will agree that's probably one of the greatest deals ever signed between a small cap and a large cap. And you think about the position that we were in, with respect to our liquidity, the strength of our balance sheet, the share price at that given point in time, I think it was the best possible deal we could have ever signed. With respect to future deals, and I've been very consistent when discussing this matter with shareholders, let me set the stage for what shareholders could expect. Obviously, we like licensing deals. We think exclusive deals are acceptable, but we're also entertaining nonexclusive deals with, let's just say, a diversified capital equipment manufacturer. But the structure, as we think about how we put these deals together, we believe that Energy Recovery, if we provided exclusive license, we believe that we should be compensated for exclusivity. Obviously, we received a $75 million exclusivity payment from the product licensee. We believe that we should be able to generate recurring royalty income. And so therefore, we structure our deals in such a manner that there are minimum unit sales or minimum adoption rates and the like. As for what I would do differently or what we will do differently for future licensing agreements, I can assure you, there will not be a dollar of deferred or contingent consideration on testing, on milestones or any of that nonsense, I'll say it. So the next deal we sign, when we license the MTeq out, there won't be any milestones, okay? There will be an exclusivity payment, if it's an exclusive relationship, and there will be a schedule of recurring royalties predicated on minimum adoption rates or minimum unit sales, something along those lines.

Christopher G. Denison ***Stephens Inc., Research Division - Research Associate***

Got you. Understood. That makes sense. This is kind of a broad question. And I don't know, did you guys provide an update on the PX cartridges, like any discrete engineering improvements that you guys have made thus far versus when you started looking at what you needed to do for the VorTeq?

Joel Gay ***Energy Recovery, Inc. - CEO, President and Director***

We haven't characterized specifically what we're doing with the cartridge. But I will -- I understand why people want to know. I guess, I too would want to know, but we have to be somewhat austere without being clandestine for obvious reasons, not the least of which patent applications and so forth. As you know, U.S. patent statutes are on a first-to-file, not first-to-invent basis. And we are ideating and spawning IP at real time. And so the last thing I would want to do is forsake our IP position in an attempt to assuage the concerns of our shareholders. But as it relates to the cartridge itself, our focus has been around optimizing the bearing, okay? The bearing is what allows the rotor to spin. And the cartridge has one failure mode. The pressure exchanger has one failure mode and one failure mode alone. It stops spinning. And I've already gotten into this in previous calls as to what happened on the VorTeq and why we couldn't get all of them to spin simultaneously, et cetera. So we have focused -- I mean, it has been an intensive effort -- I honestly believe that we have the smartest engineers on the planet that are attempting to design and solve these very complex problems. And why is it so complex? It's complex because of the multiscale physics of the pressure exchanger. You have a 30-micron gap between the end cover and the rotor, but yet the duct itself is 10 to 12 inches long. So when you think about that from a design and computational standpoint, it is massively complex, but also quite intriguing Point being, we have brought the best brains on the planet to bear on this problem or on this challenge, shall we say. Our test results have been very, very encouraging. And once we get back in the field and things are going well and we have our IP in place, I would love to provide any updates or color or what not on the design changes that we've made between the old cartridge and the new one.

Operator

And now we will take a follow-up from Tom Curran with FBR Capital.

Thomas Patrick Curran ***FBR Capital Markets & Co., Research Division - Senior VP and Senior Research Analyst***

Joel, when it comes to the private test that you plan to conduct that will come very close to replicating the Milestone 1, five stages, will that take place at a Energy Recovery or Schlumberger facility? And if it will be at Schlumberger facility, would it be in Sugar Land or Kellyville?

Joel Gay ***Energy Recovery, Inc. - CEO, President and Director***

Yes. So, Tom, I appreciate that question, and we're going to respect our product licensees' wishes not to disclose the location of testing to the extent that we would perform the private testing with Schlumberger. All I can say is that -- I can tell you, it won't be at Energy Recovery because -- first of all, we might get arrested here in the People's Republic of California for trying to push 60 barrels a minute at 2 pounds per gallon added. That doesn't typically go well outside of Bakersfield. But it will be elsewhere. We will rent a facility very well, could be one of our product licensees facilities or it could be someone else or someone else's facility. What's important, Tom, is that this will be a full-scale, full-pressure test, 9,000 psi, 60 barrels a minute, 2 pounds per gallon added.

Operator

And now we'll take a question from Robert Smith with Center for Performance Investing.

Robert Smith

I just wanted to tell you that earlier in the call, there was some trouble on the line, and your opening comments, maybe 2 to 3 minutes, was missed. I assume it'll be readable in the transcript.

Joel Gay ***Energy Recovery, Inc. - CEO, President and Director***

Yes, I hope so. I was just made aware of that, Robert. There was some really good stuff in the first 2 or 3 minutes, but we'll make sure that the entirety of the transcript is disseminated.

Robert Smith

Okay. So -- and working with Schlumberger, I mean, I assume that to address the difficulties that you've been having lately providing some valuable input, does this in any way change the terms of the agreement with the company?

Joel Gay ***Energy Recovery, Inc. - CEO, President and Director***

With respect to the contract that we have with Schlumberger?

Robert Smith

Yes. Are they asking for anything more for their input, the valuable things that they're doing?

Joel Gay *Energy Recovery, Inc. - CEO, President and Director*

Yes. Well, I'm not going to opine on specific conversations that we have had with Schlumberger. I can answer that question as follows. The contract that we consummated in October of 2015 remains intact and in effect.

Robert Smith

Okay. And over the last few quarters, we've been discussing the market potential opportunity in these various areas. So as the changes have been made and as you see it, the company going forward, has the $1 billion markets, your participation in those as to what it would throw up to you, have they've been changing?

Joel Gay *Energy Recovery, Inc. - CEO, President and Director*

We're going to be filing a new Investor Relations deck here shortly, next couple of weeks or so where our -- there's a slide in there where we quantify the total addressable market upstream, midstream, downstream and other. So that's a living document. Our sizing and segmentation of the total opportunity is a function of the procurement vehicle that we're utilizing the business model or we're utilizing our distribution channel or we're licensing it and so forth. But I can tell you, generally, our total addressable market has only increased over -- let's just say, the last year. It was certainly increased this week when we announced the MTeq. It increased by anywhere from $400 million to $600 million a year. So the mud pumping market, based on today's active rig count of 1,564 rigs times $600,000 a rig, that's going to get you about $1 billion, just south of a $1 billion, okay? As you know, we price our offerings on an economic value to the customer basis, and we believe that we can grow anywhere from 40% to 50% of those economic rents. That's our estimate right now. So the addressable market in our estimate has increased, certainly hasn't decreased.

Robert Smith

So all the variable work that you've been doing in the IP, is that going to making it easier to address the events in additional markets?

Joel Gay *Energy Recovery, Inc. - CEO, President and Director*

Yes. Yes. I think that's a great point. We came out -- what was it, December of 2014, and we announced the VorTeq. Then in October of 2015, we signed the deal with Schlumberger. Now this year, we've announced the MTeq early-stage partnership, and obviously, we expect to sign a late-stage partnership at some point in the future. But as I stated in my call, Energy Recovery or understanding Energy Recovery is about one's imagination, okay? We took a product in which we have a 90% market share in desalination. We were able to leverage it into hydraulic fracturing, albeit, we're still in the developmental stage there but, nonetheless, the potential exists. We've been able to further leverage that into mud pumping. And within oil and gas, there are so many opportunities where pumps are being destroyed, or there is a great deal of energy density that could be arbitraged. That's why I often talk about Energy Recovery's value proposition as being ubiquitous because we believe it truly to be. And so, yes, the IP, that has been spawned as a result of our R&D efforts, increases our theoretical addressable market each and every day.

Robert Smith

Okay. So, the prior call said, there's a -- it's a long, long way from May to the September, so we'll be waiting. And just one other comment, here's mud in your eye, how do you like that one?

Joel Gay *Energy Recovery, Inc. - CEO, President and Director*

That's good. I like that one, I'll use it -- maybe that'll become the tagline for that product, Robert.

Operator

With that, ladies and gentlemen, this does conclude your question-and-answer session. I'll turn the call back to your host, Joel Gay, for closing remarks.

Joel Gay ***Energy Recovery, Inc. - CEO, President and Director***

Okay. Thank you. In closing, I just want to reiterate a few key takeaways. Number one, through continued sound and operational management, we posted a record first quarter as it relates to revenues and certainly pure leading gross profit margins. Number two, we expect 2017 to be yet another impressive year pursuant to fundamental financial performance. Three, we furthered the realization of our long-term strategy by having developed and announced the third derivative of the pressure exchanger, the MTeq, thereby increasing our total recurring addressable market by $400 million to $600 million. B, we announced the maiden, early-stage partnership for the MTeq with Sidewinder Drilling to achieve field validation of the technology. C, we significantly advanced the development of the Gen 2 VorTeq system to achieve milestone success in 2017, and ultimately, full commercialization. We improved our market position in desalination by horizontally integrating via the partnership with Duchting, and we've advanced the PX Prime R&D initiative and having further diversified our procurement vehicles. And then lastly, we established a foundation for more predictable monetization of our IsoBoost and IsoGen product line through consummating the aforementioned licensing agreement with Alderley. With that said, we look forward to updating you again on our progress next quarter. Thank you.

Operator

Ladies and gentlemen, this does conclude your call for today. We do thank you for your participation. And you may now disconnect.