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PRESENTATION

Operator

Greetings, and welcome to the ION Geophysical Second Quarter Earnings Conference Call. (Operator Instructions) As a reminder, this conference is being recorded.

It is now my pleasure to introduce your host, Rachel White. Thank you, Ms. White, you may begin.

Rachel White - *ION Geophysical Corporation - Vice President, Corporate Communications*

Thank you, operator. Good morning, and welcome to ION's Second Quarter 2018 Earnings Conference Call. We appreciate your joining us today.

As indicated on Slide 2, our hosts today are Brian Hanson, President and Chief Executive Officer; and Steve Bate, Executive Vice President and Chief Financial Officer.

Before I turn the call over to them, I have a few items to cover. We will be using slides to accompany today's call. They are accessible via a link on the Investor Relations page on our website, iongeo.com. There, you will also find a replay of today's call.

Moving on to Slide 3. Information reported on this call speaks only as of today, August 2, 2018, and therefore, you are advised that any time-sensitive information may no longer be accurate at the time of any replay.

Before we begin, let me remind you that certain statements made during this call may constitute forward-looking statements, which are based on our current expectations and include known and unknown risks, uncertainties and other factors, many of which we are unable to predict or control and may cause our actual results or performance to differ materially from any future results or performance expressed or implied by those statements. These risks and uncertainties include the risk factors disclosed by ION from time to time in our filings with the SEC, including in our annual report on Form 10-K and our quarterly reports on Form 10-Q.

Furthermore, as we start this call, please refer to the disclosure regarding forward-looking statements incorporated in our press release issued yesterday, and please note that the contents of our conference call this morning are covered by these statements.

I'll now turn the call over to Brian, who will begin on Slide 4.

R. Brian Hanson - *ION Geophysical Corporation - President and CEO*

Thanks, Rachel, and good morning, everyone.

First, I'd like to state how dissatisfied we are with our second quarter results, which were well below our internal expectations. Personally, I was very disappointed with the number of deals that did not close in the quarter. The good news is that most of these deals didn't disappear, the timing of the decision simply slipped into the third and fourth quarters, and for a few, into early 2019, setting up what is potentially a strong back half of the year. License round timing is the primary driver of multi-client sales in today's disciplined capital spending environment, and the delay of the Panama license round announcement pushed sales out of the second quarter. I'll speak more to this later.

During the downturn, we surgically invested in areas where capital was flowing to ensure we had new programs that would deliver superior results. The performance of our Campeche 3D reimaging program in 2016 and 2017 is an excellent example of a quality revenue stream that was clearly linked to license round timing. I've always cautioned not to judge the quality of the business on a quarterly basis, but on a full-year basis because of the timing of purchase decisions relative to license rounds and the way our customers spend their full year budgets. The second quarter is a great example of that.

Two other key new programs that we invested in where we anticipate high-quality revenue streams are in areas where license round timing was not conducive to second quarter sales. The first is our new 2D multi-client program offshore Panama, where we have the only modern data set available, but the license round announcement was delayed a quarter. The second is our enormous 100,000 square kilometer Picanha 3D reimaging program offshore Brazil, where we believe a series of upcoming license rounds and farm-in activity will drive sales over the next couple of years.

Based on license round timing and heightened activity in our business, we still believe that 2018 will be a significant improvement on 2017 on a full-year basis. Given the dependency of our results on some of the leading indicators in our business, we're going to discuss these metrics in detail and why we still believe the velocity of the business is strong. We'll cover 6 key metrics: New venture program momentum, multi-client sales pipeline, license round activity, imaging services tenders, Marlin deployments and the number of active ocean bottom crews. For example, our multi-client deal pipeline for the second half of the year is the strongest it's been since before the downturn. In addition, reserve replenishment is finally becoming a greater priority than capital efficiency for our oil and gas customers.

Reserve replacement is an important topic and a long-term driver of our business, so I'd like to take a moment to speak about it. After several years of oversupply, the oil and gas industry is predicted to face a supply crunch in the next decade due to unsustainably low levels of investment. In downturns, companies hunker down and pull back spending, focusing on cost and cutting costs instead of replacing reserves. Since 2013, this reduced investment has resulted in unsustainably low reserve replacement rates.

Throughout the downturn, investments have gravitated to the best liquid prospects and shale has led the way due to its competitive breakeven costs and short payback times. This has created what is being coined a two speed oil market, with a marked difference between conventional and unconventional investment, production and reserves replacement. Today, we're producing about 96 million barrels of oil a day, and shale production only represents about 10% of it. So that means we likely need to replace 86 million barrels of conventional resources, and we've only been replacing 50% of it. Unconventional reserve replacement rates have been 200% to 300% since 2013, while conventional reserves replacement rates, the vast majority of global production, have been 50% or below since 2013 and just 30% the last 2 years. To be clear, that means less than half of the conventional reserves the industry is producing have been replaced for 5 straight years. There's an increasing recognition of the importance to reinvest in conventional resources before we reach a critical inflection point. This is what will drive a resumption in exploration activity in 2019 and beyond, which is very positive for our business.

In our E&P Technology & Services segment, revenues were down 55% this quarter due to delays in data purchase decisions and a key license round announcement. On the positive side, we are seeing increasing momentum in our business for the rest of the year. The first key metric is that our multi-client sales pipeline for the second half of the year is up considerably compared to last year.

Our strategic decision to shift closer to the reservoir has been making a positive impact in all 3 E&P Technologies & Services business lines. Backlog remains strong at $36 million.

I'd like to spend a bit of time on market dynamics to shed some light on what we're seeing. Oil prices and E&P company balance sheets have improved considerably in the last year. However, we have always maintained that the recovery in exploration would lag the overall E&P market recovery.

Reserve replenishment is finally becoming greater priority than capital efficiency for oil and gas customers. We believe the majority of the offshore spend will be in proven deepwater and select frontier areas where our data library is well positioned.

License round activity continues to be a key driver of multi-client sales. Pent-up demand for multi-client programs to evaluate license round opportunities remains, but in today's current disciplined spending environment, clients wait to purchase data until a formal public announcement has been made by the government. Therefore, any delays in license round announcements can materially impact the timing of sales. 70% of our deal pipeline in the back half of the year is tied directly to license round activity.

New venture program activity is the best near-term indicator of the velocity in our business over the long-term. We have already sanctioned 5 of the 6 to 8 new programs we expected to do this year and still intend to invest $35 million to $45 million in our multi-client data library in 2018.

At the end of the first quarter, we had 13 programs in progress. During the second quarter, we sanctioned 2 new programs and completed 2 programs. As a point of comparison, we ended the second quarter of 2017 working on 11 programs and ended the second quarter of 2018 working on 13. So the second key metric is that of our new venture program activity is up almost 20% year-on-year. We are continuing to see increasing geographic diversity and program interest as clients search for new lower-cost resources.

The first new program sanctioned during the quarter was our seventh 3D multi-client reimaging program offshore Mexico, bringing our total data there to 149,000 square kilometers. The Perdido South 3D reimaging program consists of over 16,000 square kilometers across 6 surveys in the southern part of the attractive Perdido area, believed to have prolific hydrocarbon potential.

The second new program sanctioned during the quarter was a new 2D multi-client program offshore Newfoundland, Canada. In the first phase of GrandSPAN, ION will acquire approximately 10,000 kilometers of data with an expectation of a second phase of approximately 5,000 kilometers of data further south in 2019. The industry-supported program began this summer to investigate the architecture, evaluate the petroleum potential of proven basins and understand the geologic differences between producing and nonproducing areas. GrandSPAN will integrate with 2 other ION BasinSPAN programs in the area, providing a contiguous regional seismic data set in excess of 20,000 kilometers offshore Northeast Canada.

During the quarter, we completed 2 programs: The initial phase of our Picanha 3D reimaging program offshore Brazil, which I'll describe in more detail soon; and a large 38,000 kilometer 2D reprocessing program offshore Libya, where there continues to be heightened interest in the Mediterranean as a result of multiple large discoveries.

Our diverse data library is exceptionally well positioned for the uptick in upcoming license round activity, which is our third key metric. The total number of offshore license rounds expected to start in 2018 is up 45% year-on-year, the highest increase since we've been tracking it, up from the 32% and 33% increases we saw in 2016 and 2017, respectively.

Currently, we expect 111 active, announced or anticipated license rounds during 2018 and 2019. In fact, more than 80 rounds are active or expected to launch in 2018. Our programs are exceptionally well positioned and relevant to 63 of the 111 license rounds. While a similar number of license rounds are expected to start in the first and second half of the year, our data is relevant to 71% of the license rounds opening in the back half of the year versus 26% of the ones that opened in the first half of the year.

The statistics I'm providing are based on when the license round starts, but there is increasing activity related to license rounds in 3 key stages: when the license round is formally announced, 3 to 6 months before it closes as the window to evaluate the acreage is diminishing, and after the blocks are awarded to either better understand acreage won or farm-in opportunities. This entire timeframe can sometimes take multiple years, so the increasing number of active or expected rounds and our relevance to them are key leading indicators to our business.

I get asked a lot about the specific relevance of our 2D BasinSPAN data to license round blocks, so I'd like to take a moment to explain that. Our 2D data provides a broad regional picture of an area to develop or refine an exploration strategy. Clients may purchase our data initially to evaluate a new frontier, but it's also helpful to refine exploration strategies in very mature areas. For example, we continue to sell our 2D program in Mexico, one of the most mature producing basins in the world, that is covered and postage stamp 3D data because it enables explorationists to develop insights they wouldn't be able to see without a regional perspective. As exploration resumes, our 2D BasinSPAN data stands to directly benefit from that increase in activity.

We continue to believe the ongoing license rounds and farm-in opportunities in Mexico and Brazil and the anticipated Panama license round will be significant drivers of our multi-client performance this year. The transparent license rounds in Mexico and Brazil are driving significant investment. Both Mexico and Brazil's recent license rounds have far exceeded industry expectations, which has supported the excellent data sales we've experienced and expect to continue to experience.

For two quarters in a row, Brazil has continued to draw strong interest and attracted an astounding $5.5 billion in signature bonuses since last October. Companies who are prepared to make such huge investments in pre-salt deepwater fully understand the value of our large regional 3D multi-client reimaging program, Picanha. Brazil's next license round the fifth pre-salt round, is slated to open in October, and additional rounds are planned for May, July and October 2019, 2020 and 2021.

Both Campeche and Picanha are enormous multi-client 3D reimaging programs that provide a consistent regional framework for exploration. Because Mexico's E&P industry was opening up for international investment for the first time, there was a flurry of initial data sales to evaluate acreage in advance of license rounds.

In Brazil, small, fragmented multi-client data sets have been available for a long time, but they've never been integrated into a consistent high-quality framework. We believe the seamless regional perspective is extremely valuable in understanding the vastly underexplored area between shallow, mature pre-salt producing fields and newer ultra deep water discoveries. With the completion of the second phase of Picanha slated for the third quarter, with a combined total of 40,000 square kilometers, it would be the first time explorers will see the southern 2/3 of the Campos basin in a homogeneous regional context.

The Panama license round announcement, which is the trigger that will drive PanamaSPAN multi-client sales, was anticipated in the second quarter, but didn't happen. We fully expected this announcement to drive second quarter revenues. The good news is it's now expected to occur in the third quarter.

This is the first time Panama has launched a license round, and it entails quite a bit of upfront work on the government's behalf and it isn't always straightforward. The energy minister has said publicly he believes the round will now be announced in August and open in the fourth quarter, which should drive data sales in the third quarter to evaluate the acreage for bidding. With the only modern data available offshore Panama, we believe there will be great demand for our data if the license round draws as much interest as the industry is anticipating.

With extremely selective and disciplined client spending, it's critical that our programs are positioned in areas where our clients are investing to be successful. Right now, clients are looking for low-breakeven projects in proven basins with stable governments and transparent terms. We employ a rigorous screening process to align ourselves with the acreage and upcoming license rounds that we believe will be the most attractive and successful. We assess the technical, economic, political, operational and strategic aspects of each potential multi-client program. Our clients further litmus test the program by voting with their checkbooks to underwrite the program.

Our Imaging Services group's focus on higher-value, technology-driven proprietary projects with better margins is paying off. Our revenue was up 28% and our backlog is 3.5x higher than it was last year, with the majority of projects utilizing higher-value ocean bottom and wave-based imaging. In addition, for the first time since the start of the downturn, we are seeing proprietary imaging tender activity increase. The fourth key metric is that imaging tender activity is up over 50% from a year ago.

Consistent with our shift closer to the reservoir, we have been focused on advancing our production-focused imaging technology and experience. Full Waveform Inversion, or FWI, has emerged as the leading new processing method to help E&P companies maximize reservoir understanding. FWI will be the backbone for a new suite of products to de-risk prospects, better understand subsurface structure and identify near surface hazards.

In collaboration with our clients, we are pushing the limits of subsurface imaging. In multiple projects, we extracted additional valuable information from the data to inform their development plans, and in the process, learn how to further improve our workflows and tools. In the first half of the year, we expanded our FWI capabilities and demonstrated the value of this new technology to clients with compelling case studies. FWI is beneficial for detailed structural interpretation and improved imaging for large multi-client project, such as Picanha; and in complex imaging environments, such as the Red Sea. We received our fourth direct award for these type of advanced FWI projects this quarter, and we intend to routinely incorporate FWI imaging into our 2D and 3D multi-client offerings moving forward.

Our E&P Advisors are also gaining momentum. Their revenues are also up slightly year-on-year and they're on track to double their 2017 revenues. They're receiving an increasing amount of reservoir services work and are also very well positioned for upcoming license round management work.

And in addition, we recently developed a collaborative alliance with Ryder Scott, a leading reservoir evaluation consulting firm, on multiple projects. This strategic alliance will enable ION to provide geophysical reservoir characterization in support of modeling complex reservoirs and augment our capabilities for reserve audits, certifications and unitizations through joint projects.

In our Operations Optimization segment, we continue to have leading market share in our core software and equipment businesses while pursuing additional opportunities for our technology in adjacent markets. For example, Marlin is expanding into the production segment offshore and Devices is targeting scientific, military and marine robotics applications.

Optimization Software & Services revenues were up 8% due to higher demand for our ocean bottom offerings. Two new ocean bottom crews were launched during the quarter and both were outfitted with our Gator command and control system. As a reminder, Gator is a key foundational element of our full suite of 4Sea ocean bottom technology. Gator is the central hub that manages and integrates all the data, enabling our customers to achieve optimization throughout the system and the survey.

Offshore Services had its strongest second quarter in 3 years and backlog is the highest it's ever been, driven by Marlin installations.

We've been steadily establishing Marlin as the premier offshore optimization offering since launching it in 2015. We have made great strides in changing the offshore paradigm from traditional manual processes to a smarter digital solution. Similar to air traffic control, Marlin integrates a variety of data sources with operational plans in real-time to maximize the safety and efficiency of offshore operations.

The fifth key metric is Marlin deployments. During the quarter, we surpassed the milestone of 100 deployments, 33 of which were active during the quarter. Creating this new market hasn't been easy, but we believe we have now crossed the chasm in terms of customer adoption and value validation. Customers are shifting from using Marlin on a one-off project basis to an enterprise-wide solution for managing their offshore operations.

Another great adoption metric is that customers have started specifying Marlin functionality in tenders. At a trade show recently, one customer commented that Marlin saved them $4 million on a project by helping coordinate timesharing activity offshore West Africa.

We initially deployed Marlin as a service to support our customers' operations and increase revenue while we refined our requirements for the software development. By early 2018, we have seen Marlin deployed more often as the salient offering within our services business along with the related software deployments.

Marlin's revenue was about $500,000 in the first half, and we were recently awarded a tender for Marlin's capabilities for a year-long SIMOPS software and services deployment that is part of a backlog now well in excess of $2 million for this emerging business line.

Building on this momentum, we are in final negotiations to deploy Marlin in another major E&P company's offices as a long-term solution for monitoring all of their offshore seismic operations worldwide with the intent to also deploy the software on other related offshore operations. In many cases, this may also include ION services personnel. With centralized customer installations like this, we expect good scalability for specific applications, like SIMOPS, across the enterprise.

We also see these high-visibility engagements as an important bridgehead into other E&P disciplines within each company where Marlin creates value, such as integrated asset planning and supply vessel logistics optimization. To that end, we expect initial recurring annual revenue from large

E&P companies to be in the $300,000 to $500,000 range per account, but through the extensions described, growing to $1 million to $2 million per year per account, forming the foundation of a nice, scalable software business.

In April, we launched an enterprise version of our Marlin software to more broadly optimize offshore operations, which was deployed on 5 projects in the quarter and was very well received. In addition to the deployment success, we also validated Marlin's high-value software subscription rates.

We are also making good progress in generating interest to adopt Marlin in adjacent markets outside of oil and gas, such as offshore windfarms, port management and harbor security. Our pipeline of adjacent market opportunities for Marlin increased 67% from the first quarter to the second quarter.

For example, a government agency who oversees a large amount of vessel traffic is going to trial Marlin's real-time operational view and playback capability to monitor and resolve port harbor violations and disputes. Our market entry strategy for Marlin includes engagement with the right partnerships in these industries to enhance our offering and to accelerate Marlin's adoption. We have had strong engagement from potential partners who want to tie into the platform.

In the Devices group of our operations optimization segment, we are continuing to successfully execute our strategy of bringing new incremental offerings to market and selling existing technology into adjacent markets to offset some of the decline in seismic contractor revenues. The towed streamer market remains depressed, and as a result, our equipment sales to service providers remains low and is down year-on-year.

We are on track to commercialize our SailWing technology in the third quarter. SailWing is an innovative foil-based alternative to conventional bulky marine diverters and has the potential to be significant growth area for ION. SailWing can be employed to optimize towing configurations and source array positioning, yielding significantly less drag, faster towing, improved fuel efficiency and safer operations through their flexible and smaller footprint, while improving the geophysical performance of the survey.

After multiple successful field trials, we are moving into commercial tests with potential partners. Our first commercial actuated SailWing unit was installed in July for trial with a customer. In the quarter, we also completed manufacture of our first complete system and spares, which will also be deployed with that same customer in the third quarter.

SailWing continues to have tremendous industry interest, and we have already provided several proposals that combine an upfront payment with a recurring revenue stream business model.

We are continuing to work diligently to broaden and diversify our customer base into adjacent markets. We previously disclosed sales of our differentiated compass offering and announced another successful sale and deployment in the second quarter. Although this is just a single component of our technology platform that we're selling into adjacent markets, I'd like to give you a sense of the adoption profile. We can see the 2018 potential for the compass to be a modest $500,000, but see it growing to $1.2 million near-term, with just one of our partners and moving to around $4 million of annual revenue by the end of 2019. Naturally, we are working on adding further elements of our technology suite to increase our piece of the pie in the precision underwater navigation space.

Further, we have scaled up and dedicated additional internal resources to more aggressively attack adjacent markets. In addition, we are identifying potential partnerships and M&A targets to support our adjacent market strategy for software and devices.

One recent example is the joint marketing agreement we established with GreenSea during the quarter to provide subsea vehicle navigation solutions for offshore and military markets. GreenSea accelerates our access to the military marketplace. Initially, we incorporated our differentiated compass into GreenSea's navigation system to improve positioning in GPS-deprived environments, and we have already identified and started developing additional applications for our underwater technology.

We've also made good progress evaluating and prioritizing which adjacent markets outside of oil and gas we should focus on for the highest return. We engaged a consulting firm to help us develop a comprehensive systematic framework to evaluate adjacent market opportunities in a disciplined way. Using that framework, we evaluated a number of possible markets for 2 technology suites, both of which are around $0.5 billion addressable market each. The second half of the year is going to be focused on how we can most effectively and aggressively penetrate the priority markets in those spaces.

In our Ocean Bottom Integrated Technologies group, we are gaining traction bringing our fully integrated nodal system, 4Sea, to market in asset-light business models. As a reminder, we are offering 4Sea components more broadly to the growing number of OBS service providers with recurring revenue business models that enable us to share in the value our technology delivers.

Gator, the leading command and control software for OBS crews, along with the new data hub, provides the critical and unique foundation that enables integration and optimization across all components of our OBS offerings. For instance, SailWing is a combination of in-sea hardware and an intelligent actuator to control the source position, but requires Gator's software module to provide the smarts, in this case, the ideal source position. We believe leveraging our large, long-term installed base of Gator, and the recent new installations noted earlier, provides an excellent opportunity to cross-sell other value-added 4Sea components.

We introduced the new component strategy to our customers at a major trade show in June. We received excellent feedback on the level of integration of the system and the step-change in automation and efficiencies it can achieve. The interest level was broader and more robust than we anticipated with a lot of follow-up activity.

Two components, SimSurvey and SailWing, are available to order now, and we expect to complete engineering on 2 additional components, the QA QC component and the automated back deck by the end of the year. For the back deck deployment and retrieval system, we signed a joint marketing agreement with Kongsberg Evotec, a global engineering company based in Norway, and have an acceptance test scheduled in September.

The sixth key metric has to do with the health of the ocean bottom business. The OBS market is rebounding and is predicted to be at pre-downturn levels of $1 billion in 2018, with significant growth projected beyond that. OBS will continue to grow, spurred by the improved economics of next-generation systems as well as growing adoption by E&P companies as the technology of choice to manage their reservoirs. OBS is projected to increase 21% of total offshore seismic spend this year, up from 16% in 2017 and 10% in 2016.

Two new OBS crews have already launched this year, and we see additional crews coming online in 2019, which corresponds to a larger opportunity for all components of our integrated OBS offerings. Active crew count has risen to 8 in the third quarter versus a low of 2 in the worst part of the downturn.

With that, I'll turn it over to Steve to walk us through the financials and then I'll wrap up before taking questions.

Steven A. Bate - *ION Geophysical Corporation - CFO and EVP*

Thanks, Brian. Good morning, everyone. Our total second quarter revenues were down 46% compared to the second quarter of 2017. Revenues in our E&P Technology & Services segment decreased by 55% and revenues in our Operations Optimization segment decreased by 21%.

Within E&P Technology & Services, multi-client revenues were $10 million, a decrease of 67%. As Brian described in detail earlier, both new venture and data library revenues experienced significant declines compared to the second quarter of 2017. Imaging Services revenues were $5 million, a 28% increase, due to an increase in proprietary ocean bottom nodal imaging projects.

Within the Operations Optimization segment, Optimization Software and Services revenues were $5 million, an 8% increase from the second quarter of 2017. The increase in Optimization Software and Services revenues was due to an increase in Gator ocean bottom command and control deployments. Devices revenues were $5 million, a 38% decrease from the second quarter of 2017. Devices continued to be impacted by reduced towed streamer seismic contractor activity, resulting in further declines in new system sales as well as repair and replacement revenues.

Overall, we reported a net loss for the second quarter of $26 million or $1.86 per share compared to net loss of $10 million or $0.88 per share in the second quarter of 2017. The second quarter of 2018 included special items. Excluding those items, we had an adjusted net loss of $23 million or $1.68 per share in the second quarter of 2018.

Our adjusted EBITDA was a negative $8 million in the second quarter of 2018, down from $14 million 1 year ago, and breaking a string of 7 consecutive quarters of breakeven or better adjusted EBITDA. As Brian mentioned, overall, we are disappointed by our results for the first half of the year, but still expect that 2018, although more back-end loaded than we originally expected, will be a significant improvement over 2017.

Net cash flow from operations during the quarter was a use of cash of $1 million compared to a generation of cash of $2 million during the second quarter of 2017. Including both investing and financing activities, we consumed $6 million of cash in the second quarter of 2018, which is comparable to the same amount 1 year ago.

As of June 30, 2018, we had only a $0.5 million of current debt outstanding and our remaining long-term debt obligation is $121 million of second-lien bonds that mature in December 2021. Our total net debt was $73 million at the end of the quarter.

With that, I'll turn it back to Brian.

R. Brian Hanson - *ION Geophysical Corporation - President and CEO*

Thanks, Steve. To sum up, we continue seeing increasingly positive signs of growth and recovery in the oil and gas industry. The market is pretty well balanced due to robust global demand and more stable production. E&P free cash flow is projected to be at its highest level since 2007. E&P spending is on track to increase 8%, and we are starting to see some of our customers once again allocate budget to exploration, which has been almost nonexistent for the last 3.5 years of the downturn.

We continue to be optimistic about the long-term oil and gas fundamentals and eventual resumption of exploration activity due to the combination of higher oil prices, improved cash flow, declining production and inventory levels and un-sustainably low reserve replacement rates.

There is heightened activity and increasing momentum in all but one aspect of our business, which is potentially setting up our third and fourth quarters to be very strong. We have not seen as robust a deal pipeline for the third and fourth quarters since before the downturn. Now it's our job to close them. The acceleration in new program activity, which is driving the backlog, is the best near-term indicator of the velocity in our business over the long term.

With 5 new programs already sanctioned this year out of the 6 to 8 we're targeting, we're off to a good start. We continue to expect we'll invest $35 million to $45 million in our multi-client programs compared to $24 million in 2017 and $15 million invested in 2016.

In addition, our data library is exceptionally well positioned for the uptick in upcoming license round activity as well as for any resumption in exploration activity to replace reserves, which pre-downturn, was a very significant business for ION.

For the first time since the downturn, we're also seeing imaging tenders increase, now 50% higher than a year ago. Our Imaging Services group's strategy to focus on the high-end, technology-driven proprietary projects is paying off with higher revenue and better margins. The majority of projects in our backlog have met this criteria, such as the ocean bottom and FWI work we're doing.

E&P Advisors is employing new success-based business models with better returns, expanding the scope of our offerings and leveraging new partnerships.

Our Optimization Software & Services business is up due to increasing ocean bottom activity and new crews entering the market. Marlin is crossing the chasm and really taking hold in the market with accelerating deployments.

We're also gaining traction moving into adjacent markets and commercializing 4Sea technology. There is a lot more potential to diversify over the next 5 years as we strategically evaluate where to focus our efforts.

While we're disappointed with the number of closed deals in the second quarter, we recognize our business has a history of being lumpy and are encouraged by the overall activity levels, which are setting up what could be a very strong back half.

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With that, we'll turn it back to the operator for Q&A.

QUESTIONS AND ANSWERS

Operator

(Operator Instructions) Our first question comes from the line of Colin Rusch from Oppenheimer & Company.

Colin William Rusch - *Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst*

Thanks for the commentary on the macro level. I think we're all seeing something very similar to what you're talking about. But can you speak specifically to what your customers are telling you around timing, decision-making, when to release funds? Because I think that's what's really a concern for your investor base at this point.

R. Brian Hanson - *ION Geophysical Corporation - President and CEO*

Yes, I think there's a very interesting dynamic that's occurring today. And what's happening is when we went into the downturn, it was the procurement side of the oil and gas companies that really took control of the purchasing decisions. What we're seeing now, is we're seeing exploration teams really reengaging, trying to develop long-term planning, expressing desire to buy data and having almost an internal struggle with the procurement side of the business. My interpretation is that there will be a little bit of a power struggle between those teams and procurement over the course of the next, call it, several quarters. But I believe control will gradually shift back to the exploration side of the house because they're being tasked with putting these programs together, but struggling getting resources to do them. I think with the higher cash flows, they'll get those budgets and they'll get more control over their spending patterns. So what we're seeing for 2018 is we're seeing a number of the deals that we would have anticipated closing earlier in the year because the exploration teams are the ones who want the data, but procurement still has a significant amount of control over the process, so that's why we see these deals pushing out into Q3 and Q4, especially as the procurement guys -- they know 2 things. One, they know they have to spend their budget by the end of the year; and two, they're trained to believe they get the very best deal at the end of the year. So that's kind of the dynamics are going on now.

Colin William Rusch - *Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst*

Yes, that's super helpful. So then what do you think that means for pricing and the EBITDA leverage that you've got on the platform? So it seems likely that you're able to close some of these deals, but then, are you going to have to engage in a price renegotiation? Or how do you expect that to play out in the back half?

R. Brian Hanson - *ION Geophysical Corporation - President and CEO*

It's always a constant negotiation right up until the deal closes. The perception of our customers is that they get the best deal at the end of the quarter, they'll get the absolute best pricing. The reality is we walk a very delicate line, and we do put -- we try to incentivize them to close the deals. So I don't think you'll see any deterioration in pricing or any deterioration in leverage because that's the normal process we go through every quarter.

Operator

(Operator Instructions) Our next question comes from the line of Akil Marsh from Janney.

Akil Kito Marsh - *Janney Montgomery Scott LLC, Research Division - VP of MLPs and Energy Infrastructure*

In regards to the downtick in revenue in both multi -- or in new venture and data library, you obviously touched on Panama and Brazil. Assuming that those activities would have happened as you initially projected, can you give us a sense of what the numbers would have looked like?

R. Brian Hanson - *ION Geophysical Corporation - President and CEO*

I don't think I would be able to do that. I mean -- all right, let me put it this way. I don't think it would be meaningful to do that. Just it's -- I caution not to look at the business on a quarterly basis. It really is important to step back and look at it on a full year basis. Procurement -- if procurement's going to control the process in 2018, it's going to step up to a big fourth quarter. If the exploration teams can convince procurement to release funds earlier, it'll step up to a big third quarter. And the last thing that's really going to drive results in both the third and fourth quarter are the timing of the upcoming license rounds. We believe Panama will be a very significant contributor to the third quarter and we believe that Brazil will as well.

Akil Kito Marsh - *Janney Montgomery Scott LLC, Research Division - VP of MLPs and Energy Infrastructure*

Okay. Is there any risk that the big third or fourth quarter slips out such that this is really more of a 1Q '19? Or is the procurement process such that these budgets really need to be spent by year end?

R. Brian Hanson - *ION Geophysical Corporation - President and CEO*

The budgets need to be spent by year end. The clock gets reset for the oil companies every year.

Akil Kito Marsh - *Janney Montgomery Scott LLC, Research Division - VP of MLPs and Energy Infrastructure*

Great. And one last one for me. When -- I know you touched on that you have 13 active programs. By year end, is there still the potential that, that could be up to 14, 15? Or is it probably going to be flat for the remainder of the year?

R. Brian Hanson - *ION Geophysical Corporation - President and CEO*

We're still targeting, doing 6 to 8 total programs this year, and we've sanctioned 5. So we're still chasing up to 3 more programs.

Operator

Our next question comes from line of [Matthew Greenlatt] from [Miracle Investment Partners].

Matthew Greenlatt - *Miracle Investment Partners - Analyst*

Brian, being that you're very bullish going forward on the longer-term prospects of the business, I was just wondering if you could speak to why you've meaningfully reduced your personal stake in the business. And just if you could kind of give us some comfort there, being that you're so bullish?

R. Brian Hanson - *ION Geophysical Corporation - President and CEO*

Yes, sure. First, I've been accumulating stock in ION since 2006. And if you just take a look at the stock chart, and it's very interesting, with the fall of the stock price, I ended up with a really significant tax asset. Second, a large part of what I sold, I personally acquired by shifting my personal

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portfolio into ION stock when it was trading around $3. And quite frankly, I was just way too heavily exposed to one stock. So in 2017, I put a 10b-5 program in place to responsibly rebalance my portfolio in a very tax-effective way. The 10b-5 called for sales of stock at a predetermined floor of $22.50 that was put in place when the stock was trading significantly lower, low double digits. And so that was the logic behind it. But quite frankly, my exposure hasn't really been meaningfully significantly reduced. I only reduced about 1/3 of my total exposure to the company. And when you look at restricted stock options, stock appreciation rights, stock I currently still hold, I've got about a $5 million exposure to the company.

Operator

(Operator Instructions) And Mr. Hanson, there are no further questions at this time. I would like to turn the floor back over to you for closing comments.

R. Brian Hanson - *ION Geophysical Corporation - President and CEO*

Okay. Well, thank you for taking the time to attend the conference call. We look forward to talking to on our third quarter call.

Operator

Ladies and gentlemen, thank you for your participation. This does conclude today's teleconference. You may disconnect your lines and have a wonderful day.
