

# ANNUAL REPORT 2018

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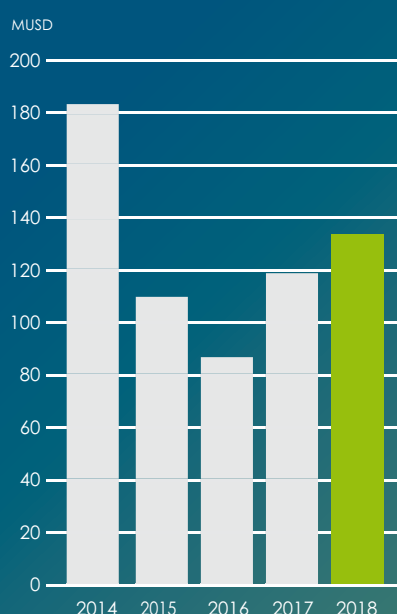
# KEY FIGURES (APMs\*)

	2014	2015	2016	2017	2018
Multi-Client services	180 756	109 058	72 412	118 617	133 649
Seismic imaging	2 542	786	1 294	233	105
Other revenue			13 147		
<b>Net segment revenue</b>	<b>183 298</b>	<b>109 844</b>	<b>86 852</b>	<b>118 850</b>	<b>133 754</b>
<b>Segment EBIT</b>	<b>52 795</b>	<b>(5 169)</b>	<b>(19 048)</b>	<b>(16 037)</b>	<b>30 612</b>
Segment EBIT margin	29%	-5%	-22%	-13%	23%
<b>Segment Net profit / (Loss)</b>	<b>38 229</b>	<b>(8 654)</b>	<b>(20 283)</b>	<b>(26 843)</b>	<b>17 180</b>
Segment Net profit margin	21%	-8%	-23%	-23%	13%
Earnings per share **	0.90	(0.18)	(0.38)	(0.49)	0.35
Earnings per share fully diluted **	0.79	(0.18)	(0.38)	(0.49)	0.32
Segment Non-current assets	157 055	251 534	233 192	195 973	193 044
Segment Current assets - non cash	85 959	81 973	64 661	78 329	78 224
Cash and cash equivalents	8 364	23 373	15 827	14 155	37 730
<b>SEGMENT TOTAL ASSETS</b>	<b>251 379</b>	<b>356 880</b>	<b>313 680</b>	<b>288 457</b>	<b>308 998</b>
Non-current liabilities	2 066	19 609	27 923	49 741	20 845
Segment Current liabilities	75 045	135 692	103 914	81 696	112 543
Segment Equity	174 267	201 580	181 845	157 024	175 610
<b>SEGMENT TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY</b>	<b>251 379</b>	<b>356 880</b>	<b>313 680</b>	<b>288 457</b>	<b>308 998</b>
Investment in Multi-Client library	113 280	174 618	50 671	82 359	52 516
Average headcount	168	167	153	155	158

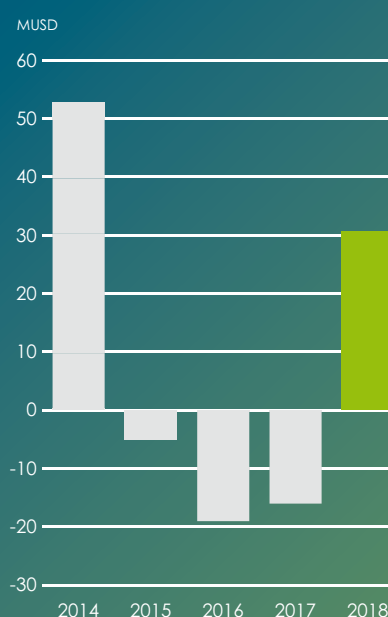
\* Please see section Alternative Performance Measures, pages 90-93.

\*\* Calculated based on IFRS net profit / (loss)

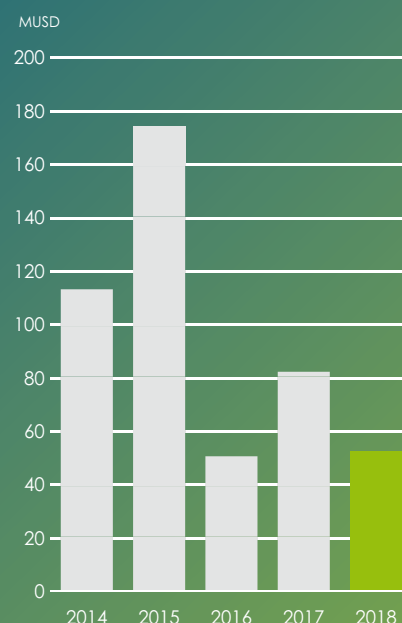
Net segment revenue



Segment EBIT



Investment in Multi-Client library



# HIGHLIGHTS OF 2018

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Net segment revenue increased by 13% to USD 134 million from USD 119 million



Segment EBIT of USD 31 million compared to negative segment EBIT of USD 16 million in 2017



Delivered best year ever for late sales – Net late sales increased by 68% to USD 103 million from USD 61 million



Strong balance sheet with positive cash balance and no net interest bearing debt



High investment activity and record high project backlog going into 2019



Completed a 6 000 km Multi-Client 2D seismic survey in the Pernambuco-Paraíba basins along the Eastern margins of Brazil

Completed a 7 000 km Multi-Client 2D seismic survey in the Eastern Turkish Black Sea



Completed a 19 000 km 2D Multi-Client 2D survey offshore Mozambique

Completed a 35 000 km Multi-Client 2D deep water survey offshore Argentina



Completed 3D and 2D reprocessing projects in the Otway and North Carnarvon basins offshore Australia

Completed a 5 500 km<sup>2</sup> Multi-Client 3D survey in the northern part of Gabon Shallow Water



Completed a 14 000 km Multi-Client 2D survey in the Malvinas basin offshore Argentina



Commenced a 15 000 km<sup>2</sup> Multi-Client 3D survey over the Southern Santos Basin offshore Brazil

Commenced a 10 700 km<sup>2</sup> Multi-Client 3D survey in the Potiguar Basin offshore the Equatorial Margins of Brazil





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**Well positioned  
for recovery in  
the oil industry**

# DEAR READER



Erik Gump

2018 was another year of gradual recovery in the Multi-Client marine seismic industry, despite big oil price shifts and stock market volatility. Spectrum had another active year with strong development in late sales and building its seismic library. Spectrum is well positioned for recovery in the oil industry.

## Sentiment shift in the oil industry taking hold

The shift in oil industry sentiment that we first saw in 2017 took hold in 2018. The oil price was quite strong during three quarters of the year starting in the mid-60s USD per barrel and increasing to mid-80s early October before a sharp fall ending the year just north of 50. The oil price declined due to more oil supply than anticipated and concerns regarding global economic outlook. The oil price has later recovered to the mid-60s USD per barrel area where 2018 started.

Oil companies showed strong cash flow in 2018 as a result of substantial cost cutting, efficiency gains and tight capital expenditure management following the 2014 industry downturn. Oil companies appeared to stay the course and not be much influenced by the oil price drop in the last quarter, likely because they are using a moderate oil price assumptions for planning purposes.

Multi-Client marine seismic demonstrated continued improvement in 2018. Spectrum showed strong

development in late sales (sales from existing library). Spectrum also continued to build the seismic library with good level of new projects using risk sharing models with vessel suppliers. Multi-Client sales were good for most other seismic companies as well and the oil price fall does not seem to have impacted activity levels as evidenced by sales in the last quarter of 2018 and activity going into 2019.

## Underlying drivers intact

The drivers for recovery in the marine seismic market appear to be intact.

The underinvestment in proving up new oil and gas reserves and resulting low reserve replacement continues. Forecasts point to a continued steady increase in oil demand for the foreseeable future. This demand growth combined with depleting reserves will lead to the need for substantial additional supply.

Offshore oil and gas will likely continue to play an important role in bringing new supply to the market as other sources, such as US onshore, is unlikely to meet

additional demand over time. The oil companies have been able to drastically reduce break-even prices offshore. Offshore prospects are generally highly competitive if they are large enough, even in very deep water, and fiscal terms are acceptable. Time to market has also decreased sharply with more standardized development solutions, such as FPSO.

Ultimately, higher marine seismic activity is needed to prove up the required offshore reserves.

### Gradual recovery expected

Based on history, the focus of capital markets and, subsequently, oil companies will shift from cash flow to reserve additions and long-term production at some point. We are not there yet. Oil companies continue to have a strong focus on balance sheet, cash flow and uninterrupted dividend payment and hence avoiding cost inflation and managing capital expenditure. So, even though exploration and seismic spending are still below sustainable levels (when it comes to meeting oil demand in the medium term), we will likely continue to see a gradual rather than a steep recovery in the short term.

We observe some shifts in focus though. Oil companies have concentrated on bringing on-stream projects that were shelved during the oil downturn, especially near infrastructure. And many have defocused on offshore, especially the ones with substantial US onshore exposure. However, in 2018 we observed a shift of gears towards offshore with, for example, Brazil and other Atlantic margin basins becoming core focus areas for many oil companies.

### Spectrum continues to develop its strong position

Spectrum is deploying an asset light Multi-Client business model. This model, combined with a low cost base, enables Spectrum to manage cash and cash flow well.

Spectrum holds the world's largest offshore 2D seismic library and is, together with TGS, one of only two major 2D Multi-Client players. Spectrum also holds an increasingly sizable 3D library, the only meaningful library apart from the four large ones (CGG, PGS, TGS, Schlumberger).

This is a strong position that Spectrum continues to develop. Through Fugro library acquisition and substantial organic investments, Spectrum has diversified the library extensively over the last years.

Spectrum has a strategy based around the Atlantic margin, especially in the southern hemisphere. Spectrum observes great interest from oil companies for seismic in South America and West Africa. Most of Spectrum's organic investments have gone into these regions, and this continued in 2018.

Spectrum enjoys an enthusiastic, commercial, agile and highly competent management team and organisation. The combination of a strong market position, attractive business model and strong management and organization bodes well for 2019 and the years to come.

After having focused on heavy counter-cyclical investments during the downturn, Spectrum will be balancing investments with strong cash flow going forward. For 2018, NOK 1.50 per share in dividend has been proposed, up from NOK 0.50 for 2017. The 2018 dividend represented 3.6% dividend yield at announcement. Dividend is expected to grow over the coming years.

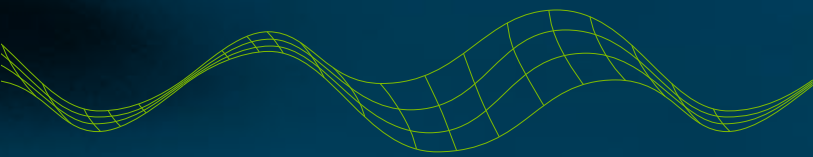
I would like to thank the Spectrum organization for strong efforts and results in 2018.

Pål Stampe



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# Heavy counter-cyclical investments



# OUR VALUES

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## CORPORATE VISION

Be a world class provider of frontier  
Multi-Client surveys and seismic  
imaging solutions.



## STRATEGY

Grow the company organically through project  
development combined with acquisition of strategic  
data libraries.

Initiate and execute projects relevant to the global  
oil and gas industry to a high professional standard  
and delivering the results at the right time and place.

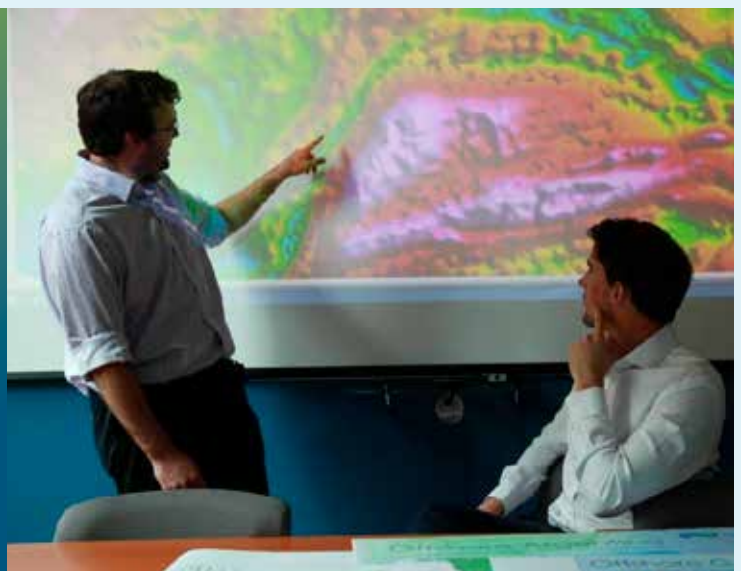


Spectrum is a major provider of Multi-Client seismic data and data processing services to the global oil and gas industry. Its current Multi-Client data library includes in excess of 3.35 million km of 2D seismic data covering all the major oil and gas producing regions of the world. In addition the library also includes approximately 200 thousand km<sup>2</sup> 3D seismic data from key hydrocarbon regions such as the East Mediterranean, West Africa, North Sea, Australia, Brazil and Gulf of Mexico. The company constantly strives to increase the offerings to its customers both by increasing the data processing capabilities of its geophysicists and by expanding its data library. The seismic library is core to the Spectrum Group and is continually being enhanced through the reprocessing of old data using new techniques and the identification of areas of interest by its dedicated geological team.



## GOAL

Achieve world-leading performance through persistence, dedication and commitment to quality.



## MISSION

Supply global seismic solutions through dedicated and experienced people.

Work in partnership with our customers to deliver consistent quality Multi-Client seismic data and seismic processing services on time and to budget.





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A change for  
the better in the  
seismic industry

2018

# CEO REPORT



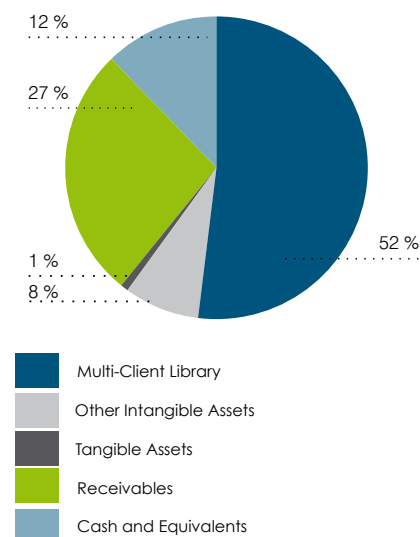
Rune Eng

The downturn in the oil and gas sector has negatively influenced the seismic industry. For the fourth year in a row we have experienced a global decline in E&P spending. This is not sustainable and I think we all raise the same question about how oil companies can work up new reserves and offset a declining production without investing in exploration.

In 2018 we saw a change for the better in the seismic industry when the offshore E&P spending trend turned positive. It is a fact that relatively low new reserves are being added and few new fields being sanctioned for production. This has revitalized the discussion around reserve replacement ratios within oil companies. Exploration will increase in existing proven basins, but also in new untested areas such as Argentina and parts of Brazil.

There is continued strong demand for oil and gas in the world supported by financial growth mainly in China, India and Africa. Demand is growing by over 1 million barrels per day for the next five years with China and India representing 44% of the growth. This has been partially offset by strong growth in shale production in 2018, but also offshore E&P has gained new traction with reduced E&P cost and improved competitive terms being offered by governments offering offshore acreage. Offshore exploration has regained attractiveness after breakeven levels for offshore fields were brought down to USD 30-40 per barrel as a result of cost reduction efforts. Recent major oil discoveries in US Gulf of Mexico, Guyana and Senegal have encouraged the industry to drill in areas where seismic has identified attractive prospects.

Assets by category 2018





The price for Brent crude oil stood at an average of USD 71 per barrel in 2018. Indications are that oil price will remain volatile, but with an equilibrium around USD 65 in 2019. In this price environment our estimate is that offshore exploration spending will increase in 2019.

Spectrum is determined to maintain its asset-light business model, a model that is suitably flexible for Multi-Client investments and that allows us to adapt our operating cost in a cyclical business environment. In these times, the asset light model plays to its key strength since vessel utilization is not a factor in Spectrum's investment decisions. Spectrum only invests in new projects if prefunding and near term sales bring the project into a cost recovery phase within 24 months of the data being made available to the market.

Over the last 3 years Spectrum has established a strategic alliance with Chinese and Russian vessel providers that are willing to take financial risk or equity in our Multi-Client projects. This is part of a counter-cyclical investment strategy that has made it possible to continue to invest in new projects and build Multi-Client library during the downturn. Spectrum's philosophy is that a large data library and global coverage offers valuable screening and review opportunities for the oil companies. Size matters and with a dynamic library spread over numerous different basins, Spectrum is able to bundle several Multi-Client projects into larger, more attractive deals to present to oil companies.

Spectrum's assets are the Multi-Client library, our cash and receivables. Spectrum has more than 3.35 million km of 2D seismic and a growing 3D library in the world's most prospective areas, and each basin, survey, and seismic line has its own evolving suite of hydrocarbon stories that we market and sell to the oil companies. Our data is for those that challenge existing play models and who use our seismic to come up with innovative ideas for where oil and gas can be found. This is the heart and pulse of Spectrum.

Spectrum's project developers have to consider the overall project risk including all above ground risks in

addition to those found in the subsurface. The above ground risk is related to political and ethical factors. Spectrum is focused on the sustainability of our business and has a zero tolerance toward bribery or corruption. Given the nature of Spectrum's business in frontier areas it is important to pay particular attention to business arrangements with individuals or governments. At the same time Spectrum is working with developing our business to support local content and local business activity. Training of local staff and onsite work experience is an important part of our business. We aim to develop local knowledge and experience in order to allow countries to run their oil and gas business in a professional manner. In this context Spectrum's goal is to reduce business and legal risk by taking control of our decisions.

The Spectrum organization currently consists of 196 people (158 direct employees and 38 in a 50/50 joint venture in Egypt) with the two largest offices in London and Houston. The organization and people are key differentiators in the Multi-Client seismic industry. It is truly a people-dependent business, because project ideas are almost unlimited and the key measure of success is in convincing oil companies in the validity of our project stories.

In 2018 Spectrum did not experience any major incidents in our operations. This meant no harm to our employees or contractors, and no significant spills or other environmental damage. Spectrum believes that safe operations are fundamental to the success of our business.

I would like to thank the Spectrum staff for the hard work and our customers for their support in 2018.

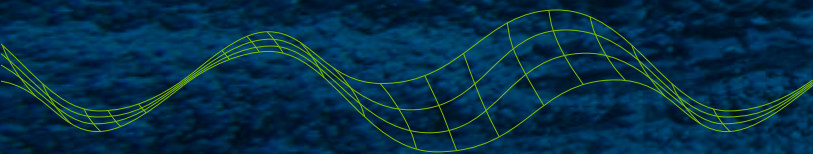
Sincerely

Rune Eng



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## Taking control of our decisions



# Multi-Client Operations

Spectrum's Multi-Client library is composed of data and reports from many of the major oil producing and frontier regions of the world. The library comprises approximately 3.35 million kilometers (km) of 2D seismic data, making Spectrum the market leader in Multi-Client 2D data. Furthermore, Spectrum is rapidly growing its 3D Multi-Client library and now holds over 200,000 square kilometers (km<sup>2</sup>) of 3D seismic data, with an additional 125,000 km<sup>2</sup> of Seamless seismic merged 3D data on the Norwegian continental shelf.

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Spectrum is continuously developing a pipeline of new Multi-Client 2D (MC2D) and Multi-Client 3D (MC3D) seismic acquisition and reprocessing projects. Sales from the Multi-Client library and prefunding of new projects constitute the main revenue streams for the Company and fund the operation and new investments in Multi-Client projects. Being an asset light company, Spectrum makes independent evaluations of potential investments in new Multi-Client surveys with a prime focus on client interest, prefunding levels, and future sales triggers.

In 2018 Spectrum continued to balance investments and risk sharing in projects to ensure a counter cyclical organic growth of its data library. Leveraging favorable terms from cooperation partners and vessel providers, Spectrum was active with six new MC2D surveys and three new MC3D surveys being acquired during 2018. Together with the company's (re)processing efforts this represents an organic investment of USD 52.5 million for the year, with a further equivalent of USD 58.0 million investment through risk sharing arrangements with survey partners. The year started

with a total of five vessels actively acquiring Multi-Client seismic data, a record level of activity for Spectrum. For 2019 we expect a continuation of favorable terms for partnerships and risk sharing options.

## The year in review

Through prospectivity studies of our existing data library, several opportunities for new MC2D and MC3D surveys were recognized in areas with upcoming license rounds. This resulted in three 3D Multi-Client surveys in acquisition during the year, representing an addition of 10,176 km<sup>2</sup> of new MC3D data by year-end 2018. At year-end we had two MC3D survey ongoing in Brazil which are scheduled to be completed in 2019. In addition the focus on new 2D data acquisition continued with 58,201 km of new MC2D data being acquired within the year.

Attractive Multi-Client projects generally rely on a number of success factors that need to be in place. These are the presence of a proven petroleum system, good interest from exploration companies, and sales triggers in the form of upcoming license rounds or new areas becoming available for

licensing. Most of the surveys acquired by Spectrum in 2018 had at least two of these three criteria fulfilled before a survey was started.

## Africa & Mediterranean

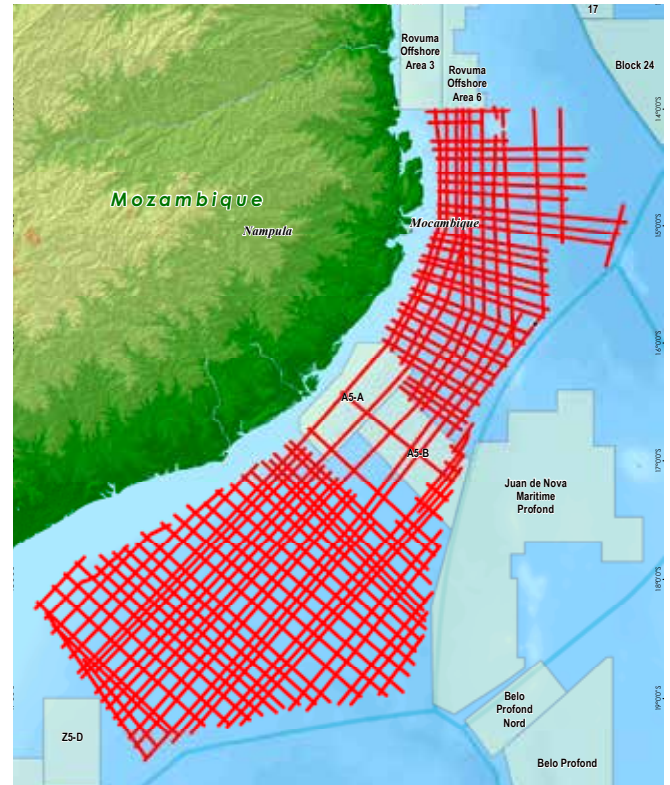
Following analysis of vintage data over the shallow water parts of Gabon, our geoscientists identified the outlines of a new play type beneath the salt. The 'Direction Generale des Hydrocarbures' (DGH) supported Spectrum's proposal to acquire modern 3D seismic over the identified areas and awarded Spectrum an exclusive Multi-Client contract for three prospective shallow water areas. The programs are located in under-explored areas over open blocks in water depths predominantly ranging from 30 to 200 meters. The DGH intends to make these blocks available through future shallow water license rounds.

Spectrum's new 3D broadband seismic will image high potential pre- and post-salt play types. Fully processed and depth migrated data will be available for upcoming license rounds, thus facilitating immediate exploration activity when the blocks are awarded. Spectrum carried out the acquisition of the 11,500 km<sup>2</sup> Gryphon 3D





Outline of the Gryphon 3D survey, covering mainly open blocks in shallow waters offshore Gabon.



Spectrum's seismic coverage offshore Mozambique.

survey in southern Gabon during 2017. Spectrum has further survey rights for an additional 5,500 km<sup>2</sup> 3D survey over open acreage in Northern Gabon, and an additional 1,500 km<sup>2</sup> 3D survey offshore Central Gabon. The Northern survey commenced during the first week of January 2018 in partnership with COSL and acquisition completed by the end of April 2018.

In 2016, Spectrum was awarded the exclusive rights to acquire a Multi-Client 2D survey offshore Mozambique on behalf of the Institute of National Petroleum (INP) and in anticipation of future license rounds.

This new 2D seismic program of up to 19,050 km was completed in May 2018 and utilized a long offset with continuous recording to enable extended recording lengths and high fold data. It was acquired to complement existing 2013 seismic located in the Mozambique Channel area which is also

available through Spectrum. The survey grid is specifically designed to image the subsurface potential in the southern Rovuma Basin and the NE Zambezi Delta (Angoche) region, providing a more detailed understanding of the prospectivity in an area where no wells have been drilled to date. Furthermore, findings from this data are expected to accelerate hydrocarbon exploration activity in what is believed to be an oil-dominated region with high quality reservoirs in large traps. In addition the data will also provide the basis for future license rounds as planned by INP.

The data was processed with PSTM, PSDM and broadband products ready by year end of 2018. This survey was carried out in partnership with WesternGeco and supported by industry funding.

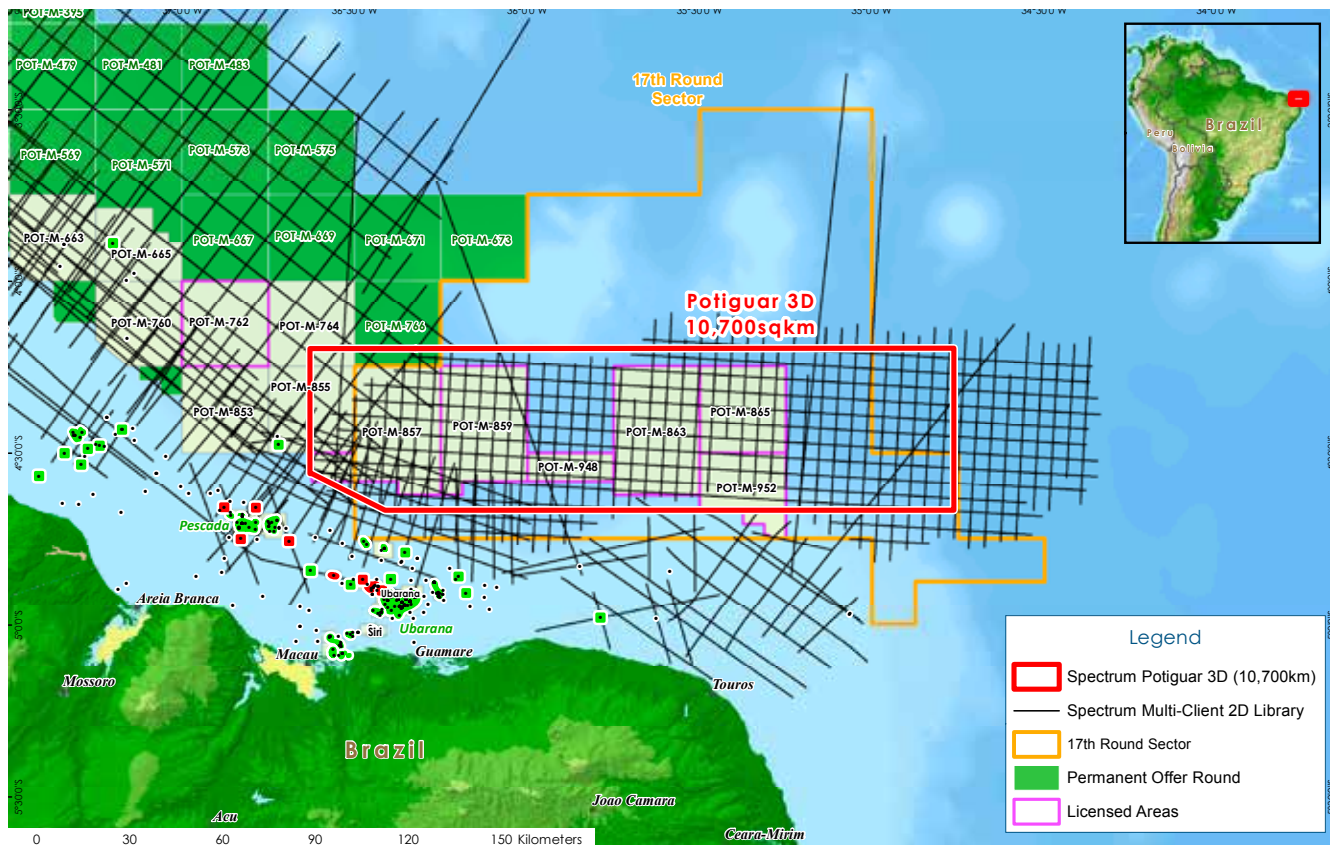
Following studies that identified significant potential for hydrocarbons in the eastern Black Sea,

Spectrum commenced acquisition of a 7,000 km 2D Multi-Client seismic survey at the end of June 2018. The survey successfully completed by mid-August 2018 and was carried out in partnership with BGP.

### Asia Pacific

Following the acquisition of the Fugro library in 2015, Spectrum's 3D coverage in this region totaled 40,000 km<sup>2</sup> of newly acquired 3D Multi-Client data (less than 10 years old) and this offered a strong platform for developing reprocessing opportunities.

The first significant 3D reprocessing project was completed in 2017 and the outstanding results on the Olympus Multi-Client 3D project demonstrated the ability for modern processing techniques to vastly improve legacy vintage datasets to promote the re-evaluation of an area. Motivated by these results, another two projects were initiated.



Spectrum's 10,700 km<sup>2</sup> Multi-Client 3D seismic survey in the Potiguar basin commenced in December 2018.

In the Browse basin Spectrum extended its 3D Multi-Client data coverage by reprocessing 3,450 km<sup>2</sup> of open file data in an area where acquisition permits are a limiting factor. The Heywood project is located immediately south of the Spectrum Cygnus survey that was acquired and processed in partnership with Polarcus during 2016.

During December 2017, Spectrum commenced a new Multi-Client Broadband 3D and 2D reprocessing project in the Otway Basin offshore South-Eastern Australia. This dataset consists of approximately 8,000 km<sup>2</sup> of 3D data from sixteen existing surveys and up to 7,000 km of 2D data. Raw seismic has been reprocessed through a high-end PSTM and PSDM broadband sequence. The project includes coverage over and around the 2018 Offshore Petroleum Exploration Acreage Release in the Otway Basin.

The Olympus, Heywood and the Otway reprocessing projects received strong interest and are supported by industry funding.

### Americas

With Brazil upholding its regular licensing round program, Spectrum identified several opportunities to acquire new Multi-Client 2D programs in sectors that are included in upcoming rounds. In the Potiguar basin, a new acquisition program of 6,000 km was acquired in the first half of 2018 as an extension of Spectrum's 2013 Potiguar Phase 1 survey. The survey tied the Pitu discovery announced by Petrobras, confirming the active petroleum system in the deep waters of the Potiguar Basin.

Analysis of this new dense 2D data by Spectrum geoscientists resulted in the identification of a large prospect in an area that will be part of the 17th licensing round in Brazil. Since this was adjacent to blocks that had been recently awarded in the 15th licensing round, it resulted in the acquisition

of a large, new 3D survey that covered a total of 10,700 km<sup>2</sup> over held and open acreage. The Potiguar 3D survey commenced in December 2018 and is supported by industry funding. Spectrum is the sole operator of the project. The survey is being acquired with a twelve cable long-offset configuration in continuous recording mode. Acquisition parameters are optimized for broadband processing which will assist in the high definition mapping of prospects and drilling targets. First products will be available in Q3 of 2019.

In April 2018 Spectrum commenced a 5,500 km 2D seismic program over the under-explored Pernambuco-Paraíba basins along the Eastern Margins of Brazil. The program covers an area north of the prolific Sergipe Basin that will be included in the 16th Round, scheduled for 2019. The seismic survey was acquired with a 12,000 m cable to record data necessary to understand basin architecture as well as to image prospective zones similar to the large oil discoveries in



the Sergipe Basin. The final PSTM and PSDM Broadband products were available in Q4 2018. The Sergipe Basin area to the south of Pernambuco has seen strong interest in the past three rounds and we expect the same for this area in Round 16. The survey was carried out in partnership with BGP Marine.

Further South, Spectrum continued to strengthen its leading position in offshore Brazilian 2D seismic coverage by completing a new Multi-Client acquisition program in the Campos Santos basin, also carried out in partnership with BGP Marine. The Phase III survey, an extension of Spectrum's 2017 Santos Campos Phase II survey, covers an area in the southern Santo Basin. As in the Pernambuco-Paraíba basin, this new data incorporates areas included in the Round 16 licensing proposal, scheduled for 2019. With this latest program, Spectrum provides over 47,000 km of modern 2D long offset seismic data to industry for evaluation of the highly prolific Santos Campos hydrocar-

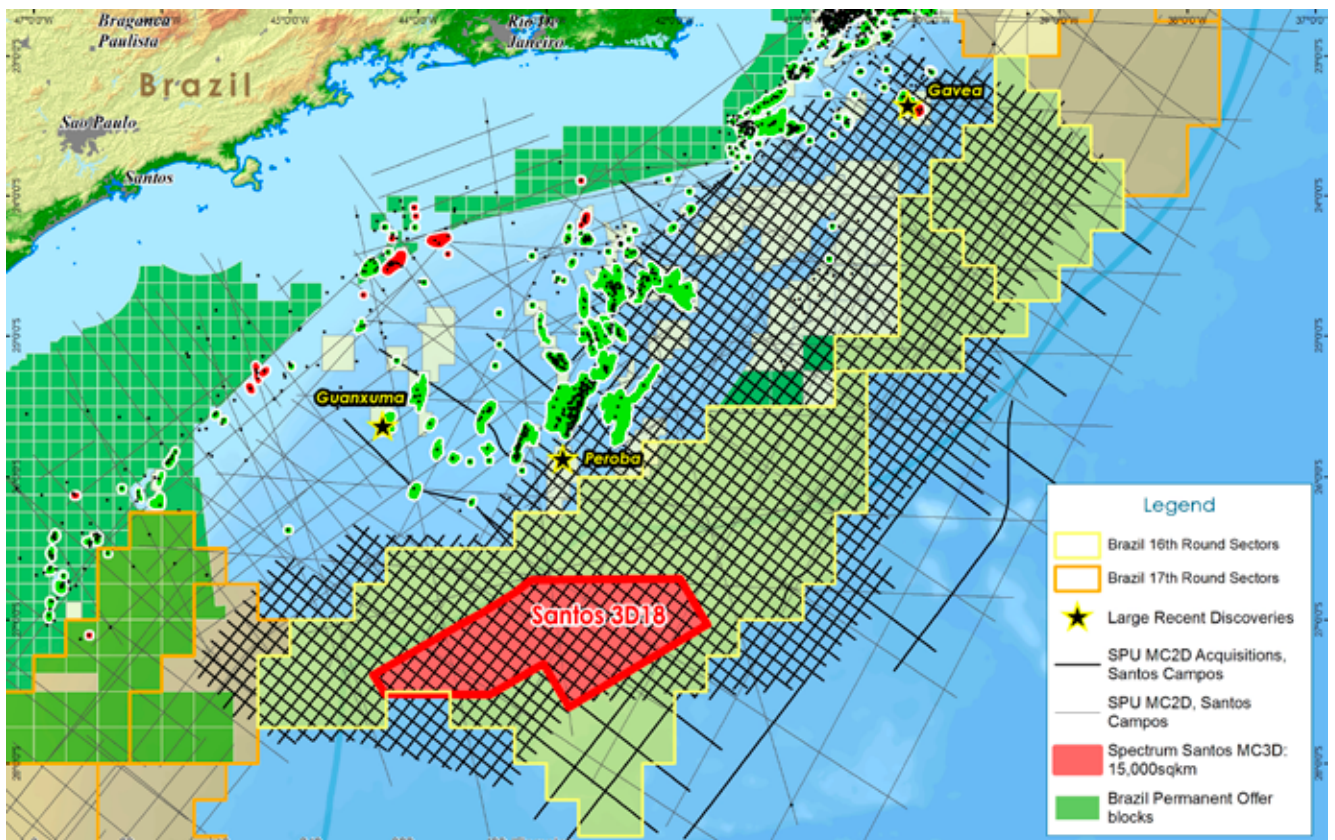
bon province ahead of the licensing rounds.

In total, Spectrum has acquired 200,000 km of long offset high quality 2D data covering almost the complete coastline of Brazil. This allows the company to move to the next growth stage in the country, using its 2D to locate prospective areas for 3D acquisition. The Santos basin, with its string of billion barrel discoveries, was the logical starting point to use the company's dense 2D coverage to identify the most prospective areas for further exploration. This resulted in a large permit application with several phases of 3D data acquisition over the most prospective areas. In July 2018, Spectrum commenced a 10,000 km<sup>2</sup> 3D Multi-Client survey in the Southern Santos basin, representing the first phase of 3D data acquisition in the area. The survey coverage lies south of the major oil and gas discoveries in the Santos Basin and the recent highly-sought after blocks offered in Rounds 2, 3, 4 and 15. The 3D project builds on Spec-

trum's extensive 2D database in the region and marks the opening of the highly prospective deep water area in the Santos basin.

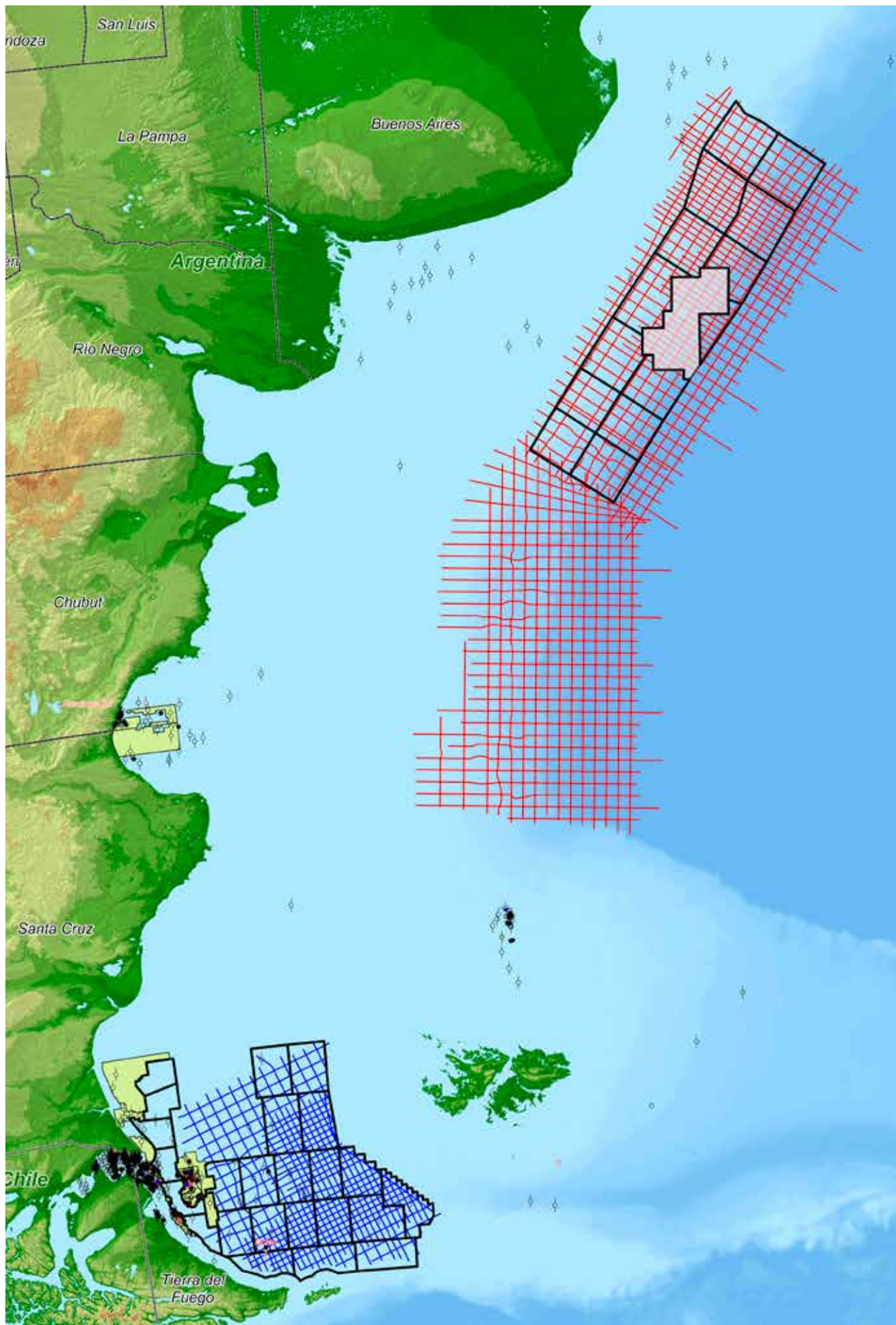
In December 2018, Spectrum and TGS joined forces and expanded the ongoing Santos 3D seismic program to 15,000 km<sup>2</sup>.

In May 2018, Spectrum completed its 39,000 km Multi-Client 2D seismic survey spanning an area of 435,000 km<sup>2</sup> offshore the deep waters of Argentina. This survey was designed in close cooperation with YPF S.A. and provides industry with the first ever detailed seismic grid over this under-explored frontier area of Argentina, allowing for basin-wide studies of the area as well as prospect/lead level interpretation studies for upcoming license rounds. The new data was extensively utilized to assist the Ministry in placement and design of parcels for the future license rounds offshore Argentina.



The 15,000 km<sup>2</sup> Santos 3D survey in the Southern Santos basin.







## The next growth stage

There has been no deep water exploration in Argentina and this survey allows Industry to examine this exciting frontier area for the first time using modern long-offset high fidelity data. With a potential for billion barrel field discoveries, offshore Argentina has potential to join the ranks of the recent Atlantic Margins successes in place such as Guyana, Ghana, Brazil and Angola. This survey was carried out in partnership with BGP Marine and COSL and is supported by industry funding.

In addition, Argentina's Ministry of Energy and Minerals is also including the Austral and Malvinas basins in its ongoing first offshore license round. Motivated by the support and interest generated for the deep water survey, Spectrum designed and acquired a regular seismic grid over both basins. The 14,500 km survey was started in November 2017 and completed by early March 2018. It was carried out

in partnership with BGP Marine. The exploration potential that Argentina offers is an exciting development that has attracted good interest from the E&P industry. In order to meaningfully evaluate such a vast area, industry appreciates the need for new, modern, long-offset Broadband seismic. Spectrum expects to collect, process and deliver over 50,000 km of newly acquired Broadband data not only for the license round which opened in late 2018 and is due to close during 2019, but also for anticipated future rounds.

# Seismic Imaging

2018 saw a number of significant developments in Spectrum's Seismic Imaging capabilities including technology advancements as well as improvements to overall quality and efficiency. Our team was able to process and deliver over 319,000 kilometers of new and legacy 2D seismic data to Spectrum's library. An increase of over 20% year-on-year.

The first major improvement was the licensing of the Reveal seismic processing system (Figure 1). Reveal is a modern processing system that is highly flexible and interactive, allowing for rapid testing of algorithms and analysis of data. This in turn significantly reduces the amount of effort required in any one processing step providing more time to evaluate a wider variety of techniques and parameters. Reveal is currently being used by a number of super-major oil companies. Like these oil companies, Spectrum is able to insert its own proprietary technologies into the system for advanced capabilities. Transitioning to new processing platforms is typically a major undertaking by a processing company. In this case, with our pre-planning and Reveal's ease of use, the rollout took place in only a

few months and without significant disruption to production.

Throughout 2018, our Seismic Imaging Team processed newly acquired 2D seismic surveys in Argentina (~43,000 km), Brazil (~33,000 km) and the Black Sea (~6000 km). We also reprocessed significant volumes of data from the Spectrum library elsewhere in North & South America, West & Southern Africa, Northwest Europe and Asia Pacific. We utilized our latest broadband processing techniques and in some cases, depth imaging to revitalize the value of Spectrum's library data making it more attractive to our customers.

A second improvement, potentially a breakthrough for us, was the successful initiation of a 3D process-

ing project utilizing cloud computing. Traditionally, a significant barrier to entry for large scale seismic processing has been access to a large computing infrastructure. In today's seismic processing industry, Tier 1 processing companies are distinguished by those that have made capital equipment investments in the range of tens of millions of dollars. With the rapid maturation of high performance cloud computing, Spectrum is now able to access almost unlimited computing capabilities "on demand" during the course of a project. This gives us an elastic capacity that can be spooled up and down as needed. Spectrum's costs are thus operating expenses that occur only when computing capabilities are needed. No capital investment is required. This flexibility follows

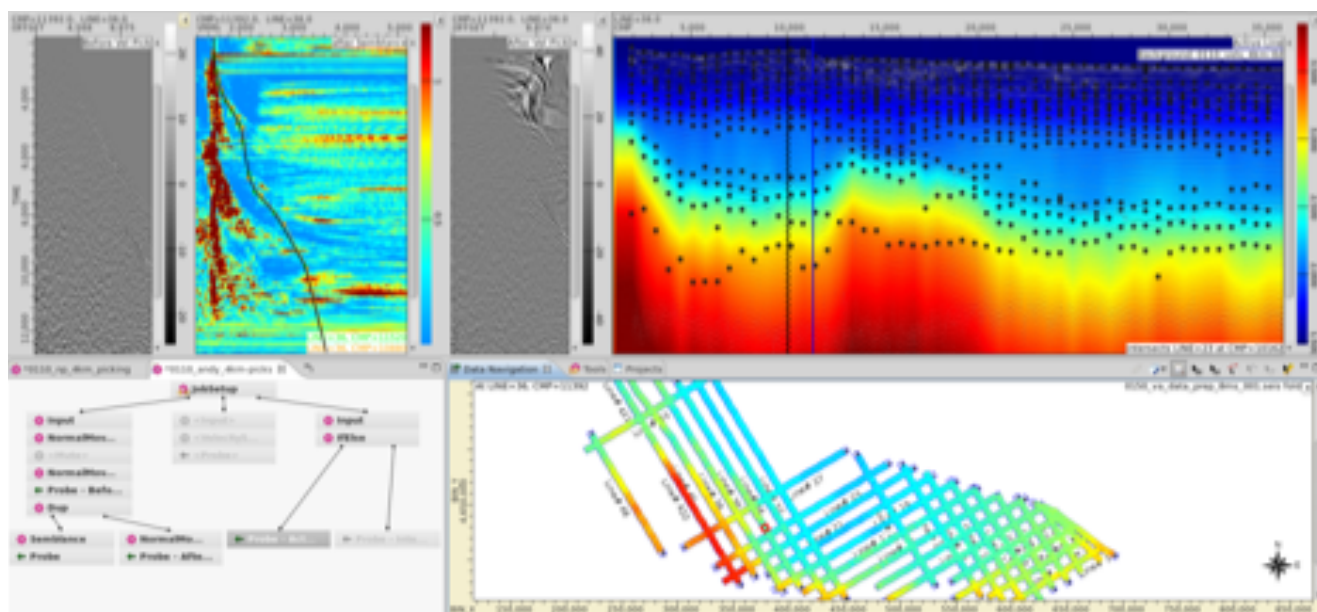


Figure 1: Reveal seismic processing system's interactive interface.



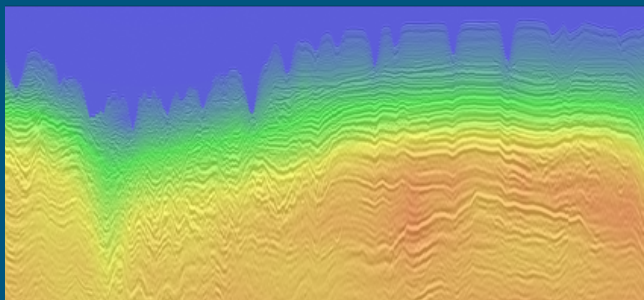


Figure 2: Seismic line from Somalia showing RTM image with velocity overlay before the application of FWI.

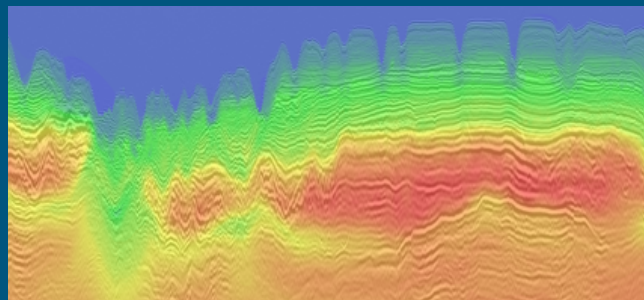


Figure 3: Seismic line from Somalia showing RTM image with velocity overlay after the application of FWI. Note red areas indicating higher velocity carbonate zones. Image quality has improved with less distortion due to seafloor canyons.

Spectrum's asset-light strategy and will truly be a game changer for our business.

In 2018 we formed a new internal organization, the Geophysical Analysis Group (GAG). The group consists of our most experienced geophysical advisors. Their focus is to establish rigorous quality assurance processes, solve difficult geophysical problems, develop efficient workflows and work with our R&D group to roll out new technologies to operations. During the course of the year, GAG has had a significant impact in raising the quality of Spectrum Multi-Client products and improving overall customer satisfaction.

Our R&D group was very active in 2018. We continued the advancement of our broadband processing toolkit with the introduction of our tau-p deghosting algorithm. This new tool has proven to be very robust in a variety of seismic acquisition configurations and geologic scenarios. Our continued improvement of the associated processing steps has led us to complete broadband processing on some 64 surveys and garner positive customer feedback. Also from our R&D team we have delivered on state-of-the-art depth imaging technologies such as Reverse Time Migration (RTM) and Full Waveform Inversion (FWI). Our RTM has now been in full production use on multiple projects and

we are achieving very good results. With FWI, we have also achieved very good results in several very challenging geologic environments and continue to develop it into a robust workflow (Figures 2 & 3). Both RTM and FWI are computational intense processes that together with our developing use of cloud computing provides Spectrum with significant advancements to our Multi-Client seismic products.

Our GAG and R&D groups have worked together to improve the efficiency and accuracy of numerous time consuming aspects of our work. Figure 4 shows an image of a pseudo 3D velocity model generated from 2D data using our Velocity Unification toolkit. This process adjusts for the differences between individual 2D lines ultimately providing customers with more interpretable exploration products.

Another focus has been on automating more routine processes such as quality control steps. This automation allows our geophysicists to rapidly screen millions of seismic gathers before and after specific processing steps, highlighting key differences to help identify and solve technical problems.

For 2019, we will continue our internal R&D effort on seismic algorithm development and expand our use of cloud computing. We will continue Spectrum's Digital Transformation as we investigate moving our data library from legacy tape archives to a new cloud storage capability, where we will be able to more efficiently deliver products to our customers and take advantage of the developing world of machine learning algorithms.

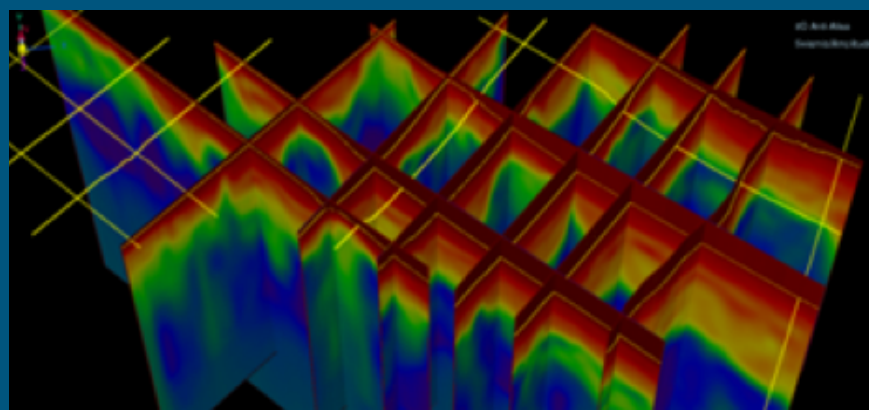


Figure 4: Integrated 3D velocity model as a result of velocity unification.



# Executive Management Team



**Rune Eng (1961)**  
*President & Chief Executive Officer*

Mr. Eng has a broad range of experience in the seismic industry. He has held various executive positions in the oil industry, most recently in Petroleum Geo-Services (PGS) and before that Fugro-Geoteam, Sevoteam and a senior consultant position in Digital Equipment Computing (DEC). Mr. Eng is a Norwegian citizen based in the Oslo office.



**Dean Zuzic (1963)**  
*Chief Financial Officer*

Dean Zuzic joins Spectrum from the position of CFO at Norsk Gjenvinning. Zuzic has broad experience from several companies where he held positions as CFO and CEO and positions as a member of the Board of Directors. Among others, he has previously worked at Kid Interiør AS, Plantasjen ASA, Saga Securities and McKinsey & Co. Zuzic is a graduate of economics from BI Norwegian Business School. Mr. Zuzic is a Norwegian citizen based in the Oslo office.



**Svein O. Staaen (1971)**  
*General Counsel*

Mr. Staaen was previously Corporate Legal Counsel in Det Norske Veritas (DNV). Prior to that, he worked eight years as a lawyer in the law firm Haavind and two years as Corporate Legal Counsel in the Nycomed Group. He holds a Master's of Law degree from the University of Oslo and a Diploma in English Commercial Law from the College of Law, London. Mr. Staaen is a Norwegian citizen based in the Oslo office.



**Jan Schoolmeesters (1966)**  
*Chief Operating Officer*

Mr. Schoolmeesters holds a PhD in Geophysics from Delft University of Technology (the Netherlands) and joined Spectrum as COO in August 2011. He has substantial experience in the seismic industry having served 16 years in various roles in PGS with a technical, operational, and commercial background. His latest position was with PGS as President of Asia Pacific. Mr. Schoolmeesters is a Dutch citizen based in the Oslo office.



**Neil Hodgson (1961)**  
*Exec. Vice President  
Geoscience*

Dr. Hodgson joined Spectrum in June 2012, having previously worked for BP, BG and Premier Oil in a number of Exploration Geology roles over a 25 year career. His last role prior to joining Spectrum was as Exploration Director for Matra Petroleum. Neil is focussed on developing the understanding of hydrocarbon plays in the Mediterranean and Middle Eastern areas of Spectrum's Library. Mr. Hodgson is a British citizen based in the UK office.

**Graham Mayhew (1961)**

*Exec. Vice President  
Multi-Client: Africa,  
Mediterranean & Middle East*



Mr. Mayhew joined Spectrum in March 2013. He brings with him 30 years' experience in the seismic industry, having previously worked for Western Geophysical, Cogniseis, Landmark and WesternGeco in various managerial roles. During the last 15 years Graham has been focusing his efforts on developing new ventures and the Multi-Client business in Africa for WesternGeco where his last role was Multi-Client manager for Europe and Africa. Mr. Mayhew is a British citizen based in the UK office.

**Richie Miller (1963)**

*Exec. Vice President  
Multi-Client: Americas*

Mr. Miller brings with him a wealth of knowledge, gained from over 30 years of experience within the seismic industry. He joined Spectrum from CGGVeritas where he held the position as Director of Marketing & Business Development. During that time, he was responsible for developing the data library, identifying new opportunities and general business development of the US and South American libraries. His other positions with other global companies included Marine Acquisition Manager, Senior Geophysicist and Director of Geology & Geophysics. Mr. Miller is an American citizen based in the Houston office.

**Mike Mellen (1959)**

*Exec. Vice President  
Seismic Imaging*



Mr. Mellen joined Spectrum in July 2017 bringing over 30 years of diverse experience in petroleum exploration & development, E&P technology, operations, research and leadership. He began his career at Marathon Oil Company as a geophysicist focusing on seismic acquisition/processing and prospect development primarily in Africa/Middle East and the Gulf of Mexico. He later joined Halliburton where he held a variety of technical and leadership roles including Global Director – Subsurface Evaluation and Sr. Director Landmark Technology (head of R&D). Prior to joining Spectrum, Mike was Business Unit Vice President of Data Processing & Imaging at ION Geophysical (GX Technology). Mike has an M.Sc. in Geophysics from the Massachusetts Institute of Technology and attended the Executive Development Program at Wharton. Mr. Mellen is an American citizen based in the Houston office.

**Ian Edwards OBE (1955)**

*Exec. Vice President  
Multi-Client: North-West Europe  
and Asia Pacific*



Mr. Edwards brings a wealth of knowledge from the oil and gas industry, with a career that has spanned almost 50 years. He started his career in 1970 with Phillips Petroleum. In 1982 he became part of the initial team of JEBCO Seismic Ltd and focussed on the UK and then the Soviet Union. This was followed in 1992 by his move to Digicon Geophysical where he was responsible for starting the Data Library and Geological Services departments for EAME Division. Throughout his time with Digicon/Veritas and finally CGGVeritas in 2010, he held various senior positions with his last role as Senior Vice President Data Library EAME and Global New Ventures. In late 2010 Mr. Edwards was one of the original members of the Executive Team of Dolphin Geophysical responsible for Global Multi-Client Surveys and New Ventures. During his career Mr. Edwards has initiated many unique Multi-Client seismic surveys which have stimulated industry investment and exploration. He was also responsible for the concept of the highly successful PROMOTE Licensing mechanism in the UK. Mr. Edwards studied Geology at Birkbeck College, University of London and later Law at London University externally. He is a British Citizen.

# The Board



**Pål Stampe (1975)**  
*Chairman*

Mr. Stampe is a partner at Spectrum's largest shareholder Altor Equity Partners. He has previously held positions at Danske Securities and McKinsey & Company. Mr. Stampe holds a Master's degree in Mathematics and Physics from NTNU, Trondheim. He is a Norwegian citizen and resides in Oslo, Norway.



**Glen Ole Rødland (1964)**  
*Board member*

Mr. Rødland is a Senior Partner in HitecVision. He joined HitecVision in January 2016 from the position as Director and co-investor of Direct Active Investments in Ferncliff TIH AS (ten years). Mr. Rødland is Chairman of the Audit Committee in Spectrum ASA. He has postgraduate studies in Finance from the Norwegian School of Economics and Business Administration (NHH) and UCLA. He has worked as a management consultant in PWC and research assistant at NHH. He has also worked as a market and investment analyst at Jebsens, a shipping company based in Bergen. Mr. Rødland has worked 15 years with portfolio management and investment banking for Vital (2 years) and First Securities (formerly Elcon Securities) (13 years). Mr. Rødland's experience is mainly within Energy, Basic Materials and Shipping, where he has significant transaction experience. Mr. Rødland is a member of the Board of Directors of several companies, including Aqualis ASA and Prosafe SE. He has previously been a member of the Board of Directors of Weifa ASA, First Securities ASA, Norske Finansanalytikers Forening, Standard Drilling ASA and Noble Denton. Mr Rødland is a Norwegian citizen and resides in Oslo, Norway.



**Ingrid Elvira Leisner (1968)**  
*Board member*

Mrs. Leisner has previously worked as Head of Portfolio Management for Electric Power in Statoil Norge AS. She also has a background as a trader of different oil and gas products in her 15 years in Statoil ASA. Mrs. Leisner is member of the Audit Committee in Spectrum ASA. She holds a Bachelor of Business degree (Siviløkonom) with honors from the University of Texas at Austin. Mrs. Leisner serves on the Board of several companies listed on the Oslo Stock Exchange. Mrs. Leisner is a Norwegian citizen and lives in Oslo, Norway.



**Maria Tallaksen (1980)**  
*Board member*

Ms. Tallaksen is a director at Spectrum's largest shareholder Altor Equity Partners. She has previously held positions at Morgan Stanley's Investment Banking Division and Global Capital Markets. Ms. Tallaksen is member of the Audit Committee in Spectrum ASA. She holds a Master of Science in Business (Siviløkonom) from BI Norwegian School of Management. Ms. Tallaksen is a Norwegian citizen and lives in Oslo, Norway.



# Board of Directors' Report

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## Segment Multi-Client operations

In 2018 Spectrum delivered a growth of 13% in net revenue versus 2017. Throughout the year Spectrum continued to execute on its strategy to become one of the leading pure play marine Multi-Client companies based on an asset-light business model. The Group has limited long-term operational financial commitments and hires in vessels and crew on a project by project basis. This provides the Group with the financial flexibility to meet changes in the market.

The company's Seismic Imaging unit uses Seismic Imaging technology and services to deliver high quality products and solutions to oil companies. The Seismic Imaging unit also reprocesses data to enhance the quality of our expanding data library. The pure play marine Multi-Client strategy was formed late in 2010. In 2011 Spectrum discontinued the operation of vessel business segment, allowing the Group to focus on developing the core business of marine Multi-Client surveys. In 2011 Spectrum stepped up the investments in Multi-Client surveys by making organic investments of USD 14 million and structural investments of USD 40 million by acquiring the marine 2D Multi-Client library of CGG. In 2012 the Spectrum organic Multi-Client investment grew to USD 76 million followed by USD 85 million in 2013. During 2013 Spectrum also acquired the Norwegian companies Carmot Seismic AS and Carmot Processing AS. This acquisition established a significant footprint for Spectrum on the

Norwegian Continental Shelf adding 3D seismic data cubes covering approximately 125,000 km<sup>2</sup> of the Norwegian Continental Shelf and more than 80,000 km of merged and matched 2D data in the Barents Sea.

In 2014 Spectrum's Multi-Client investment ended at USD 113 million, an increase of 33% vs. 2013. The major parts of the 2014 Multi-Client investments were made in Brazil, Croatia and Norway. License rounds were expected to take place in many of these areas in 2015 in addition to license rounds already held in these areas during 2014.

In 2015 Spectrum made organic Multi-Client investments of USD 66 million and structural investments of USD 109 million by acquiring the marine Multi-Client library of Fugro. Through this acquisition Spectrum stepped up to be the world's number 1 in terms of size of marine Multi-Client 2D library and also gaining momentum in the 3D market.

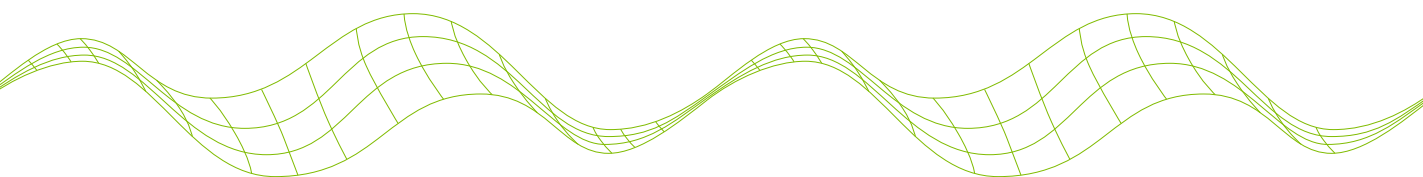
In 2016 Spectrum's organic Multi-Client investments ended at USD 51 million. These investments came primarily in Somalia, Brazil, Mexico, Norway and Australia. In 2017 Spectrum's organic Multi-Client investments ended at USD 82 million which was approximately the same level as in 2013 and the second highest level ever for the Group. In 2018 Spectrum completed a greater number of projects through risk sharing arrangements with the company's partners.

Spectrum invested USD 53 million in Multi-Client projects in 2018, while partners invested approximately USD 58 million, bringing gross Multi-Client investments in 2018 to USD 111 million. Over the last three years a total of USD 316 million was invested in Spectrum projects, of which USD 186 million by Spectrum and USD 130 by partners.

Spectrum has a clear number one market position in terms of the volume of 2D marine seismic data held worldwide with more than 3.35 million km of data. Looking at the balance sheet, 99% of the book value of the Multi-Client seismic library is related to library additions made in 2015, 2016, 2017 and 2018. As such the Spectrum library is very fresh and maintains a high quality. The step change in Spectrum's Multi-Client investments in 2017 has also directly impacted on segment Multi-Client sales in 2017 and 2018. Net Segment Multi-Client sales have moved from USD 46 million in 2011 to USD 114 million in 2012, USD 141 million in 2013, USD 181 million in 2014, USD 109 million in 2015, USD 72 million in 2016, USD 119 million in 2017 and USD 134 million in 2018. Looking at net late sales, 2018 revenue ended at USD 103 million, up from USD 61 million in 2017.

## Results

The currency of presentation for the financial statement of Spectrum is USD, which reflects the functional currency of the entities and transactions undertaken by the Group.



**Spectrum Group:** Gross revenue for Multi-Client and Seismic Imaging, for the year ending 31 December 2018, was USD 207.2 million. Adjusted for revenue share, net revenue came in at USD 138.8 million, split between Multi-Client services of USD 138.7 million and Seismic Imaging of USD 0.1 million.

The Group EBIT in 2018 was positive USD 32.3 million compared to negative USD 16.0 million in 2017 (includes impairment of USD 25.6 million of the Multi-Client library and technical goodwill).

**Spectrum ASA:** Gross revenue for Multi-Client for the year ended 31 December 2018, was USD 12.6 million. Adjusted for revenue share, net revenue came in at USD 9.9 million. Sales to subsidiaries were USD 7.6 million. The Parent company EBIT in 2018 was positive USD 2.1 million compared to negative USD 14.9 million in 2017 (includes impairment of USD 16.1 million of the Multi-Client library and shares in subsidiaries).

### Going Concern Assumption

The Board confirms that the Group's financial statements have been prepared on a going concern basis in accordance with the Norwegian accounting act §3-3a which takes into account the forecasts for 2019 and the long term strategic view of the Company and the market.

### Market Risk

The Spectrum Group is exposed to a number of different financial market risks arising from the Group's normal business activities. Financial market risk is the possibility that

fluctuations in exchange rates and interest rates will affect the value of the Group's assets, liabilities and future cash flows. In order to manage and reduce these risks, management periodically reviews its primary financial market risk, and actions are taken to mitigate specific risks identified. Spectrum established early 2014 a USD account in Brazil. This reduced currency risk related to our operation in Brazil. The Spectrum Group has various financial assets such as trade receivables and cash. These are mainly in USD.

### Liquidity risk

The Board of Directors considers the liquidity risk to be moderate. Risk is positively impacted by the material increase of Spectrum's Multi-Client seismic library and continued high focus on cash flow related to new acquisition projects. In general, risk will be negatively impacted if market conditions are weak. Some new projects are also de-risked by inviting 3rd parties to participate. Prefunding levels are a key component in the decision process of new acquisitions. Liquidity risk is primarily related to potentially realising lower sales than expected from existing library. At 31 December 2018 the Spectrum Group had current assets of USD 113.9 million (2017: USD 92.5 million) and current liabilities of USD 125.8 million (2017: USD 81.7 million). The Group held USD 37.7 million (2017: USD 14.2 million) in cash and cash equivalents as of 31 December 2018.

### Credit risk

The customers of the Spectrum

Group are mainly large oil and gas companies that are well known to the Group. The maximum exposure to credit risk at the reporting date is the sum of the carrying amounts of financial assets in each class (see note 11). Management considers the provisions in each legal entity sufficient to cover risk related to receivables balances. The overall credit risk is considered to be low and Spectrum had no losses on receivables in 2018.

### Currency and Interest rate risk

A 1% change in the currency rate NOK to USD would impact the Group's net result by less than 0.1%. Spectrum Geo Do Brazil SG LTDA has bank deposits and tax liabilities in BRL. A 1% change in the currency rate BRL to USD would impact the Group's financial position by less than 0.1%. The risk related to interest rates is considered limited since the operation is not capital intensive.

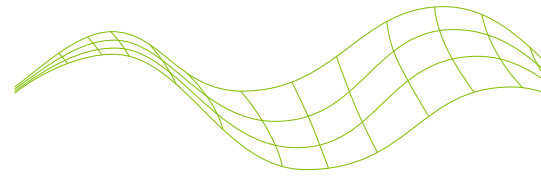
### Liquidity

As at 31 December 2018 the total assets of the Group were USD 312.4 million, including USD 37.7 million in cash and cash equivalents.

Spectrum is positioned to meet its future working capital commitments through internally funded cash flow.

The Board of Spectrum has approved a stock option program for senior executives. As of 31 December 2018 there were 4.5 million outstanding options with an average exercise price of NOK 36.4. Of the outstanding options approximately 2.9 million options are exercisable in 2019.





### Corporate Governance

Spectrum is committed to maintaining high standards of corporate governance. We believe that effective corporate governance is essential to the well-being of the Company and establishes the framework by which we conduct ourselves in servicing our client's needs, achieving strategic goals and delivering value to our shareholders. The Company is registered in Norway as a public limited company. The Company has Audit and Remuneration committees.

### Corporate Social Responsibility

Corporate Social Responsibility is an integrated part of Spectrum's way of doing business. Spectrum's corporate mission is to achieve world-leading performance through persistence, dedication and full commitment to quality. Further, supplying global seismic solutions through dedicated and experienced people.

We believe Spectrum's commitment to core values like business integrity, respect for others, fair play and honesty is key to realizing our corporate mission.

Spectrum takes the responsibility towards the Group's stakeholders very seriously and considers how all parts of the Group's operational activities can potentially impact them. This consideration includes thorough planning of all projects, extensive communication with regulatory bodies and local communities (including permitting processes), quality based selection of local representatives and partners.

**Customers:** We focus on working in partnership with our customers to deliver consistent quality Multi-Client seismic data and seismic processing services on time and to budget.

**Employees:** It is Spectrum's policy to treat all employees with the same level of professionalism regardless of their sex, sexual orientation, age, race, ethnic origin, colour, nationality, disability or marital status. Furthermore, the Company believes that no employee should be prejudiced in any aspect of their employment or career development. The Company will take appropriate measures for any instances of non-compliance with this policy.

**Community and Environment:** The Group's activities involving the collection of seismic data mean that there is a level of interaction with the external environment. Spectrum is continually working on its operational procedures in order to minimize the potential negative environmental impact and maximize potential positive social impact on the people, communities and the surroundings in which we operate. We are dedicated to continuous improvements in all parts of our operation. Spectrum is committed to respecting the communities in which we operate by becoming familiar with and showing consideration to local cultures, customs and values. We seek to support local society by recruiting from the resident work force wherever possible, and aim to act as a positive influence within these communities. Spectrum

endeavours to ensure that security services are only used where deemed necessary and that the provision of security is in accordance with international standards of best practice and the laws of the countries in which we operate. We act with fairness in our business practices and do not use our dealings with political organisations or our business partners to secure an unfair advantage over others.

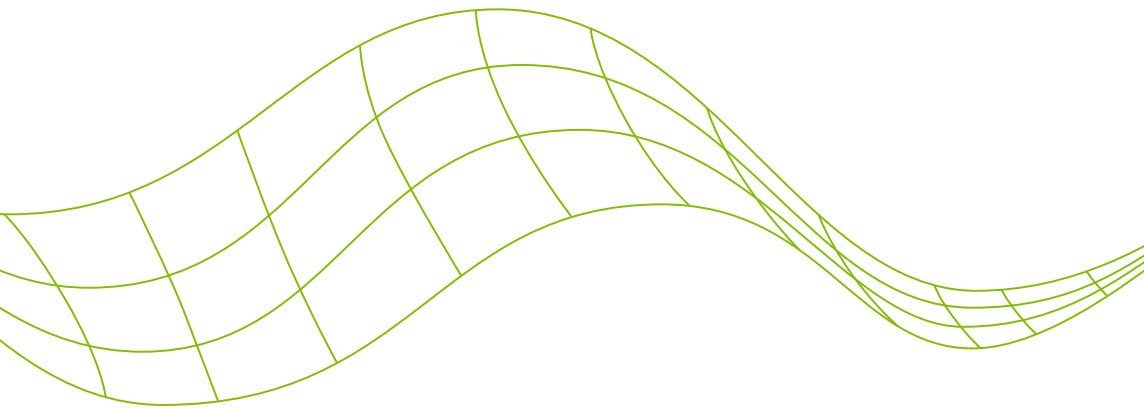
As Spectrum recognizes the Group's social responsibility role, the company was active in developing cultural, environmental and educational projects beneficial to local society. We worked actively with environmental Institutions, like the TAMAR foundation in Brazil.

Spectrum focuses specifically on compliance, anti-corruption and safe and environmentally friendly execution of our seismic projects.

### Anti-Corruption and Compliance

Spectrum shall actively combat bribery and corruption and we shall act professionally, fairly and with integrity in all our business dealings and relationships wherever we operate.

Spectrum's Code of Conduct and Anti-Corruption Policy may be found at [www.spectrumgeo.com](http://www.spectrumgeo.com). The Spectrum Code of Conduct describes the requirements in terms of business ethics and conduct applying to Spectrum's business activities. Spectrum is committed to comply with all legal and ethical requirements of the industry.



Our Code of Conduct and Anti-Corruption policies are approved by the Board of Directors and are applicable to all employees.

Spectrum operates in several high risk countries which puts an obligation on us to act diligently. Our policies emphasize Spectrum's zero tolerance approach to bribery and corruption. The policies expressly prohibit bribery and other illegal payments as well as giving guidance on gifts and hospitality.

Spectrum has implemented a whistle blower policy where employees are encouraged to report any violation of Spectrum values or policies to their supervisor or to the Code of Conduct Committee. Spectrum investigates all potential violations of its policies or of any applicable anticorruption laws. In order to increase awareness, all Spectrum employees are required to take an anti-corruption course.

Spectrum has conducted an internal risk assessment related to corruption and compliance. One particular risk area that has been identified and addressed is the engagement of local representatives, which has led to a separate policy on this being implemented internally. Spectrum regularly conducts due diligence on third-party relationships depending on various risk factors such as location, services and stakeholders involved, including use of a well renowned external company preparing integrity due diligence (IDD) reports. All Spectrums' local representatives are annually required to certify compliance with applicable anti-corruption laws,

including Spectrum's own policies. Spectrum includes anti-corruption provisions in the relevant agreements with the local representatives, including audit and termination rights.

The implemented policies and training have increased awareness among Spectrum employees and other representatives related to anti-corruption and compliance issues.

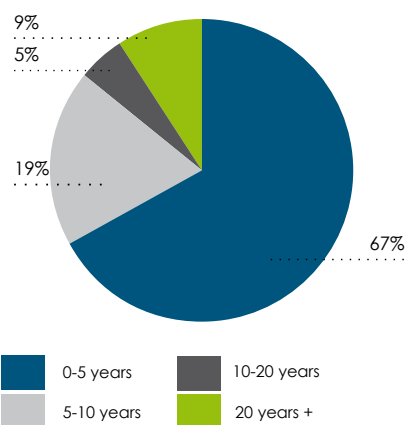
Spectrum intends to continue the monitoring of its anti-corruption policies including further training of employees and also of other representatives of the Spectrum Group. Our policies are continually assessed to identify weaknesses and areas for improvement.

### People

Spectrum is committed to creating a work environment free of harassment and bullying, where everyone is treated with dignity and respect. We are committed to promoting equal opportunities in all areas and to avoiding unlawful discrimination in employment and against our clients and customers.

Spectrum directly employed 158 people end December 2018 (146 end December 2017). In addition Spectrum has a Joint Venture in Egypt with 38 employees. We had 29 new hires through 2018 and 5 individuals were transferred internally. The employee turnover in 2018 was 10%.

Length of service for employees in Spectrum

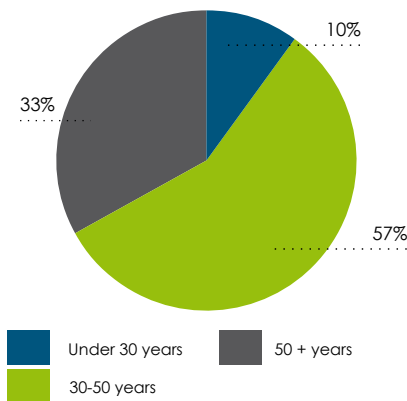


Gender of Board of Directors is: 50% female and 50% male.

Gender of managers is: 25% female and 75% male.

Gender of total number of employees: 38% female and 62% male 7% of managers are under 30 years old, 55% of managers are in the age span 30-50 and the rest above 50 years old.

Age distribution for total number of employees



The salary for men and women performing the same role is similar with differences due to length of service and individual skill sets.

### Training and Conferences

Spectrum offers strong professional and technical development opportunities by providing a wide range of training options both internally and externally through strong collaborations established with technology providers and academic institutions. Internal training was delivered through monthly open to all "lunch and learns" as well as yearly internal department specific technical seminars and forums. Company-wide online technical training was adopted offering a wide range of oil industry related training modules covering all levels of experience. Software training, academic presentations by university professors and relevant technological updates by technology partners, all took place onsite.

Spectrum strongly encourages employee attendance to major industry events. Additionally, Spectrum took part in the "Nautilus" series of pre-committed training days programme.

Spectrum has established a close collaboration with over 15 universities worldwide, participating closely in both MSc and PhD projects using Spectrum's seismic data. In exchange the universities offer the geoscience employees of Spectrum different courses and fieldtrips to places of geological interest.

### Working Environment and Health Safety & Environment "HSE"

Spectrum is committed to protect the health, safety and security of its employees, contractors, clients and the public while protecting the environment in which it operates. Spectrum will promote an effective

and proper understanding of its HSE requirements with all employees and contractors. All Spectrum personnel are required to cooperate on all matters relating to HSE and to always consider and prioritize the health and safety of themselves and others who may be affected by their actions.

It is Spectrum's objective to:

- Maintain high standards for health, safety and the protection of the environment;
- Communicate these standards to all Spectrum personnel and external parties where necessary;
- Ensure that all Spectrum personnel are given the necessary information, instruction and training to enable them to work in a safe manner.

It is Spectrum's Policy to:

- Provide adequate control of the health and safety risks arising from our work activities;
- Consult with our employees on matters affecting their health and safety;
- Provide and maintain safe premises and equipment;
- Ensure safe handling and use of substances;
- Provide information, instruction and supervision for employees;
- Ensure all employees are competent to do their tasks, and to give them adequate training;
- Prevent accidents and cases of work-related ill health;
- Maintain safe and healthy conditions; and
- Review and revise this policy as necessary at regular intervals.



The average number of days lost through illness in 2018 was 1.4%

With regard to the offshore operations the following safety performance was recorded for 2018:

Total Man hours	1,420,971
Fatalities	0
Lost Time Incidents	0
Medical Treatments Cases	3
Restricted Work Cases	1
High Potential Incidents	2
LTI Case Frequency (per million man-hours)	0.0
High Potential Case Frequency (per million man-hours)	1.5
Recordable Case Frequency (per million man-hours)	2.8

In 2018 Spectrum did not experience any major incidents in our operations and no significant spills or other environmental damage. Spectrum believes that safe operations are fundamental to the success of our business and is dedicated to the continuous improvement of health, safety and security standards.

### Human Rights

Spectrum has an organizational culture which is committed to supporting internationally recognized human rights, including the United Nations Declaration of Human Rights. We seek to respect the human rights of our employees in all areas, including non-discrimination of any kind, the prohibition of enforced labor and child labor and the freedom of association. Spectrum makes every effort to be fully aware of human rights issues and through our actions seek to uphold human rights and foster equality and respect for all.

### Community Relations

Spectrum is committed to respecting the communities in which we operate by becoming familiar with and showing consideration to local cultures, customs and values. We

seek to support local society by recruiting from the resident work force wherever possible, and aim to act as a positive influence within these communities. We actively engage with local communities, providing them with the opportunity to comment and address any concerns regarding projects involving the acquisition of seismic data.

### Shareholders Equity / Dividends

As of 31 December 2018 there are 54,785,103 shares in issue, which are traded on the Oslo Stock Exchange (SPU), the largest 5 shareholders controlled 44.27% of the shares in the Company. A detailed listing of the largest 20 shareholders and the holdings of the Directors and Executive Management can be found in note 13.

On 25 May 2018 the Annual General Meeting (AGM) gave the Board of Directors a Power of Attorney, pursuant to the Public Limited Liability Companies act section 10-14 to increase the share capital in the Company with up to NOK 5.4 million through one or more increases in the share capital. This power of attorney and the power of attorney to issue convertible loans are collectively limited, and the total use of such power of attorneys may not exceed 10% of the Company's share capital at the time of the registration. The power of attorney may be utilized in connection with issuance of shares as complete or partial settlement for or financing of mergers or in connection with acquisition of companies, businesses or assets. The power of attorney may also be used for the purpose of strengthening the financial ability of the Company to accomplish such transactions, and for the purpose of investments in Multi-Client seismic studies.

The Power of Attorney is valid until the AGM in 2019, expiring at latest on 30 June 2019 and replaces the corresponding Power of Attorney granted at the AGM in 2017.

On 25 May 2018 the AGM gave the Board of Directors a Power of Attorney pursuant to the Public Limited Liability Companies act section 10-14 to increase the share capital in the Company with up to NOK 5.4 million through one or more increases in the share capital. The power of attorney may be utilized in connection with the share option scheme of the Company.

The power of attorney may not be used in connection with increase in the share capital with settlement by contribution in kind, by way of set-off, or with conditions that shares may be subscribed for on other particular terms, cf. Public Limited Liability Companies act section 10-2.

The Power of Attorney is valid until the AGM in 2019, expiring at latest on 30 June 2019. This Power of Attorney replaces the corresponding Power of Attorney granted at the AGM in 2017.

On 25 May 2018 the AGM gave the Board of Directors the a power of attorney pursuant to the Public Limited Liability Companies act section 11-8 to issue convertible loans which will give lender right to have shares issued against payment of money or by set-off against the receivable.

Loans may be issued in one or several rounds with a maximum loan amount of NOK 400 million.

The share capital of the Company can in total be increased by up to NOK 5.4 million. This power of attorney and the general power of attorney to increase the share capital are collectively limited, and the total use of such power of attorneys may not exceed 10% of the Company's share capital at the time of the registration.

The shareholders pre-emptive rights pursuant to the Public Limited Liability Companies Act section 11-4 may be waived, ref the Public

Limited Liability Companies Act section 10-5. The Board of Directors is granted the power to amend the articles of association section 4 in the event of conversion according to the power of attorney.

The Power of Attorney is valid until the AGM in 2019, expiring at latest on 30 June 2019. This Power of Attorney replaces the corresponding Power of Attorney granted at the AGM in 2017.

On 25 May 2018 the AGM gave the Board of Directors authorization, pursuant to the Public Limited Companies Act section 9-4, to purchase up to 5.4 million own shares with a total nominal value of NOK 5.4 million corresponding to approx. 10% of the Company's share capital.

The amount paid per share shall be minimum NOK 1 and maximum NOK 150.

The Board of Directors is free to decide how the acquisition and disposal of shares takes place, but shall ensure that general principles of equal treatment of shareholders shall be complied with. Disposal of own shares acquired according to this authorization, shall primarily take place as part of fulfillment of the Company's obligations under option programs for senior executives.

This authorization was effective from the time it was registered in the Norwegian Register of Business Enterprises. The authorization is valid until the day of the AGM in 2019, expiring at latest on 30 June 2019, and replaces the corresponding authorization granted at the AGM in 2017.

The Extraordinary General meeting (EGM) 13 November 2012 approved a share option program to senior executives in the Spectrum Group of 8.0 million options, up from previously 6.0 million. The program otherwise continued as

approved in the EGM held 30 November 2010.

In the Annual General Meeting 23 May 2014 the limit for the option program was further increased from 8 million options to 10.0 million options of which 2.142.500 options are not granted per 31 December 2018. Each option gives the right to acquire or subscribe for one share in the Company. Vesting of options related to the first part of the option program take place over a four year period with 15% vested after 1 year, 20% after two years, 25% after 3 and 40% after four years. The second part of the option program vest over a three year period, starting from autumn 2014.

In the Annual General Meeting 19 May 2017 the term of the option agreements for certain employees was extended with up to 3 years, with a right for the participants to accumulate/roll options in the extended term. Condition for the extension was that the participants had to purchase shares in the Company with 2 years lock up for an amount equal to up to 25% of gross profit from options granted after approval of new guidelines in 2014 (with a possibility for fulfilling such condition through existing shareholding). Senior executives was required to invest up to 25% of gross bonus payments in shares.

The Board of Spectrum ASA proposes a dividend for 2018 amounting to NOK 1.5 per share. Spectrum ASA had USD 89.8 million in equity per 31 December 2018.

### Market Outlook

The Exploration and Production segment of the oil industry, to which Spectrum is a supplier, has undergone some major changes during the last couple of years with the price of oil ranging from USD 27 per barrel (pb) to USD 147 pb with a price level of USD 65 pb per February 2019. This has been brought about by a number of factors including uncertainty in the

global economic outlook, political issues in the Middle East and unbalance in supply/demand due to among others increase in shale oil production. The Board now sees continued increasing demand for Multi-Client seismic from clients. Spectrum believes a combination of a stable oil price, a significant reduction of breakeven cost for offshore O&G projects in general, and deep-water projects especially, and a record low reserve replacement ratio (RRR) for the oil industry will lead to a accelerating recovery in the seismic market in 2019.

Spectrum's overall investment criteria for Multi-Client projects will be focused on the quality of the projects and prefunding level will be key for project realization.

Seismic Imaging is an integral and important part of our Multi-Client offering and Spectrum continues to invest appropriately in order to maintain its long-term strategies of securing backlog and delivering additional products.

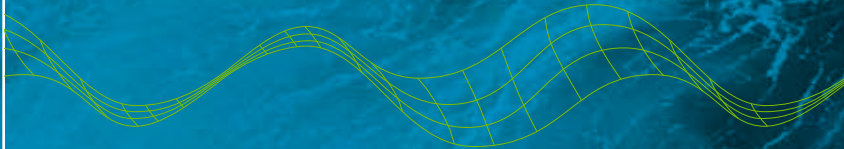
The Board underline that, given the current market, there are many factors outside the Group's control that could affect Spectrum's future performance so all statements related to the future do involve unknown risks and uncertainties.

### Profit Allocation

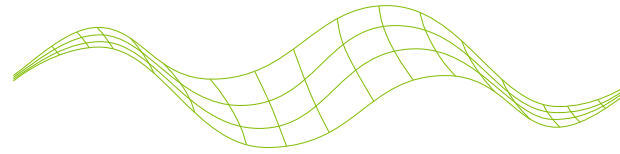
The parent company, Spectrum ASA, has a net gain of USD 0.855 million. This will be transferred to retained earnings.

”

**World-leading  
performance  
through persistence,  
dedication and  
commitment to  
quality**







# Board of Directors and CEO Statement of Compliance

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## Confirmation from the Board of Directors and CEO

We confirm that, to the best of our knowledge, the consolidated financial statement for the year ended 31 December 2018 have been prepared in accordance with IFRS as adopted by the EU, and give a true and fair view of the Group's assets, liabilities, financial position and results of operations. We confirm that, to the best of our

knowledge, the financial statements for the parent company for the year ended 31 December 2018 have been prepared in accordance with the Norwegian Accounting Act and IFRS as adopted by the EU, and that these financial statements give a true and fair view of the company's assets, liabilities, financial position and results of operations.

We also confirm that the Report of the Board of Directors includes a true and fair review of the development, performance and financial position of the Group and the Company, and includes a description of the principle risks and uncertainties facing the entity and the Group.

Oslo, 11 April 2019

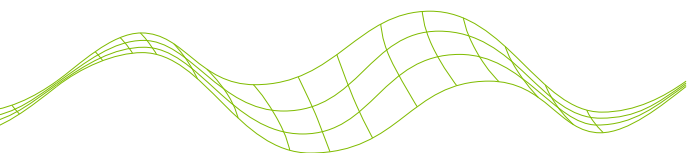
Ingrid Leisner  
Board member

Maria Tallaksen  
Board member

Pål Stampe  
Chairman of the Board

Rune Eng  
CEO

Glen Ole Rødland  
Board member



# Corporate Governance

Since its incorporation, subsequent listing on the Oslo Axess exchange and transfer to Oslo Børs in 2012, Spectrum has sought to create a framework under which it can deliver confidence and provide long term strategic growth to shareholders, employees and other stakeholders.

The objective for Spectrum is to adhere to all relevant laws and regulations affecting the Company and its business activities in the regions of operation, as well as the Norwegian Code of Practice for Corporate Governance from 21 October 2010, revised annually, which itself is based on company, accounting, stock exchange and securities legislation, as well as Stock Exchange Rules, as in force at 1 October 2010, and includes provisions and guidance that in part elaborate on existing legislation and in part cover areas not addressed in legislation.

## **Implementation and reporting on corporate governance**

The Board of Spectrum is responsible for the implementation of strong corporate governance and is committed to the continual review of its policies. It is firmly believed that Spectrum's core corporate governance code is fully compliant with regulations.

Within its daily activities Spectrum recognises the interaction with external parties and the environment and conducts its business in a way to minimise any adverse effects on the people, societies and environments that it has contact with.

All the activities of the Group are designed to promote its basic core values or delivering on strategic goals, strengthening confidence and enhancing the value to our shareholders through an ethical and socially responsible approach to doing business.

## **Business**

Spectrum's business as defined in the Articles of Association state that 'the Company shall be engaged in the business of offering services related to the acquisition, processing and marketing of geophysical, aeromagnetic and gravity data, and other services related to such business, including the participation in other companies engaged in similar and related business'.

## **Equity & dividends**

The Board of Spectrum ASA propose a dividend amounting to NOK 1.5 per share to its shareholders in respect of the period. This proposal is based upon the result of the operations for the year and overall financial strength including the ability to finance future business opportunities. In general, future dividend will be subject to determination by Spectrum's Board of Directors-

based on its results of operations and financial condition, its future business prospects and any applicable legal or contractual restrictions. Any proposal by the Board of Directors must be approved by Spectrum's shareholders in a general meeting.

## **Equal treatment of shareholder and transactions with close associates**

Spectrum has one class of shares with each share and shareholder treated equally. There are no provisions in the articles of the Company to waive the pre-emption rights of existing shareholders to subscribe for shares in the event of an increase in the share capital. Any such change will need to be justified by the Board of Directors and put before a General Meeting.

25 May 2018 the AGM passed a resolution under which the Board of Directors is authorized to purchase up to 5.4 million own shares with a total nominal value of NOK 5.4 million. The amount paid per share shall be minimum NOK 1 and maximum NOK 150.

Spectrum does not encourage transactions between the Company and shareholders,



members of the Board of Directors, members of the executive management or close associates of any such party. Should such a transaction exist the Board will arrange for an independent valuation of the transaction.

A process designed to ensure that executive management and Board of Directors disclose any material direct or indirect interest in any transaction entered into by the Company is in place.

#### **Freely negotiable shares**

Spectrum is listed on the Oslo Stock Exchange, under the tag "SPU". All shares are freely negotiable and there is no form of restriction on negotiability within the Company's articles of association.

#### **General Meetings**

The Board of Directors believe that the General Meeting is an appropriate forum for shareholders to communicate with the Board and exercise their rights of participation and promote their points of view.

The date of the General Meeting is included within the published financial calendar and will further be communicated to shareholders, together with any appropriate information relating to any resolutions to be considered, no later than 21 days prior to the date of the meeting.

In the interest of independence and to ensure a level of impartiality

in the General Meeting, it is the intention to appoint an independent chairperson for the duration of the meeting, whilst members of the Board, Nomination Committee, executive management and auditors will be present throughout.

#### **Nomination Committee**

The Nomination Committee is elected by the General Meeting for a period of two years. The current committee was elected in May 2017 and May 2018 and consists of three independent individuals: Ragnhild Wiborg (2017-2019) - Chair  
Kjetil Erikstad (2017-2019)  
Jon Christian Syvertsen (2018-2020)

The mandate of this committee is to propose members to the Board of Directors and fees to be paid.

#### **Corporate assembly and Board of Directors: composition and independence**

The Group employs fewer than 200 people and does not have a corporate assembly.

The articles of association allow for the Board of Directors to comprise no fewer than three and no more than seven members. The current directors are listed on page 26 and their shares ownership is disclosed in note 13. Spectrum believes the composition of its Board of Directors ensures that it can operate independently of any special interests. There are no representatives of the Company's executive management on the Board, with the majority of Board

members being independent of the Company's executive management and material business contacts.

#### **The work of the Board of Directors**

The Board of Directors represents, and is accountable to, the shareholders of the Company. They are responsible for the business activities and supervision of the executive management including the implementation of control systems that ensure compliance with regulations and any applicable legislation. An annual plan is to be prepared with particular emphasis on objective management, strategy and its implementation with a clear definition as to the allocation of responsibilities between executive and non-executive management.

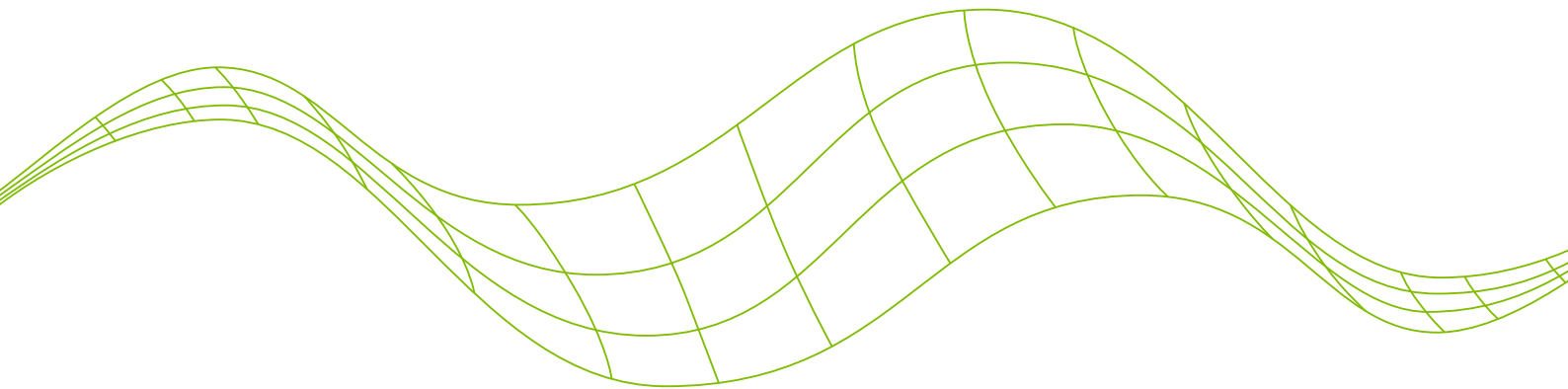
There are two sub-committees of the Board, the Audit and the Remuneration Committee.

The Nomination Committee will be asked to provide an independent annual assessment as to the performance and expertise of the Board of Directors while performing its duties, this will be presented to and assessed by the Board members.

#### **Risk management and internal control**

The executive management of Spectrum is continuously developing its risk management and internal control systems and it is the role of the Board of





Directors and Audit Committee to oversee that they are appropriate to the Company's activities.

The internal controls are designed to provide a comprehensive framework to manage the operational and commercial risks of the activities undertaken against the background of the wider corporate values, together with its ethical and social responsibilities.

The Audit Committee will undertake an annual review of the controls and main areas of risk to ensure that the systems take into account the scope and growth of the Company's activities. The annual Audit Committee plan states which areas and controls to be reviewed in each Audit Committee meeting. The Board of Directors and Audit Committee will provide an account of the main features of the Company's internal control and risk management systems as they relate to the Company's financial reporting within the annual report and accounts.

#### **Remuneration of the Board of Directors**

The remuneration of the Board is not linked to the Company's performance but reflects the level of responsibility, expertise, time and the complexity of the Company's activities.

The Company's Annual General Meeting 25 May 2018 determined the remuneration to the Board members for the period 2017 as follows 'remuneration of the Board should be NOK 0.47 million to the chairman and NOK 0.315 million to the directors'. A full breakdown of the directors' remuneration is disclosed in note 5.

#### **Remuneration of the executive management**

The Board of Directors decides the terms and conditions of employment of the Chief Executive Officer (CEO), together with the overall scope of the remuneration to the executive management. The CEO determines the remuneration of the individual members of the executive team within his mandate. The Board presents the declaration pursuant to the Norwegian Public Limited Liability Companies Act, section 6-16 a, regarding the determination of salary and other remuneration to senior employees to the Annual General Meeting. Please see note 5 Salaries & Other Remuneration where the content of the declaration is presented.

#### **Information and communications**

Spectrum treats all shareholders equally in respect to information it publishes and believes it is essential to inform all parties in a clear, relevant and timely manner of events regarding the Company's prospects, subject to any legal restrictions.

The Company releases quarterly and annual reports, incorporating financial and operational reviews, in compliance with stock exchange regulations which, together with its financial calendar, are published on its website, [www.spectrumgeo.com](http://www.spectrumgeo.com).

#### **Takeovers**

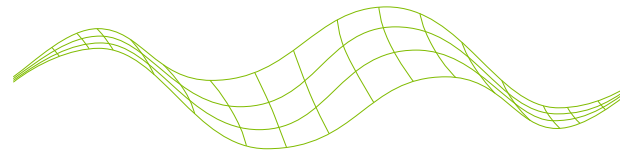
In the event of a proposed takeover of the Company, the Board of Directors will act to ensure that there is equal treatment of all shareholders and that the on-going activities of the Company are not disrupted unnecessarily.

Following any formal takeover approach for the Company, the directors will issue a statement evaluating the merits of the bid, disclosing all the relevant information behind their decision together with their recommendation as to acceptance or rejection of the offer. If the decision of the Board is not unanimous then this will be stated and the reasons communicated. It is recognized that should a transaction that effectively disposes of the Company's activities be undertaken, it will be proposed to and decided by the shareholders in a General Meeting.

#### **Auditor**

The auditors have presented the main features of their audit plan to the Board and the Audit Committee, detailing how they will review the Company's internal control procedures including the identification of any weakness and proposals for improvement. The auditors have been invited to the Board of Directors meeting at which the Annual Accounts are presented, the CEO and all members of the executive management team will not be present during part of this meeting.

The remuneration of the auditor including details of fees paid for audit and any other specific assignments are reported in note 7 and will be further disclosed at the General Meeting.



# INVESTOR RELATIONS

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Spectrum aims to inform the stock market of the Company's activities and status in a timely and accurate manner. We put great emphasis in providing the same information to all investors; national and international, therefore all press releases and news are published in English only.

Our quarterly earnings presentations are recorded and webcasted in real time. The webcasts stay on our website [www.spectrumgeo.com/financial-reports](http://www.spectrumgeo.com/financial-reports) together with the financial reports and slide presentations.

The top management participates and presents at investor conferences both in Norway and internationally and also attends international roadshows throughout the year to meet existing and potential new shareholders.

Please feel free to contact us to get to know more about Spectrum.

Dean Zuzic  
Chief Financial Officer

[dean.zuzic@spectrumgeo.com](mailto:dean.zuzic@spectrumgeo.com)  
Cell: +47 414 33 560

# Shareholder Information

## Share capital

Spectrum ASA's share capital is NOK 54,785,103 divided into 54,785,103 shares with a par value of NOK 1.

All shares in the Company are issued pursuant to the Norwegian Public Limited Companies Act (Norwegian: "Allmennaksjeloven").

There is only one class of shares and all shares are equal in all respects, including the voting rights. Each share carries one vote.

The shares are registered with the VPS with ISIN NO0010429145, and the Company's registrar is Danske Bank – Transaction Services, Søndre Gate 13-15, N-7466 Trondheim.

## Share information

Spectrum ASA has been listed on Oslo Stock Exchange (OSE) since 2 July 2012. Before listed on OSE, Spectrum ASA was listed on Oslo Axess from 1 July 2008. The Company ticker is SPU.

On 28 December 2018, the share price was NOK 36.5, a decrease of 4.4% from one year earlier, adjusted for dividends. By comparison, the

OSEBX index saw a decrease of 1.8% during the same 12 months. In 2018, the Spectrum share peaked at NOK 63.20, while the lowest price was NOK 34.60. Spectrum's market cap on 31 December 2018 was NOK 1,999,656,260.

On 31 December 2018, Spectrum's Price/Book ratio was 1.39 compared to 1.63 the year before.

## Shareholder structure

At the end of 2018 Spectrum had 717 shareholders.

As of 31 December 2018 the Company's 20 largest shareholders held 71.07% of the Company's outstanding shares. Following is an overview of the 20 largest shareholders as of 31 December 2018.

Shareholders owning 5% or more of the Company have an interest in the Company's share capital which is notifiable to the market according to the Norwegian Securities Trading Act. The following shareholders own more than 5% of the issued share capital as of 31 December 2018: Altor Invest 1 AS (14.60%), Altor Invest 2 AS (14.60%), Swedbank Robur Småbolsfond

(5.29%) and Skandinaviska Enskilda Banken (5.01%).

## Dividend policy

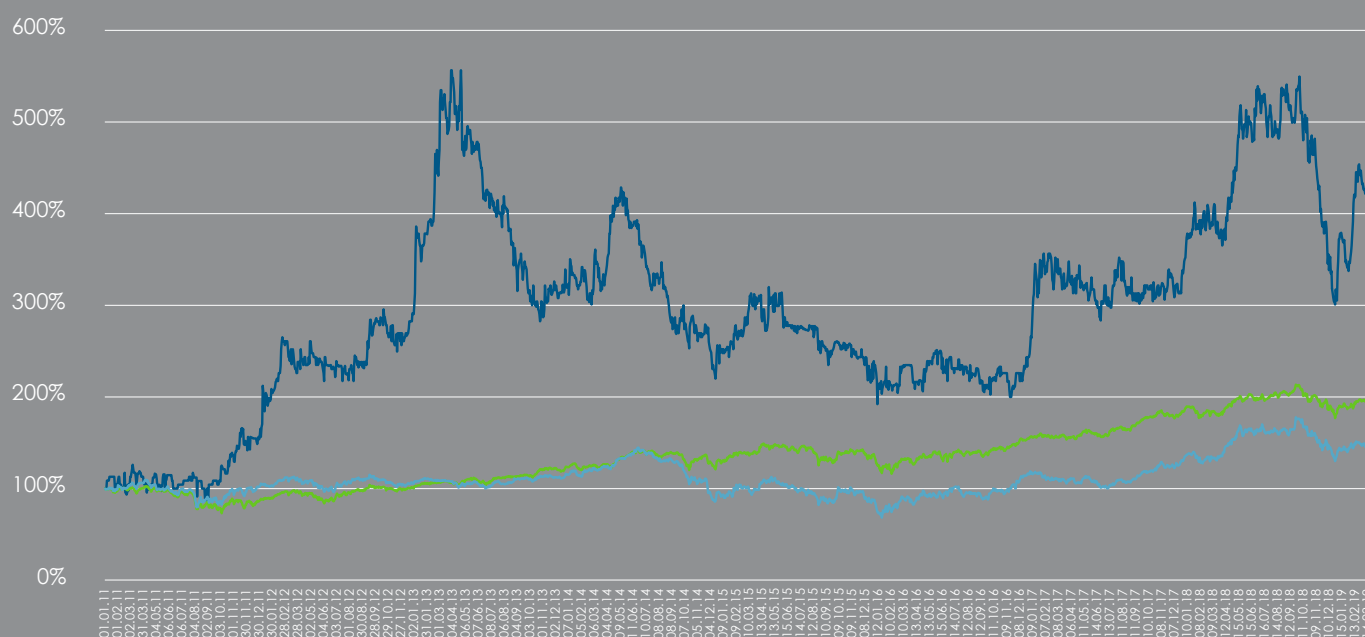
Spectrum's overall objective is to combine strong growth through reinvestment with dividend payments. The Board of Directors proposes a dividend of NOK 1.5 per share for 2018. The Board of Directors objective is to distribute a stable percentage of earnings in dividend to the company's shareholders subject to the Group's financial position, investment plans and the underlying development of the market.

## Debt

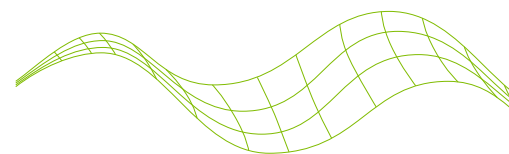
The Group used debt financing, two bank facilities of in total USD 74 million to partly finance the Multi-Client library transaction with Fugro in June 2015. The USD 50 million facility was repaid in full in 2017 and Spectrum has an ongoing RCF of USD 21.1 million which will be repaid in full by end June 2021.

In addition, the Group has an overdraft facility of USD 30 million, of which USD 20 million was undrawn as of year end 2018.

## Spectrum 2011–2018







## 20 largest shareholders and ownership interest as at 31 December 2018

Name	Location	Shares	% of shares
ALTOR INVEST 2 AS	NOR	8 000 232	14.60%
ALTOR INVEST 1 AS	NOR	8 000 232	14.60%
SWEDBANK ROBUR SMABOLAGSFOND	GBR	2 898 964	5.29%
SKANDINAVISKA ENSKILDA BANKEN S.A.	LUX	2 742 858	5.01%
CREDIT SUISSE AG, DUBLIN BRANCH	IRE	2 613 615	4.77%
GROSS MANAGEMENT AS	NOR	2 493 995	4.55%
VERDIPAPIRFONDET PARETO INVESTMENT	NOR	1 815 439	3.31%
THE BANK OF NEW YORK MELLON SA/NV	BEL	1 349 115	2.46%
SKANDINAVISKA ENSKILDA BANKEN AB	SWE	884 186	1.61%
EUROCLEAR BANK S.A./N.V.	BEL	861 648	1.57%
VERDIPAPIRFONDET ALFRED BERG GAMBA	SWE	860 046	1.57%
STATE STREET BANK AND TRUST COMP	USA	802 556	1.46%
STATE STREET BANK AND TRUST COMP	USA	768 981	1.40%
VPF NORDEA NORGE VERDI	NOR	767 908	1.40%
HOLBERG NORGE	NOR	765 000	1.40%
VEVLEN GÅRD AS	NOR	745 000	1.36%
VJ INVEST AS	NOR	705 994	1.29%
NORRON SICAV - TARGET	LUX	648 354	1.18%
INVESCO PERP EURAN SMLER COMPS FD	USA	614 246	1.12%
AAT INVEST AS	NOR	600 000	1.10%
		<b>38 938 369</b>	<b>71.07%</b>

### Key figures 2018

Share Price Dec. 31 (NOK)	36.50
High price (NOK)	63.20
Low price (NOK)	34.60
Change (NOK)	(2.00)
Change%	(4.4%)
OSEBX%	(1.8%)
Total traded value (NOK)	2 001 846 585
Total traded volume	39 633 440
Turnover velocity in 2018	72.6%
MCAP Dec. 31 (NOK)	1 999 656 260
No. outstanding shares Dec. 31	54 785 103
ISIN	NO0010429145

### Financial calendar 2019

#### April 12

Annual Report 2018

#### May 10

Q1 Results

#### May 24

Annual General Meeting

#### August 16

Q2 Results

#### October 25

Q3 Results

#### February 7 2020

Q4 and Full Year Results

# Group and Parent Company Financials



# Statements of Comprehensive Income

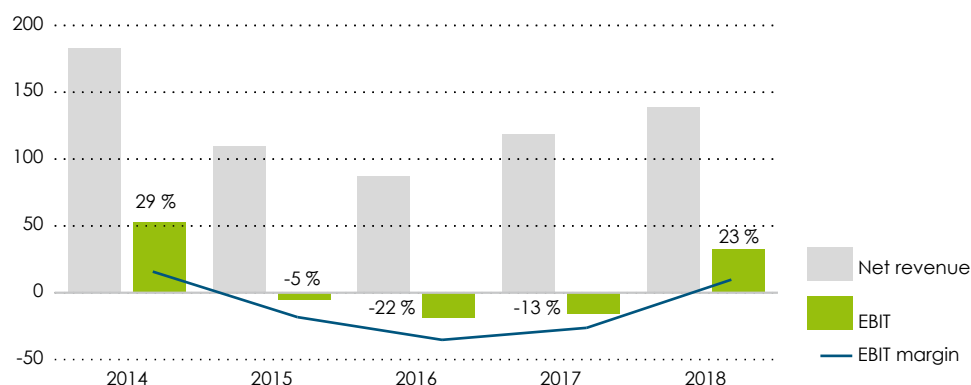
Spectrum ASA			Spectrum Group ASA		
2017	2018		Note	2017	2018
15 184	17 534	<b>Net revenue</b>	2,3	118 850	138 793
(3 015)	(4 468)	Payroll expenses	5	(13 622)	(20 099)
(2 529)	(1 779)	Other operating expenses from group companies	17	-	-
(1 632)	(1 859)	Other operating expenses	7	(12 453)	(16 577)
-	-	Share of profit/(loss) of joint ventures	20	(82)	96
(6 809)	(7 287)	Amortization	10	(81 714)	(68 544)
(16 095)	-	Impairment	10	(25 598)	-
(13)	-	Depreciation	10	(1 418)	(1 331)
<b>(14 909)</b>	<b>2 141</b>	<b>Operating profit/(loss)</b>		<b>(16 037)</b>	<b>32 338</b>
6 142	7 397	Interest income	9, 17	62	256
(3 357)	(4 462)	Interest expenses	9, 17	(1 595)	(1 799)
-	210	Other financial income	9	109	-
(882)	(3 202)	Other financial expenses	9	(1 033)	(5 528)
<b>(13 006)</b>	<b>2 084</b>	<b>Profit/(loss) before tax</b>		<b>(18 493)</b>	<b>25 266</b>
1 548	(1 229)	Tax income / (expenses)	8	(8 350)	(6 361)
<b>(11 458)</b>	<b>855</b>	<b>Net profit/(loss) for the year</b>		<b>(26 843)</b>	<b>18 905</b>
(11 458)	855	Profit attributable to the equity holders of the parent		(26 843)	18 905
-	-	Profit attributable to non-controlling interests		-	-
-	-	<b>Other comprehensive income:</b>			
-	-	<b>Total items that will not be reclassified through profit/(loss)</b>		-	-
-	-	<b>Total items that will be reclassified through profit/(loss)</b>		-	-
<b>(11 458)</b>	<b>-</b>	<b>Total comprehensive income / (loss) for the period</b>		<b>(26 843)</b>	<b>18 905</b>
<b>(11 458)</b>	<b>855</b>	<b>Profit attributable to the equity holders of the parent</b>		<b>(26 843)</b>	<b>18 905</b>
-	-	<b>Profit attributable to non-controlling interests</b>		-	-

Earnings per share (USD)

> basic, profit (loss) for the year attributable to ordinary equity holders of the parent	15	(0.49)	0.35
> diluted, profit (loss) for the year attributable to ordinary equity holders of the parent	15	(0.49)	0.32

EBIT margin

MUSD



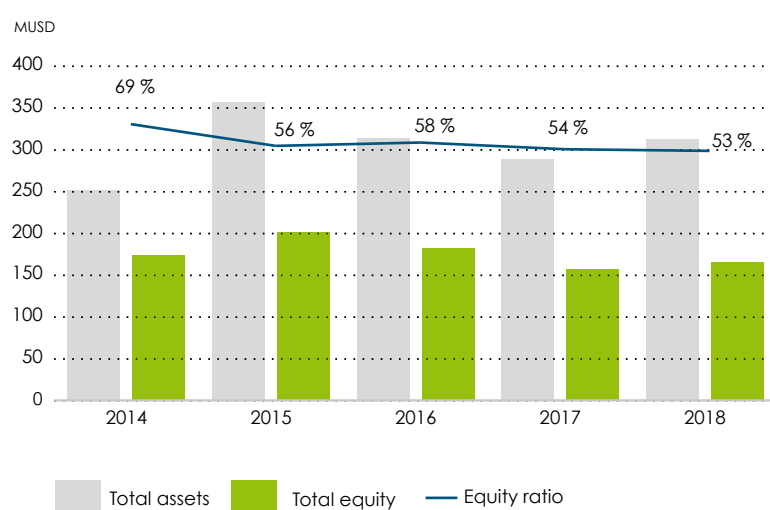


# Statements of Financial Position

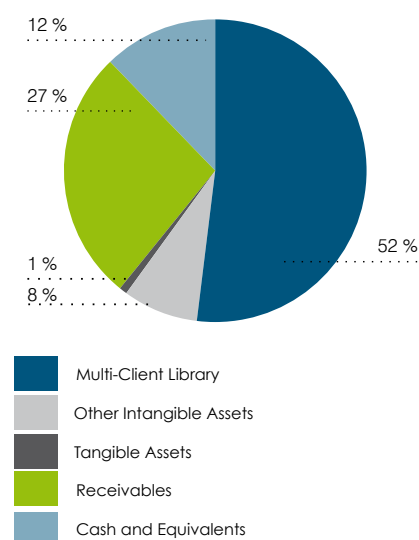
## Assets

Spectrum ASA		Spectrum Group			
2017	2018		Note	2017	2018
		<b>ASSETS</b>			
		<b>Non-current assets</b>			
1 789	1 227	Deferred tax assets	8	4 501	11 897
-	-	Goodwill	10	11 563	11 563
43 523	43 523	Investment in subsidiaries and joint ventures	20	2 430	2 524
-	-	Software	10	228	1 987
23 013	21 991	Multi-Client library	10	169 408	162 102
-	-	Fixtures, fittings and office equipment	10	1 596	1 108
-	-	Other receivables	21	6 248	6 162
-	-	Restricted cash	12, 23	-	1 111
17 220	13 720	Long-term receivables group companies	17	-	-
<b>85 545</b>	<b>80 461</b>	<b>Total non-current assets</b>		<b>195 973</b>	<b>198 454</b>
		<b>Current assets</b>			
6 887	6 352	Accounts receivables	11	43 437	49 733
-	2 875	Accrued revenues	3, 11	13 016	13 931
3 229	7 352	Other receivables	11	21 875	12 509
22 409	19 685	Short-term receivables group companies	17	-	-
10 295	25 140	Cash and cash equivalents	12	14 155	37 730
<b>42 820</b>	<b>61 404</b>	<b>Total current assets</b>		<b>92 484</b>	<b>113 903</b>
<b>128 365</b>	<b>141 865</b>	<b>Total assets</b>		<b>288 457</b>	<b>312 357</b>

Equity ratio



Assets by category 2018





# Spectrum Group

## Statements of Consolidated Equity

	Note	Issued capital	Share premium	Other paid-in capital	Retained earnings	Foreign currency translation reserve	Total equity
<b>Equity at 1 January 2017</b>		<b>8 826</b>	<b>69 885</b>	<b>60 336</b>	<b>45 264</b>	<b>(2 467)</b>	<b>181 845</b>
Share issue		120	1 279	-	-	-	1 399
Share options granted	6	-	-	623	-	-	623
Total comprehensive income		-	-	-	(26 843)	-	(26 843)
<b>Equity at 31 December 2017</b>	<b>13</b>	<b>8 945</b>	<b>71 164</b>	<b>60 959</b>	<b>18 422</b>	<b>(2 467)</b>	<b>157 024</b>
IFRS 15 adjustment *					(9 050)		(9 050)
<b>Opening balance at 1 January 2018</b>		<b>8 945</b>	<b>71 164</b>	<b>60 959</b>	<b>9 372</b>	<b>(2 467)</b>	<b>147 972</b>
Share issue		40	1 269	-	-	-	1 309
Dividends		-	-	-	(3 368)	-	(3 368)
Share options granted	6	-	-	915	-	-	915
Total comprehensive income		-	-	-	18 905	-	18 905
<b>Equity at 31 December 2018</b>	<b>13</b>	<b>8 985</b>	<b>72 433</b>	<b>61 874</b>	<b>24 910</b>	<b>(2 467)</b>	<b>165 735</b>

\* IFRS 15 adjustment

Revenue recognized as of 31 December 2017 that would not have been recognized under IFRS 15 20 323

Amortization and other effects recognized as of 31 December 2017 that would not have been recognized under IFRS 15 (8 723)

IFRS 15 adjustment before tax 11 600

Tax (2 550)

IFRS 15 adjustment 9 050

# Spectrum ASA

## Statements of Parent Company Equity

	Note	Issued capital	Share premium	Other paid-in capital	Retained earnings	Total equity
<b>Equity at 1 January 2017</b>		<b>8 826</b>	<b>69 764</b>	<b>58 102</b>	<b>(35 573)</b>	<b>101 119</b>
Share issue		120	1 401	-	-	1 520
Total comprehensive income		-	-	-	(11 458)	(11 458)
<b>Equity at 31 December 2017</b>	<b>13</b>	<b>8 945</b>	<b>71 165</b>	<b>58 102</b>	<b>(47 031)</b>	<b>91 181</b>
IFRS 15 adjustment *		-	-	-	(155)	(155)
<b>Opening balance at 1 January 2018</b>		<b>8 945</b>	<b>71 165</b>	<b>58 102</b>	<b>(47 186)</b>	<b>91 026</b>
Share issue		40	1 269	-	-	1 309
Dividends		-	-	-	(3 368)	(3 368)
Total comprehensive income		-	-	-	855	855
<b>Equity at 31 December 2018</b>	<b>13</b>	<b>8 985</b>	<b>72 433</b>	<b>58 102</b>	<b>(49 698)</b>	<b>89 822</b>

\* IFRS 15 adjustment

Revenue recognized as of 31 December 2017 that would not have been recognized under IFRS 15 291

Amortization and other effects recognized as of 31 December 2017 that would not have been recognized under IFRS 15 (90)

IFRS 15 adjustment before tax 201

Tax (46)

IFRS 15 adjustment 155

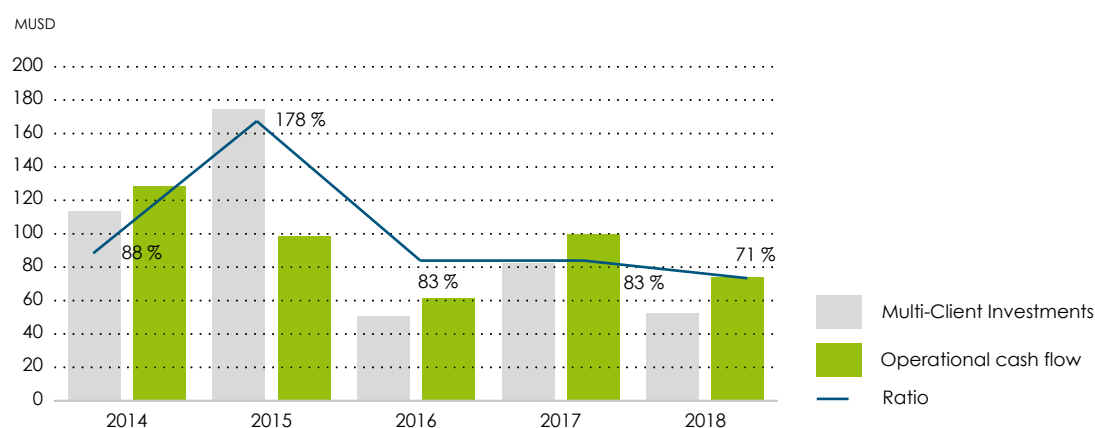


# Statements of Cash Flows

Spectrum ASA			Spectrum Group	
2017	2018	Note	2017	2018
		<b>Cash flows from operating activities:</b>		
(13 006)	2 084	Profit / (loss) before tax	(18 493)	25 266
-	-	Income tax paid	-	(2 443)
22 917	7 287	Depreciation, amortization and impairment	108 729	69 875
-	-	Share options granted	611	915
(6 142)	(7 397)	Interest income	(62)	(256)
3 357	4 462	Interest expenses	1 595	1 799
181	42	Other financial items	1	(1)
		Working capital changes:		
1 222	535	Change in trade receivables	(14 555)	(6 296)
(4 192)	158	Change in trade payables	(8 720)	(22 053)
15 109	9 075	Change in other payables, provisions and receivables	30 295	7 277
<b>19 446</b>	<b>16 246</b>	<b>Net cash flow from operating activities</b>	<b>99 400</b>	<b>74 083</b>
		<b>Cash flows from investing activities:</b>		
(1 846)	(6 174)	Investment in Multi-Client library	(82 359)	(52 516)
-	-	Investment in non-current tangible assets	(969)	(2 633)
-	-	Sale / Disposal of assets	18	31
<b>(1 846)</b>	<b>(6 174)</b>	<b>Net cash flow from investing activities</b>	<b>(83 310)</b>	<b>(55 118)</b>
		<b>Cash flows from financing activities:</b>		
1 399	1 309	Share issue	1 399	1 309
-	(3 368)	Dividends	-	(3 368)
2 026	10 000	Proceeds from borrowings	2 505	10 000
(20 000)	(4 026)	Payment of borrowings	(20 518)	(4 389)
(1 565)	(1 338)	Interest paid	(1 574)	(1 371)
<b>(18 139)</b>	<b>2 577</b>	<b>Net cash from financing activities</b>	<b>(18 188)</b>	<b>2 181</b>
(539)	12 649	Net change in cash and cash equivalents	(2 098)	21 146
394	2 196	Net foreign exchange differences (unrealized)	426	2 429
10 440	10 295	Cash and cash equivalents at beginning of period	15 827	14 155
<b>10,295*</b>	<b>25 140*</b>	<b>Cash and cash equivalents at end of period</b>	<b>14 155</b>	<b>37 730</b>
<b>3 000</b>	<b>20 000</b>	<b>Undrawn facilities</b>	<b>3 000</b>	<b>20 000</b>

\* Joint intra-group Cash Pool facility, see note 17.

Multi-Client investment ratio



# Notes to accounts

# Note 1 Accounting policies

## General information concerning the company and basis of preparation of the financial statements

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Spectrum ASA (Spectrum) is a public limited liability company incorporated and domiciled in Norway. The address of its registered office is Karenslyst Allè 11, 0278 Oslo.

The principal activities of Spectrum are the production and sale of Multi-Client seismic surveys and imaging of seismic data for both Multi-Client surveys and proprietary customers operating in the global oil and gas market.

The consolidated financial statements of the Spectrum Group for the period ended 31 December 2018 were approved by the Board of Directors on 11 April 2019.

### Basis of preparation

The consolidated financial statements of Spectrum ASA and all its subsidiaries (the Spectrum Group) have been prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU.

The financial statements of Spectrum ASA (the Company) have been prepared using the same accounting policies as the consolidated financial statements of Spectrum. The consolidated financial statements have been prepared on a historical cost basis.

### Significant accounting judgement, estimates and assumptions

The application of the Spectrum Group's accounting policies

require management to make judgments, estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. Management bases their estimates and assumptions on previous experience and other factors that are believed to be relevant to the circumstances. These estimates and assumptions are the basis for assessing the carrying value of assets and liabilities that are not evident from other sources. The key areas where estimation has been applied and where there is a significant risk of material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below.

In the process of applying the Spectrum Group's accounting policies, management has made the following judgements, which have the most effect on the amounts recognized in the financial statements:

### Goodwill

Goodwill has been generated by acquisition, and it is linked to the assessment of future earnings. There are uncertainties with regard to assumptions made in connection with impairment assessment. Estimating the value in use amount requires management to make an estimate of future cash flows and also to choose variables in order to calculate the present value of those cash flows.

### Multi-Client library

The Spectrum Group performs an annual impairment test of all surveys in the Multi-Client library. In addition all surveys will be tested through the year if specific indications of impairment exist. The test is based on expected future sales per survey, which is based on geographical forecasts variables such as which areas in the world the oil companies would be interested buying data from and whether licenses to perform explorations are given. In addition general forecast variables such as the current and expected oil price and the expected E&P spending by oil companies impact all sales estimates. Change in market conditions, including competition and political circumstances, also affects expected future earnings from the Multi-Client library. Management considers that changes in these estimates may potentially change the present value of surveys in the Multi-Client library, and if the carrying value of a survey exceeds the present value the survey will be impaired.

### Deferred tax assets

Deferred tax assets are recognized for temporary deductible differences and accumulated tax losses to the extent that it is considered probable that a Group company will generate sufficient future taxable profits to absorb these losses. Significant management judgment is required to determine the amount of deferred tax to be recognized based on the likely



timing and level of future taxable profits together with future tax planning.

### Revenue recognition

The Spectrum Group have entered into various seismic agreements with change of control clauses which trigger transfer fees payable to Spectrum. The level of transfer fees varies and the amount payable depend on several matters, including the amount and value of data being subject to transfer and data licenses to be redelivered. The Spectrum Group recognise revenue first when all of the change of control clauses have been lifted (i.e governmental or AGM approval). The Spectrum Group records revenue based on best estimate of revenue from transfer fee's.

### Joint arrangements

All partnerships are evaluated to determine the accounting treatment of the arrangement. All such arrangements are evaluated independently as it depends on the substance and nature of the arrangement. If the control of the arrangement and decisions that significantly affect the returns of the arrangement are shared the arrangement is treated as a joint arrangement, if not it is treated as an operational partnership. A joint arrangement can be classified as a joint operation or a joint venture. Judgement is needed when making this classification. Generally the Spectrum Group classifies a joint arrangement as a joint venture if it is structured through a separate vehicle and there is no direct right to assets and obligation to liabilities. Other joint arrangements are classified as joint operations.

### Provision for contingencies

The Spectrum Group records accruals for contingencies and other uncertain liabilities, including tax contingencies, based on best estimates if it is considered more likely than not that a liability has been incurred. If no reasonable estimate can be made of the liability it is not recorded. Management evaluates the facts and the related laws and regulations in the jurisdiction. In most such cases external counsel will be used, and an estimate will be based on their input. The Spectrum Group operates in many countries with dynamic laws and regulations, and in which the regulations have had limited practice. As such estimates of contingencies and tax positions entail uncertainty, and it is possible that some of these matters will ultimately end with a result different from what is currently reflected in Spectrum's financial statements.

### Basis of consolidation

The consolidated financial statements comprise the financial statements of Spectrum and its subsidiaries at 31 December 2017 and 2018. The financial statements of the subsidiaries have been prepared for the same reporting period as Spectrum using consistent accounting policies. All intra-group balances, balance sheet transactions and profit and loss transactions are eliminated in full.

### Subsidiaries

Subsidiaries are entities in which the Spectrum Group has control. This normally occurs when the Group is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to

affect those returns through its power over the investee. Acquired subsidiaries are consolidated from the date on which control is transferred to the Spectrum Group. Divested subsidiaries are consolidated to the date on which control is transferred from the Spectrum Group. In the accounts of Spectrum ASA, investments in subsidiaries are accounted for at cost less accumulated impairment losses.

## ACCOUNTING POLICIES

### Investments in joint ventures

A joint venture is a contractual arrangement whereby the Spectrum Group undertakes an economic activity that is subject to joint control under which strategic, financial and operating policy decisions relating to the activities require the unanimous consent of the parties sharing control. Investments in joint ventures are accounted for using the equity method.

The consolidated financial statements include the Group's share of profit or loss from the date on which joint control is attained and until joint control ceases. In the accounts of Spectrum ASA, investments in joint ventures are accounted for at cost less accumulated impairment losses. The financial statements of the joint venture are prepared for the same reporting period and with the same accounting policies as the Spectrum Groups financial statements. The Spectrum Group's share of intra-group balances, transactions and unrealized gains and losses on such transactions between the Spectrum Group and its joint venture are eliminated on consolidation. Losses on transac-

tions are recognized immediately if there is evidence of a reduction in the net realisable value of current assets or an impairment loss.

#### **Investments in joint operations**

A joint operation is an arrangement where Spectrum Group with joint control has rights to the assets and obligations for liabilities of the arrangement. Proportionate share of each of the assets, liabilities, income and expenses of the joint operation is combined with similar items, line by line, in the consolidated financial statements.

#### **Presentation and classification**

The functional currency for all the entities in the Spectrum Group is USD. The consolidated financial statements and the parent financial statements are presented in USD, which is defined as the presentation currency.

#### **Statement of Comprehensive Income**

All income and expenses in the statement of comprehensive income have been classified by their nature.

#### **Statement of Financial Position**

Current assets and current liabilities are items due in less than one year from balance sheet date or within the normal operating cycle if this is longer, or are assets or liabilities held primarily for the purpose of being traded. Current liabilities exclude amounts attached to an unconditional right to defer settlement for at least 12 months after the end of the accounting period. All other assets and liabilities are classified as non-current.

#### **Statement of Cash Flows**

The cash flow statement has been prepared using the indirect method. Where a controlling interest in another entity has been acquired, the cash flows from the date that control was acquired are consolidated with those of the Group and reported under the appropriate category. Where a non-controlling interest in an entity has been acquired, net cash flows for the entity are reported separately under Cash flows from operating activities. In either case, the cash payment made in acquiring the stake in the entity, less the cash acquired as part of the transaction is reported under Cash flows from investing activities as "Acquisition of subsidiaries and joint ventures, net of cash acquired".

#### **Foreign currency translation**

Transactions in currencies other than functional currency are translated using the exchange rate in effect on the date of transaction. Monetary assets and liabilities in foreign currency are translated into USD using the exchange rate in effect on the balance sheet date. Exchange differences arising from translations are recorded in the statement of comprehensive income. Non-monetary assets and liabilities measured at historical cost in foreign currency are translated using the exchange rate in effect on the date of transaction.

#### **Revenue recognition**

Revenue is recognized by the Spectrum Group when the economic benefits from a transaction are supported by evidence of a sales arrangement which demonstrate that revenues can be reliably

measured, services have been provided and collection is reasonably expected.

Where revenue recognition parameters have not been met, the Spectrum Group defers such revenues until such time as the conditions have been satisfied. Revenue is allocated among the separate units of accounting and is recognized at the fair value of the consideration received, net of discounts and sales taxes or other duties. The following describes specific principles:

#### **Multi-Client surveys**

Pre-commitment arrangements (Early sales) - When the Spectrum Group obtains pre-funding from customers before a seismic project is completed, the customer is normally entitled to a discounted price and/or is granted the opportunity to provide input into the project parameters. The Spectrum Group then recognises the pre-commitment revenue at the point in time of the transaction when the customer executes a valid license agreement and has the right to access the licensed portion of the Multi-Client library. Judgement is applied when allocating pre-funding to products licensed, and the revenue is as such recognized at the point in time when the products are completed and the client has right to access each product (e.g., PSTM, PSDM). The Spectrum Group considers whether there are other promises in the contract that are separate performance obligations to which a portion of the transaction price needs to be allocated. Spectrum classifies Multi-Client

revenue as pre-commitment arrangements or late sales based on products sold. A seismic project may consist of several products and at the point in time of the sale some products may be considered in progress while others are considered completed. All received pre-funding is accounted for as a prepayment liability (deferred revenue) under other current liabilities.

**Late sales** – Where the Spectrum Group has completed data sets ready for sale, revenue is recognized at the time of the transaction when the customer executes a valid license agreement and has the right to access the licensed portion of the Multi-Client library. The customer's license payment is fixed and determinable and typically is required at the time that the license is granted. Transfer fees arising from contractual obligation in existing agreements are classified as late sales.

**Accrued revenue** – Recognized, not invoiced revenue is presented as accrued revenue. Transfer fees recorded based on best estimate are recognized as accrued revenues until the final amount is agreed with the customer and invoiced.

**Revenue share** – When the Spectrum Group sells surveys with a pre-committed revenue share to partners, governments or agents, the revenue share is recognized as the revenue is recognized to reflect the net revenue for the Spectrum Group.

All revenue is presented in the statement of comprehensive income as net revenue. The gross revenue from late sales or pre-commitment revenue less the revenue share is considered the net revenue. Gross pre-commitment revenue and revenue share are specified in note 2 Segment information.

#### Other services

Revenue from other services is recognized as the services are performed, provided all other recognition criteria are satisfied.

#### Business combinations

Business combinations are accounted for using the acquisition method. The cost of an acquisition is measured as the sum of the consideration transferred, including contingent consideration amounts. The consideration transferred is measured at fair value as at the date of acquisition and the amount of any non-controlling interest in the acquiree. The acquirer measures any non-controlling interest in each business combination at either fair value or at the appropriate share of the acquiree's identifiable net assets. Any costs associated with the acquisition are expensed as part of other operating expenses in the statement of comprehensive income.

When a business is acquired by the Group, the financial assets and liabilities assumed are classified and recorded according to the contractual terms, economic circumstances and relevant associated conditions in force at the date of acquisition. If step acquisition occurs, the fair value of the previ-

ously held equity interest is recalculated at the date of the increased ownership, with any difference in fair value being booked the statement of comprehensive income.

Any contingent consideration payable under a business combination will be recognized at fair value at the date of acquisition. Any later changes to the fair value of this consideration which is considered a liability or asset will be recognized in accordance with IFRS 9 in the statement of comprehensive income.

Goodwill arising as the result of a business combination is initially measured at cost, being the excess of the aggregate value of consideration transferred and the amount recognized for any non-controlling interest over identifiable assets acquired and liabilities assumed. If the consideration is less than the fair value of the acquired subsidiaries' net assets the difference is recognized in the statement of comprehensive income.

After initial recognition, goodwill is measured at cost less accumulated impairment losses. Goodwill is allocated to each of the cash generating units of the Group that are expected to benefit as a result of the business combination. Where goodwill forms part of a cash generating unit and part of an operation that is disposed of, the value of this goodwill is included in the calculation of the gain or loss on disposal. In such cases, the value of goodwill disposed of is calculated on the basis of the relative values of the retained and

disposed of operations. Expenses related to carry out and complete business combinations are expensed.

## **Intangible Assets**

### **Goodwill**

Acquisitions of interests in subsidiaries, associates and joint ventures are accounted for using the acquisition method. The purchase price is allocated to the acquired assets and liabilities according to their fair value. Any excess purchase price is recorded as goodwill. Goodwill is recognized in the balance sheet at initial cost, translated from its original currency to USD, less accumulated impairment losses.

### **Software**

Software is carried at cost less accumulated depreciation and impairment losses. Depreciation is charged on a straight-line basis over the useful life of the asset in the statement of comprehensive income. Estimated useful life range is between 3-5 years.

### **Multi-Client library**

The Multi-Client library comprises completed surveys and surveys in progress that can be licensed to multiple customers. All direct costs related to data collection, processing and completion of seismic surveys are capitalized.

The Multi-Client library is capitalized at cost less accumulated amortization and impairment losses. Amortization on pre-funding is calculated based on total cost versus forecasted total revenues of the project. The ratio is applied to pre-funding recognized.

After a project is completed, a straight-line amortization is applied. The straight-line amortization will be assigned over the project's remaining useful life, which for most projects is expected to be 4 years. The straight-line amortization will be distributed evenly through the financial year independently of sales during the year.

When the Spectrum Group acquires surveys from a third party the purchase price will be allocated based on the assumed value in use of the acquired surveys. For acquired surveys a straight-line amortization is applied. The straight-line amortization will be assigned over the surveys estimated remaining useful life.

### **Tangible non-current assets**

Tangible non-current assets are stated at cost less accumulated depreciation and accumulated impairment losses. Depreciation is charged on a straight line basis over the useful life of the asset and recognized in the statement of comprehensive income. Calculated depreciation takes into account any expected residual value. Expenses regarding major replacements and renewals are capitalized, while all other replacements, renewals, maintenance and repairs are recognized in the statement of comprehensive income.

Estimated useful lives are as follows: Machinery and survey equipment: 3-5 years Fixtures, fittings and office equipment: 3-5 years

### **Impairment of tangible and intangible non-current assets**

Tangible and intangible non-current

assets are assessed for indications of impairment at each reporting period and when there are events and changes in circumstances which indicate that the carrying amount of the asset may not be recoverable. When impairment is considered, the assets are grouped at the lowest level for which there are separate identifiable cash generating units. Impairment is calculated as the difference between an asset's carrying amount and the recoverable amount. The recoverable amount is the higher of an asset's net selling price and the value in use for the Spectrum Group. In assessing value in use, the estimated future cash flows are discounted to their present value using a discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. When an asset's value is assessed as lower than its carrying amount, the carrying amount is impaired to the recoverable amount, and the impairment loss is recognized in the statement of comprehensive income. Previously recognized impairment losses are only reversed to the extent that asset's carrying amount does not exceed the carrying value recognized if no impairment charges had been recognized in prior periods and normal depreciation and amortization policies had been applied. Impairment of goodwill is not reversed.

### **Cash generating units**

As part of the testing for impairment of goodwill performed as at 31 December 2018, Spectrum management determined that it was appropriate to recognize only one



CGU reflecting the operating segment: Multi-Client which constitutes of 99.9% of the Group's net revenue. For the impairment testing of the Multi-Client library each survey is considered a CGU.

### **Current Assets**

#### **Trade and other receivables**

Trade and other receivables are recognized at the transaction price determined under IFRS 15. Subsequent measurement are at amortized cost. Trade receivables are regularly reviewed for impairment considering their maturity, the customer's financial position and other relevant information.

#### **Impairment of financial assets**

The Group recognises an allowance for expected credit losses (ECLs) for all debt instruments not held at fair value through profit or loss. ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Group expects to receive, discounted at an approximation of the original effective interest rate. The expected cash flows will include cash flows from the sale of collateral held or other credit enhancements that are integral to the contractual terms. For trade receivables and contract assets, the Group applies a simplified approach in calculating ECLs. Therefore, the Group does not track changes in credit risk, but instead recognises a loss allowance based on lifetime ECLs at each reporting date. The Group has established a provision matrix that is based on its historical credit loss experience, adjusted for forward-looking factors specific to the debtors and the economic environment.

#### **Cash and cash equivalents**

Cash and cash equivalents comprise cash in bank and in hand and short-term deposits with an original maturity of three months or less. Cash and cash equivalents are recognized at fair value. Bank overdrafts are recognized as a current liability.

### **Liabilities**

#### **Loans and borrowings**

Loans are recognized at the amount received net of transaction costs. After initial recognition, interest bearing loans and borrowings are subsequently measured at amortized cost using the effective interest rate method. Gains and losses are recognized in the statement of comprehensive income when the liabilities are derecognized.

All financial instruments are recognized in the statement of financial position when the Spectrum Group becomes a party to the contractual provisions of the instrument. At initial recognition it is assessed whether a financial instrument shall be accounted for as a financial liability, a financial asset or an equity instrument based on the substance of the contractual instrument. The terms of a non-derivative financial instrument are evaluated to determine whether the instrument contains a liability and an equity component, and such components are classified separately as financial liabilities, financial assets or equity instruments as appropriate. When a non-derivative financial instrument contains an embedded derivative that would have met the definition of a derivative instrument as a separate instrument, that embedded deriva-

tive is separated from the host contract and is accounted for as a freestanding derivative instrument, if the economic characteristics and risk of the embedded derivative are not closely related to that of the host contract. Multiple embedded derivatives in a single instrument are treated as a single compound instrument if the embedded derivatives relate to the same risk exposures and are not readily separable and independent of each other.

#### **Trade and other payables**

Trade and other payables are recognized at fair value. Gains or losses are recognized in the statement of comprehensive income.

#### **Leases**

The determination of whether an arrangement is, or contains, a lease is based on the substance of the arrangement at inception date: whether fulfilment of the arrangement is dependent on the use of a specific asset or assets, or the arrangement conveys a right to use the asset. Assets acquired under finance leases which transfer substantially all the risks and benefits incidental to ownership of the leased item are presented in the financial statements as non-current assets at cost value less depreciation and impairment. The liability for future rentals is recorded in the balance sheets as a liability. The lease payments are divided into an interest element and reductions of the lease liability.

A leased asset is depreciated over the useful life of the asset. However, if there is no reasonable certainty that the Spectrum Group will obtain ownership by the end of the lease

term, the asset is depreciated over the shorter of the estimated useful life of the asset and the lease term. Operational lease payments are recognized as an expense in the statement of comprehensive income on a straight line basis over the lease term. The Spectrum Group only act as a lessee under the Group's operational leases.

### Pensions

The Spectrum Group operates defined contribution plans. The defined contribution plan is a pension plan under which the Group pays fixed contributions into a separate entity. The Group pays contributions to government and privately administered pension plans. The contributions are recognized as employee benefit expenses when they are due.

### Share-Based payments

The cost of the Group stock option plan for senior executives in the Group is measured at the fair value of the equity instruments at the date they were granted. Estimation of the fair value of stock options requires the selection and use of an appropriate pricing model, and Spectrum management have opted to adopt the Monte Carlo model for this purpose. This model requires the use of suitable input factors including the dividend yield, the option's expected life and volatility in Spectrum's share price. The fair value of each of the share options granted also depends on the terms and conditions inherent in each individual share option agreement. Social security tax on options is based on the share value as at the end of the reporting period, is recorded as a liability and is recognized over the option period.

The Board may decide at its sole discretion (at the request of the participant or otherwise) to settle any options in cash on exercise. The stock options are treated as equity elements as long as there have not been any options vested with settlement in cash. The dilutive effect of outstanding options at the year-end is reflected as an additional share dilution in the computation of earnings per share.

The cost of equity-settled transactions is recognized, together with a corresponding increase in other capital reserves in equity, over the period in which the performance and/or service conditions are fulfilled. The cumulative expense recognized for equity-settled transactions at each reporting date until the vesting date reflects the extent to which the vesting period has expired and the Spectrum Group's best estimate of the number of movement in cumulative expense recognized as at the beginning and end of that period and is recognized in payroll expenses.

No expense is recognized for awards that do not ultimately vest, except for equity-settled transactions for which vesting are conditional upon a market or non-vesting condition. These are treated as vesting irrespective of whether or not the market or non-vesting condition is satisfied, provided that all other performance and/or service conditions are satisfied. When the terms of an equity-settled transaction award are modified, the minimum expense recognized is the expense as if the terms had not been modified, if the original terms of the award are met. An additional expense is recognized for any

modification that increases the total fair value of the share-based payment transaction, or is otherwise beneficial to the employee as measured at the date of modification. When an equity-settled award is cancelled, it is treated as if it vested on the date of cancellation, and any expense not yet recognized for the award is recognized immediately. This includes any award where non-vesting conditions within the control of either the entity or the employee are not met. However, if a new award is substituted for the cancelled award, and designated as a replacement award on the date that it is granted, the cancelled and new awards are treated as if they were a modification of the original award, as described in the previous paragraph.

The dilutive effect of outstanding options is reflected as additional share dilution in the computation of diluted earnings per share.

### Segment reporting

The Group has one primary operating segment: Multi-Client surveys. This segment is divided into geographical segments; North and South America, Africa/ Mediterranean/ Middle East, Northwest Europe and Asia Pacific. Income and cost from transactions between segments and support functions are eliminated. After the implementation of IFRS 15 Spectrum applies APMs as basis for internal/ segment reporting. Spectrum considers this to give a more fair view of the company's performance, as revenues are gradually recognized and coincides with the progression of the projects, the resources applied and the value

created, and is not binary dependent on the delivery of the products.

### Income tax

Tax expense comprises both current tax and changes in net deferred tax. Current tax includes expected current tax on the year's taxable income using tax rates existing at balance sheet date and any corrections to previous years' current tax. Deferred tax assets and liabilities arise as a result of temporary differences existing between the values attributed to items in the financial statements and their tax-related values. These are measured at the tax rates that are expected to apply at the time the assets are realized or the liability is settled. The calculation of deferred tax assets and liabilities also takes into account tax losses carried forward at balance sheet date. Deferred income tax assets and liabilities are offset to the extent that current income tax assets and liabilities can be offset.

Deferred tax assets are recognized in the balance sheet when it is probable that there will be sufficient future taxable profit to utilize the tax asset. In countries where withholding taxes are operational they are treated as a receivable balance to offset future income tax liabilities.

Taxes payable in the statements of financial position include corporate tax, sales tax and tax on financial transactions. Sales tax and tax on financial transactions are considered operational costs and not tax expense.

### Equity transactions

Costs directly related to increases in share capital are regarded as a reduction in paid-in capital and are charged to equity. Any associated tax effect is also recorded against the equity.

### Contingencies

Contingent assets are not recognized in the financial statements. When it is virtually certain that the entity concerned will receive an economic benefit as a result of a past event, then the related asset is not a contingent asset and is therefore recognized.

Contingent liabilities are not recognized in the financial statements. When it is considered probable that a material decrease in economic value will occur as a result of a past transaction, and that decrease can be measured reliably, then the related liability is not a contingent liability and is therefore recognized. If such a decrease is not considered probable, a disclosure is made of management's best estimate of the potential liability.

### Events after the balance sheet date

Event occurring after balance sheet date that provide additional information concerning the Group's position at that date are reflected in the financial statements. Other subsequent events are disclosed as a note, if significant.

### Provisions

Provisions are recognized when there is a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the obligation. Where it is expected that some or all of a provision will be reimbursed, the reimbursement is recognized as a separate asset but only when the reimbursement is virtually certain. The expense relating to any provision is recognized in the statement of comprehensive income net of any reimbursement.

An onerous contract is considered to exist where the Company has a contractual obligation under which the unavoidable costs of settling the obligations exceed the economic benefit that is expected to be derived from the contract. Any existing obligations that arise under onerous contracts are measured as a provision and recognized accordingly.

### New and amended standards and interpretations adopted by the Group

The Group applied IFRS 15 and IFRS 9 for the first time for the fiscal year ending December 31 2018. The nature and effect of the changes as a result of adaption of these new accounting standards are described below.

### IFRS 9 Financial Instruments

IFRS 9 Financial Instruments replaces IAS 39 Financial Instruments: Recognition and Measurement for annual periods beginning on or after 1 January 2018, bringing together all

three aspects of the accounting for financial instruments: classification and measurement; impairment; and hedge accounting. Implementation of IFRS 9 has not lead to any reclassifications of financial instruments. The classification and measurement requirements of IFRS 9 did not have a significant impact to the Group. Comparative information for the period beginning 1 January 2017 has not been adjusted. The following are the changes in the classification of the Group's financial assets:

Trade receivables and Other non-current financial assets classified as Loans and receivables as at 31 December 2017 are held to collect contractual cash flows and give rise to cash flows representing solely payments of principal and interest. These are classified and measured as Debt instruments at amortized cost beginning 1 January 2018.

#### **IFRS 15 Revenue from Contracts with Customers**

The IASB and the FASB have issued their joint revenue recognition standard, IFRS 15. The standard replaces existing IFRS and US GAAP revenue requirements. The core principle of IFRS 15 is that revenue is recognized to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The standard applies to all revenue contracts and provides a model for the recognition and measurement of sales of some non-financial assets (e.g., disposals of property, plant and equipment).

IFRS 15 is effective from 1 January 2018. The Group has applied the modified retrospective approach for the transition. Accumulated USD 20.3 million had been recognized as revenue up to end 2017 using prior principles that would not have been recognized under IFRS 15. This is offset by USD 8.7 million in amortization recognized that would not have been recognized under IFRS 15, and the net effect of USD 11.6 million before tax is adjusted in the equity in the 2018 opening balance.

Implementation of IFRS 15 had no impact on late sales made after a project is completed. A significant part of the revenues in the seismic industry arises from contracts signed with customers prior to the acquisition of the data and the processing of the complete products. Prior to implementing IFRS 15, Spectrum Group recognized revenues from prefunding of Multi-Client surveys based on percentage of completion. This required management to determine the degree of completion. The degree of completion for a survey is determined by applying percentage of completion to each weighted part of the survey. Percentage of completion is based on the amount of accrued expenses relative to the estimated total cost of the service provided, modified to the specific customer agreement. IFRS 15 implied a change to revenue recognition based on deliverables. This has significantly impacted the timing of the revenue recognition for on-going projects in the industry.

#### **IFRSs and IFRICs issued but not yet effective**

Only IFRSs and IFRICs issued but not yet effective that are considered relevant to the Company have been included.

#### **IFRS 16 Leases**

IFRS 16 was issued in January 2016 and it replaces IAS 17 Leases, IFRIC 4 Determining whether an Arrangement contains a Lease, SIC-15 Operating Leases-Incentives and SIC-27 Evaluating the Substance of Transactions Involving the Legal Form of a Lease. IFRS 16 sets out the principles for the recognition, measurement, presentation and disclosure of leases and requires lessees to account for all leases under a single on-balance sheet model similar to the accounting for finance leases under IAS 17. The standard includes two recognition exemptions for lessees – leases of 'low-value' assets (e.g., personal computers) and short-term leases (i.e., leases with a lease term of 12 months or less). At the commencement date of a lease, a lessee will recognise a liability to make lease payments (i.e., the lease liability) and an asset representing the right to use the underlying asset during the lease term (i.e., the right-of-use asset). Lessees will be required to separately recognise the interest expense on the lease liability and the depreciation expense on the right-of-use asset.

Lessees will also be required to remeasure the lease liability upon the occurrence of certain events (e.g., a change in the lease term, a change in future lease payments resulting from a change in an index or rate used to determine those



payments). The lessee will generally recognise the amount of the remeasurement of the lease liability as an adjustment to the right-of-use asset.

Lessor accounting under IFRS 16 is substantially unchanged from today's accounting under IAS 17. Lessors will continue to classify all leases using the same classification principle as in IAS 17 and distinguish between two types of leases: operating and finance leases. IFRS 16, which is effective for annual periods beginning on or after 1 January 2019, requires lessees and lessors to make more extensive disclosures than under IAS 17.

#### Transition to IFRS 16

The Group plans to adopt IFRS 16 retrospectively to each prior reporting period presented. The Group will elect to apply the standard to contracts that were previously identified as leases

applying IAS 17 and IFRIC 4. The Group will therefore not apply the standard to contracts that were not previously identified as containing a lease applying IAS 17 and IFRIC 4.

The Group will elect to use the exemptions proposed by the standard on lease contracts for which the lease terms ends within 12 months as of the date of initial application, and lease contracts for which the underlying asset is of low value. The Group has leases of certain office equipment (i.e., personal computers, printing and photocopying machines) that are considered of low value.

During 2018, the Group has performed a detailed impact assessment of IFRS 16. In summary the impact of IFRS 16 adoption is expected to be, as follows:

Due to the adoption of IFRS 16, the Group's operating profit will improve, while its interest expense

will increase. This is due to the change in the accounting for expenses of leases that were classified as operating leases under IAS 17.

#### Alternative performance measures (APMs)

Alternative performance measures (financial performance measures not within the IFRS framework), are used by the Group to provide supplemental information. Financial APMs are intended to enhance comparability from period to period. The APMs are also used internally for management reporting. These measures are adjusted IFRS measures defined, calculated and used in a consistent and transparent manner. Financial APMs should not be considered as a substitute for measures of performance in accordance with the IFRS. See page 90–93.

#### Estimated impact on the statement of profit or loss (increase/(decrease)) for 2018:

	Spectrum Group
	2018
Depreciation expense	1 700
Operating lease expense	(2 000)
<b>Operating profit</b>	<b>300</b>
Finance costs	350
Income tax expense	(12)
<b>Profit for the year</b>	<b>(39)</b>

#### Impact on the statement of financial position (increase/(decrease)) January 1 2019:

	Spectrum Group
	01.01.2019
<b>Assets</b>	
Property, plant and equipment (right-of-use assets)	6 982
Prepayments	-
<b>Liabilities</b>	
Lease liabilities	(7 145)
Trade and other payables	163
<b>Net impact on equity</b>	<b>-</b>

Due to the adoption of IFRS 16, the Group's operating profit will improve, while its interest expense will increase. This is due to the change in the accounting for expenses of leases that were classified as operating leases under IAS 17.

## Note 2 Segment information

Spectrum is a pure play Multi-Client company. The Group has identified two operating segments as defined in IFRS 8 Operating Segments: Multi-Client and Seismic Imaging. Multi-Client is considered the primary operating segment. The Multi-Client operating segment is for internal reporting purposes split into four reporting segments on a geographical basis. Multi-Client constitutes 99.9% of the Group's net revenue (2017: 99.8%).

Spectrum Group 2018			
	Multi-Client	Seismic imaging	Consolidated
Gross revenue	207 105	105	207 210
Revenue share	(68 417)	-	(68 417)
<b>Net revenue</b>	<b>138 687</b>	<b>105</b>	<b>138 793</b>

Spectrum Group 2017			
	Multi-Client	Seismic imaging	Consolidated
Gross revenue	142 962	233	143 195
Revenue share	(24 346)	-	(24 346)
<b>Net revenue</b>	<b>118 617</b>	<b>233</b>	<b>118 850</b>

Spectrum applies APMs as basis for internal/segment reporting. The segment amounts (APMs) will be consistent with and comparable to prior periods. Spectrum considers this to give a more fair view of the company's performance, as revenues are gradually recognized and coincides with the progression of the projects, the resources applied and the value created, and is not binary dependent on the delivery of the products. Please see further details on page 90–93.

Spectrum Group 2018 APM			
	Multi-Client	Seismic imaging	Consolidated
Gross revenue	198 322	105	198 427
Revenue share	(64 673)	-	(64 673)
<b>Net revenue</b>	<b>133 649</b>	<b>105</b>	<b>133 754</b>

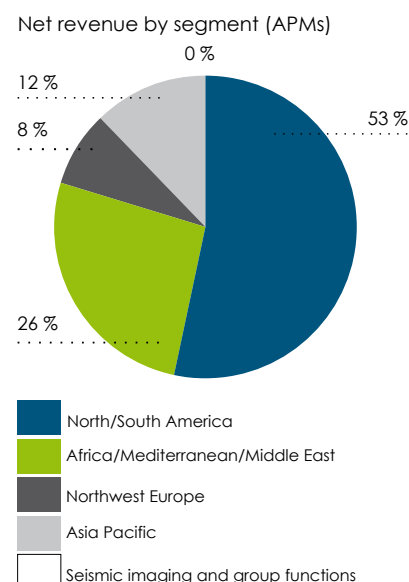
Multi-Client information is given for reporting segments which are identified on a geographical basis.

Separate internal financial information is prepared for these geographical segments and reported for management accounting purposes to the Chief Operating Decision Maker (CODM). In the Spectrum Group the executive management and the Board of Directors are considered to be the CODM.

The Multi-Client service reporting segment manages the acquisition

and processing of new seismic surveys and the reprocessing of existing survey data to produce seismic datasets that Spectrum either owns or has the right to sell licences to third parties on a non-exclusive basis. Spectrum Group classifies Multi-Client revenue as early sales or late sales based on the products sold.

Proprietary revenue from seismic imaging is treated as separate products and classified as other revenue.



## Reported segment revenues and profits / (losses)

	Spectrum Group 2018					
	Multi-Client				Group functions including Seismic imaging	Consolidated
	North and South America	Africa/Mediterranean/Middle East	Northwest Europe	Asia Pacific		
Net early sales	22 390	9 454	749	2 884	-	35 477
Net late sales	52 237	28 058	10 524	12 393	-	103 210
Other revenue	-	-	-	-	105	105
<b>Net revenue</b>	<b>74 627</b>	<b>37 512</b>	<b>11 273</b>	<b>15 277</b>	<b>105</b>	<b>138 793</b>
APM adjustments (segment early sales)	(3 359)	(2 265)	(666)	1 251	-	(5 039)
<b>Net segment revenue</b>	<b>71 268</b>	<b>35 247</b>	<b>10 607</b>	<b>16 528</b>	<b>105</b>	<b>133 754</b>
Operating expenses	(5 182)	(1 503)	(792)	(1 354)	(27 845)	(36 676)
Share of profit/(loss) of joint ventures	-	-	-	-	96	96
Amortization	(34 755)	(13 792)	(12 754)	(7 243)	-	(68 544)
Depreciation	(81)	(61)	(20)	(21)	(1 147)	(1 331)
<b>Operating profit/(loss)</b>	<b>34 609</b>	<b>22 155</b>	<b>(2 293)</b>	<b>6 658</b>	<b>(28 791)</b>	<b>32 338</b>
APM adjustments (segment amortization)	2 284	1 072	301	(344)	-	3 313
<b>Segment Operating profit/(loss) (segment EBIT)</b>	<b>33 534</b>	<b>20 962</b>	<b>(2 658)</b>	<b>7 565</b>	<b>(28 791)</b>	<b>30 612</b>

	Spectrum Group 2017					
	Multi-Client				Group functions including Seismic imaging	Consolidated
	North and South America	Africa/Mediterranean/Middle East	Northwest Europe	Asia Pacific		
Net early sales	15 636	38 797	667	2 116	-	57 216
Net late sales	26 725	15 673	9 924	9 062	-	61 384
Other revenue	3	5	8	1	233	250
<b>Net revenue</b>	<b>42 364</b>	<b>54 475</b>	<b>10 599</b>	<b>11 179</b>	<b>233</b>	<b>118 850</b>
Operating expenses	(2 969)	(1 691)	(1 409)	(1 763)	(18 242)	(26 074)
Share of profit/(loss) of joint ventures	-	-	-	-	(82)	(82)
Amortization	(35 561)	(25 203)	(12 253)	(8 696)	-	(81 714)
Impairment	(15 290)	(1 876)	(565)	(6 227)	(1 640)	(25 598)
Depreciation	(74)	(115)	(27)	(26)	(1 176)	(1 418)
<b>Operating profit/(loss)</b>	<b>(11 530)</b>	<b>25 589</b>	<b>(3 656)</b>	<b>(5 533)</b>	<b>(20 907)</b>	<b>(16 037)</b>

## Major customers

In 2018, the largest customer of the Spectrum Group accounted for 17% of consolidated gross revenues (2017: 12%).

Spectrum do not disclose a breakdown of customers as management consider this information to be confidential and commercially sensitive in nature. Spectrum's customers are international oil companies.

## Segmental analysis of assets, liabilities and carrying value of investments for the year ended 31 December

Assets, liabilities and carrying value of investments by reporting segment is not included in management reporting and is therefore not disclosed separately in these accounts.

# Note 3 Revenue from contracts with customers

Spectrum Group 2018			
	Multi-Client	Seismic imaging	Consolidated
Gross revenue	207 105	105	207 210
Revenue share	(68 417)	-	(68 417)
<b>Net revenue from contracts with customers</b>	<b>138 687</b>	<b>105</b>	<b>138 793</b>

Spectrum Group 2017			
	Multi-Client	Seismic imaging	Consolidated
Gross revenue	142 962	233	143 195
Revenue share	(24 346)	-	(24 346)
<b>Net revenue</b>	<b>118 617</b>	<b>233</b>	<b>118 850</b>

Spectrum ASA 2018			
	Multi-Client	Sales to subsidiaries *	Sum
Gross revenue	12 604	7 586	20 190
Revenue share	(2 655)	-	(2 655)
<b>Net revenue from contracts with customers</b>	<b>9 948</b>	<b>7 586</b>	<b>17 534</b>

Spectrum ASA 2017			
	Multi-Client	Sales to subsidiaries *	Sum
Gross revenue	6 423	10 095	16 518
Revenue share	(1 334)	-	(1 334)
<b>Net revenue</b>	<b>5 089</b>	<b>10 095</b>	<b>15 184</b>

\* see note 17

## Contract Balances

Spectrum ASA			Spectrum Group	
2017	2018		2017	2018
6 887	6 352	Trade Receivables (note 11)	43 437	49 733
-	2 875	Contract Assets	13 016	13 931
103	21	Contract Liabilities	892	16 306

Trade receivables are non-interest bearing and are generally on terms of 30 to 60 days.

Contract assets consist of accrued revenues, that are recognized upon delivery of data. Accrued revenue is reclassified to trade receivables when invoice are issued to customer. Prior to implementation of IFRS 15, contract assets also included Work in Progress. WIP revenue was recognized on percentage of completion basis. 2017 figures are not restated.

Contract liabilities include deferred revenue. When the Spectrum Group obtains pre-funding from customers before a seismic project is completed, the customer is normally entitled to a discounted price and/or is granted the opportunity to provide input into the project parameters. The Spectrum Group then recognises the pre-commitment revenue at the point in time of the transaction when the customer executes a valid license agreement and has the right to access the licensed portion of the Multi-Client library. Judgement is applied when allocating pre-funding to products licensed, and the revenue is as such recognized at the point in time when the products are completed and the client has right to access each product (e.g., PSTM, PSDM). The Spectrum Group considers whether there are other promises in the contract that are separate performance obligations to which a portion of the transaction price needs to be allocated. As at January 1 2018, USD 20.3 million was recognized as deferred revenue, decreasing equity of the Group (see Statements of Consolidated Equity). This was recognized as revenue as of 31 December 2017, but not recognized under IFRS 15. USD 20.3 million of this balance has been recognized during 2018.

Spectrum classifies Multi-Client revenue as pre-commitment arrangements or late sales based on products sold. A seismic project may consist of several products and at the point in time of the sale some products may be considered in progress while others are considered completed. All received pre-funding is accounted for as a prepayment liability (deferred revenue) under other current liabilities.



# Note 4 Financial risk management

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## General

The Spectrum Group is exposed to a number of different financial market risks arising from the Group's normal business activities.

Financial market risk is the possibility that fluctuations in exchange rates and interest rates will affect the value of the Group's assets, liabilities and future cash flows. In order to manage and reduce these risks, management periodically reviews its primary financial market risks and actions are taken to mitigate specific risks identified.

The risk related to interest rates is considered limited due to the expectations for future development of interest rates, and the short maturity of interest bearing debt.

The Spectrum Group's organic investments are financed through prefunding from customers, risk sharing with partners and cash flow generated from sales of surveys in the existing Multi-Client library. On structural investments, companies or assets, debt financing is considered.

The Spectrum Group has various financial assets such as trade receivables and cash. These are mainly in USD.

The principal financial liabilities comprise trade payables, finance lease commitments related to premises and data processing equipment, Revolving Credit Facility (RCF) and overdraft facility. These are mainly in USD.

## Capital management

Spectrum ASA is listed on Oslo Stock Exchange.

Spectrum's capital management is primarily focused on ensuring the Group's capacity to invest in new high quality Multi-Client projects, to improve operations, to minimise the cost of and risk to capital and to provide investors a return on the capital invested. Spectrum also acquires surveys in partnership or with favorable contract payment terms to reduce Spectrum's risk and cash exposure.

The main source of financing is equity. Equity share per year end 2018 is 53.1%.

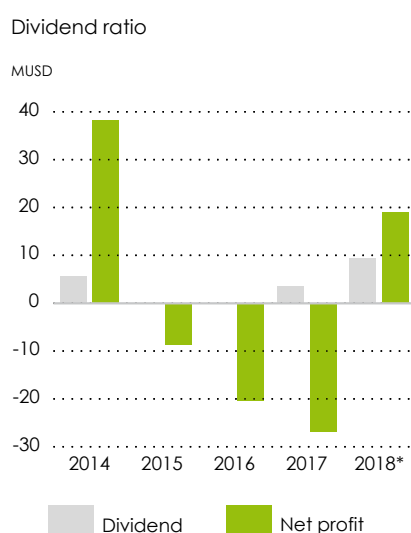
Spectrum entered in June 2015 into two bank facilities used to partly finance the acquisition of Fugro's marine seismic library. One of the facilities was a term loan facility of USD 50 million which Spectrum has repaid in full by end December

2017. The second facility is a RCF of USD 21.1 million. USD 13.1 million is classified as long term interest bearing debt. USD 8.0 million is due within 12 months and is classified as short term interest bearing debt. The RCF will be repaid in full by end June 2021.

In July 2018 Spectrum secured a new overdraft facility of up to USD 30.0 million. As of 31 December 2018 USD 10.0 million of the overdraft facility was utilized. When the facility is utilized it is classified as short term interest bearing debt in the financial statements.

Management is of the opinion that the above described processes achieved the Group's capital management objectives in 2018. The Company paid an annual dividend based on the Group's financials in 2013, 2014 and 2017. No dividend was distributed based on the 2015 and 2016 financials.

For 2018, the Board of Directors proposes a dividend of NOK 1.5 per share.



\* The Board recommends to the Annual General Meeting a dividend of NOK 1.5 per share for 2018.

Funds are largely held in USD, although some funds are held in local currency at a local level to fund forecasted local requirements for the following 3 months.

#### Financial instruments

The carrying amount of accounts receivables, other receivables, cash and cash equivalents, and current liabilities approximate to their fair values because of the short maturities of these instruments.

#### Liquidity risk

The Board of Directors considers the liquidity risk to be moderate. Risk is dependent on market conditions, and impacted by the investment level. Some new projects are de-risked by inviting 3rd parties to participate. Prefunding levels are a key component in the decision process of new acquisitions. Liquidity risk is primarily related to potentially realizing lower sales than expected from existing library.

At 31 December 2018 the Spectrum Group had current assets of USD 113.9 million (2017: USD 92.5 million) and current liabilities of USD 125.8 million (2017: USD 81.7 million). The current liabilities are separated in due within 6 months and due between 6-12 months in the following table.

The Group held USD 37.7 million (2017: USD 14.2 million) in cash and cash equivalents as of 31 December 2018. The Group uses a forecasting system implemented in 2012 covering among others cash flow forecasting. Forecasting is done for the remaining part of the year and this is a regular part of the monthly close process. In addition the Group has established a 60 days focused cash management system. This is further enhanced on a continuous basis.

The forecasting process involves several functions in the Group and is considered a critical part of the business control environment. It forms the basis for estimating our capacity to finance new projects.

#### Credit risk

The customers of the Spectrum Group are mainly large oil and gas companies that are well known to the Group. The maximum exposure to credit risk at the reporting date is the sum of the carrying amounts of financial assets in each class, see note 11.

Management considers that the provisions booked in each Group company are sufficient to cover any uncertain receivable balances and believes that the credit risk

## Analysis of current and non-current liabilities by payment date

Spectrum ASA			Spectrum Group	
2017	2018		2017	2018
		<b>Due within 6 months</b>		
-	-	Finance lease	192	99
2 026	15 570	Short term interest bearing debt and interest	2 026	15 570
2 697	13 280	Other liabilities	36 676	43 942
2 939	3 064	Trade and other payables	22 159	42 701
<b>7 663</b>	<b>31 914</b>	<b>Total</b>	<b>61 053</b>	<b>102 312</b>
		<b>Due between 6-12 months</b>		
-	-	Finance lease	184	94
-	3 420	Short term interest bearing debt and interest	-	3 420
-	-	Other liabilities	12 459	4 635
-	-	Trade and other payables	8 000	-
<b>-</b>	<b>3 420</b>	<b>Total</b>	<b>20 643</b>	<b>8 149</b>
		<b>Due after one year but not more than 3 Years</b>		
-	-	Finance lease	338	124
23 100	13 800	Long term interest bearing debt and interest	23 100	13 800
6 422	4 599	Other liabilities	21 180	4 624
<b>29 522</b>	<b>18 399</b>	<b>Total</b>	<b>44 618</b>	<b>18 548</b>

strategies adopted are sufficient to ensure that the overall credit risk is low. Spectrum has had no losses on receivables in 2018, or in the latest years.

In addition Spectrum can net receivables against future payables in some partner agreements. Spectrum has entered into various seismic agreements with change of control clauses which trigger transfer fees payable to Spectrum.

Transfer fees are recorded based on best estimate until the final amount is agreed with the customer. The credit risk for transfer fees recorded but not agreed with customers are considered low.

**Market and political risk**

The activities that Spectrum's customers are engaged in are inherently affected by changes in both current prices of oil and gas, and future expectations of prices, which are themselves subject to a number of external influences such as governmental terms and conditions.

The oil and gas market is known to be cyclical in nature, and Spectrum's profitability is largely impacted by the demand for the services that Spectrum provide to these clients.

Spectrum operates in many countries with dynamic laws and regula-

tions, and in which the regulations have had limited practice. As such estimates of contingencies and tax positions entail uncertainty, and it is possible that some of these matters will ultimately end with a result different from what is currently reflected in Spectrum's financial statements.

#### Currency and interest rate risk

Revenues and expenses are denominated largely in USD. The Group aims to minimise exposure to currency risk by operationally balancing receivables in other currencies with expenses in those currencies. In addition Spectrum has established a USD account linked to the Brazilian legal entity. This reduces currency risk related to the Brazilian activities.

In the Group's subsidiaries in UK and Norway, local salaries and office expenses will be mainly in GBP and NOK.

Based on the current expense level, a 5% strengthening of USD vs. GBP and NOK will impact the result negatively by approx. USD 0.5 million in Ltd and USD 0.25 million in ASA respectively. These sensitivities can be used to assess larger currency fluctuations.

The risk related to interest rates is considered limited due to future interest rates expectations, and the short maturity period of the interest bearing debt. A sensitivity analysis estimates that a 1% increase in interest rate will increase Spectrum Group's interest cost with approximately USD 0.2 million in 2019.



## Note 5 Salaries & Other Remuneration

Spectrum ASA			Spectrum Group	
2017	2018		2017	2018
(2 190)	(3 818)	Salaries	(15 428)	(22 140)
(740)	(546)	Employer's insurance contributions	(2 910)	(3 244)
(138)	(155)	Pension costs	(816)	(1 008)
-	-	Share options	(811)	(887)
53	50	Other remuneration	(592)	(705)
-	-	Capitalized salaries *	6 935	7 885
<b>(3 015)</b>	<b>(4 468)</b>	<b>Total</b>	<b>(13 622)</b>	<b>(20 099)</b>
10	10	Average number of employees	155	158

\* Data Processing expenses (including salaries) directly related to Multi-Client surveys are capitalized and are part of the Multi-Client library additions, see note 10.

### Remuneration for the Spectrum management

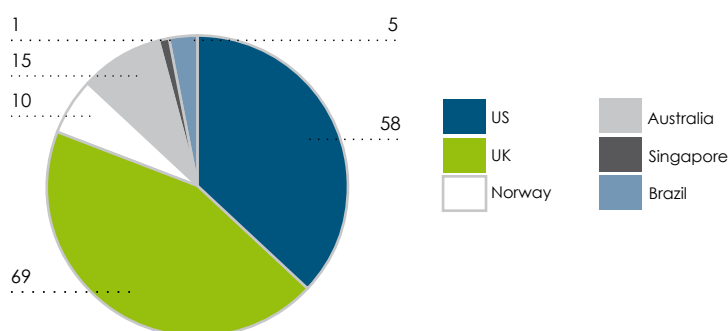
Salaries and other remuneration to management and the Board of Directors.

Salaries and other benefits are paid in local currencies, and USD figures in the table will fluctuate with the exchange rates.

	Spectrum ASA 2018			
	Salaries and other benefits	Share options*	Post employment pension benefits	Total
Rune Eng, CEO & President	(998)	(206)	(44)	(1 248)
Henning Olset, CFO **	(431)	-	(25)	(456)
Dean Zuzic, CFO **	(25)	(93)	-	(118)
Jan Schoolmeesters, COO	(660)	(347)	(27)	(1 034)
Svein Olav Staalen, General Counsel	(350)	(57)	(20)	(427)
<b>Total Spectrum ASA</b>	<b>(2 464)</b>	<b>(703)</b>	<b>(116)</b>	<b>(3 283)</b>

	Spectrum Group 2018			
	Salaries and other benefits	Share options*	Post employment pension benefits	Total
Total Spectrum ASA	(2 464)	(703)	(116)	(3 283)
Richie Miller, EVP MC, Americas	(407)	(13)	(18)	(438)
Graham Mayhew, EVP MC, Africa and Mediterranean and Middle East	(288)	(18)	-	(306)
Ian Edwards, EVP MC, Asia Pacific and NW Europe	(353)	(61)	-	(414)
Mike Mellen, EVP Seismic Imaging	(379)	(34)	(17)	(430)
Neil Hodgson, EVP Geoscience	(261)	(33)	(18)	(312)
<b>Total Spectrum Group</b>	<b>(4 152)</b>	<b>(862)</b>	<b>(168)</b>	<b>(5 182)</b>

Employees by country



	Spectrum ASA 2017			
	Salaries and other benefits	Share options*	Post employment pension benefits	Total
Rune Eng, CEO & President	(514)	(212)	(39)	(765)
Henning Olset, CFO	(316)	(31)	(23)	(370)
Jan Schoolmeesters, COO	(354)	(106)	(24)	(484)
Svein Olav Staaen, General Counsel	(243)	(25)	(12)	(280)
<b>Total Spectrum ASA</b>	<b>(1 427)</b>	<b>(374)</b>	<b>(97)</b>	<b>(1 898)</b>

	Spectrum Group 2017			
	Salaries and other benefits	Share options*	Post employment pension benefits	Total
Total Spectrum ASA	(1 427)	(374)	(97)	(1 898)
Richie Miller, EVP MC, Americas	(288)	(47)	(17)	(352)
Graham Mayhew, EVP MC, Africa and Mediterranean and Middle East	(270)	(23)	-	(293)
Ian Edwards, EVP MC, Asia Pacific and NW Europe	(264)	(43)	-	(307)
Mike Ball, EVP Data Processing ***	(194)	(19)	(12)	(225)
Mike Mellen, EVP Seismic Imaging ***	(124)	(31)	(2)	(157)
Neil Hodgson, EVP Geoscience	(222)	(34)	(16)	(272)
<b>Total Spectrum Group</b>	<b>(2 788)</b>	<b>(571)</b>	<b>(144)</b>	<b>(3 504)</b>

\* Share options expense - not options vested in the year.

\*\* 2018 Executive Management Team

Henning Olset retired and left the EXT Group 30 November, full year salary included in table.

Dean Zuzic was appointed as CFO and to the Executive Management team 1 December.

\*\*\* 2017 Executive Management Team.

Mike Ball retired and left the EXT Group 17 July when he was replaced by Mike Mellen.

Mike Mellen was appointed as EVP Seismic Imaging and to the Executive Management team 17 July.

**Director / committee fees**

	Spectrum Group	
	2017	2018
<b>Board of Directors fee</b>		
Directors fee for Chairman:		
Pål Stampe	(54)	(58)
Directors fee for all other Board members:		
Maria Tallaksen	(37)	(39)
Glen Ole Rødland	(37)	(39)
Ingrid Elvira Leisner	(37)	(39)
Jogeir Romestrand *	(37)	(39)
Linda Rudolfsen Myklebust **	(31)	-
<b>Audit Committee fee</b>		
Fee for Chairman	(18)	(18)
Fee for all other committee members	(24)	(25)
<b>Remuneration Committee fee</b>		
Fee for all committee members	(5)	(5)
<b>Nomination Committee fee</b>		
Fee for Chairman	(5)	(6)
Fee for all other committee members	(7)	(7)
<b>Total</b>	<b>(291)</b>	<b>(274)</b>

\* Mr. Romestrand left the board in June 2018

\*\* Mrs. Myklebust left the board in April 2017

**Termination Benefits**

In case of termination by Spectrum, the CEO and President is entitled to a severance payment equal to one and a half years base salary from a six month notice period which would commence on the first day of the month following the issue of termination notice.

In case of termination by the CEO and President, Spectrum will pay severance pay equal to one year of annual base salary from the expiry of the above notice period providing that the CEO and President has been employed by Spectrum for at least five years. If the CEO and President terminates his employment before this five year period no severance payment will be made.

In case of termination by Spectrum or the CFO, Spectrum will pay severance pay equal to one year of annual base salary from the expiry of a six month notice period.

In case of termination by Spectrum or the COO, Spectrum will pay severance pay equal to one year of annual base salary from the expiry of a six month notice period.

No other in the Executive Management Team have other termination benefits, other than ordinary benefits within employment region.

**Pension Costs**

Spectrum ASA is required to have an occupational pension scheme for their employees in Norway under the Act on Mandatory occupational pensions through a defined contribution plan. Spectrum ASA's pension cost for 2018 was USD 155k (2017: 138k).

Spectrum Ltd and Spectrum Inc make payments for eligible employees to defined contribution pension plans. Employees become eligible after an initial probationary period of employment.

# Note 6 Share Based Payments

The Board of Spectrum approved a stock option program for senior executives in the Group in 2010. Under this program, up to 10 million options may be awarded by the Board. The program was extended from 6 million to 8 million in EGM on 13 November 2012, and from 8 million to 10 million in GM on 23 May 2014.

The exercise price of the options is equal to the Volume-weighted average price (VWAP) for shares in Spectrum ASA in the 20 trading days prior to the date of each agreement. For each participant, the share options vest in tranches of 15% in the first year, 20% in year 2, 25% in year 3 and 40% in year 4.

The Board of Directors may decide that the annual vesting date and the proportion of the options which vest at each vesting date, deviate from the above in relation to senior executives. Exercise of options shall take place minimum two times per year as decided by the Board of Directors.

Partial or full vesting is subject to the appreciation in Spectrum's share price relative to the exercise price for the options calculated on a rolling basis over the 20 days VWAP per share prior to the relevant vesting date. Upon a 30% or 70% appreciation in the share price for options granted pre 2014 and upon a 25% and 50% appreciation in the share price for options granted in 2014 or later, 50% or 100% of the share options will vest respectively. The participant must be employed from the allotment date through to the date of the close of the relevant exercise window.

Participants are permitted to accumulate the options until the final option expiry date. This is regardless of whether the applicable share price appreciation vesting condition threshold has been met or exceeded at the vesting date for each relevant tranche of options. If a participant does not notify the Company in writing of their intention to accumulate any options that have vested by the close of the exercise window for that tranche of

options, the options will automatically expire. Any remaining un-exercised options will also automatically expire on the closure of the last exercise window for the scheme or if the participant resigns or if their employment is terminated except when this is due to the participant's death, disability or permanent injury.

The fair value of the share options is estimated at the grant date using a Monte Carlo pricing model, taking into account the terms and conditions upon which the share options were granted.

The contractual term of each option granted is 4.5 years. The Board may decide at its sole discretion (at the request of the participant or otherwise) to settle any options in cash on exercise.

The expenses booked by the Group in relation to the stock option program were recorded as a salary cost and against equity in 2017 and 2018. In addition the Group has provided for employer's insurance contributions.

## Movements in the year

	2017 No.	2017 WAEP, NOK	2018 No.	2018 WAEP, NOK
Outstanding at 1 January	5 473 000	23.21	4 703 000	25.73
Granted during the year	250 000	34.75	390 000	38.99
Forfeited during the year	-	-	(270 000)	40.26
Exercised during the year	(1 000 000)	12.72	(336 000)	32.48
Cancelled during the year	(20 000)	20.71	-	-
<b>Outstanding at 31 December</b>	<b>4 703 000</b>	<b>25.73</b>	<b>4 487 000</b>	<b>25.57</b>
Exercisable at 31 December	2 830 500	19.14	2 905 650	28.30

The weighted average remaining contractual life for the share options outstanding as at 31 December 2018 was 2.43 years (2017: 0.86 years).



	2017 No.	2018 No.
<b>Exercise price</b>		
NOK 0.00 - 10.00	1 335 000	1 420 000
NOK 10.00 - 12.50	305 000	305 000
NOK 12.50 - 15.00	-	-
NOK 15.00 - 20.00	30 500	30 500
NOK 20.00 - 30.00	520 000	380 000
NOK 30.00 - 40.00	2 380 000	2 079 000
>40.00	132 500	272 500
	<b>4 703 000</b>	<b>4 487 000</b>

The weighted average fair value of options granted during the year was NOK 14.89 (2017: NOK 13.15). The above table shows the price range at which each tranche of options outstanding at 31 December could be exercised:

The Monte Carlo model is used to calculate the fair value of the options, used in the financial statements. The calculated fair values incorporate expected exercise pattern and thus the expected vesting/exercise date, i.e. the

probability of vesting. All performance conditions are included in the fair value. The assets drift, expected volatility and share price will affect the fair value in addition to the exercise pattern.

The expected life of the share options is based on current expectations and is not necessarily indicative of exercise patterns that may occur.

The expected volatility reflects the assumption that the historical volatility over a period similar to the life of the options is indicative of future trends, which may also not necessarily be the actual outcome.

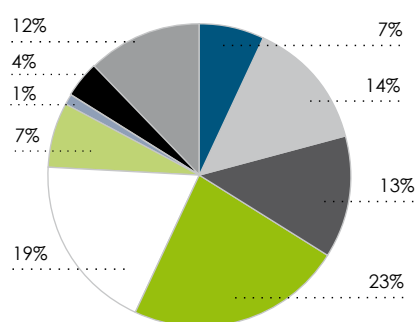
## Note 7 Other operating expenses

Spectrum ASA			Spectrum Group	
2017	2018		2017	2018
(355)	(352)	Consulting	(918)	(3 739)
-	-	Taxes *	(1 745)	(3 299)
(283)	(281)	Travel expenses	(1 581)	(1 641)
(198)	(192)	Property	(2 826)	(2 893)
(473)	(755)	Professional fees	(2 314)	(1 785)
(11)	(45)	Marketing	(879)	(1 002)
(9)	-	Repairs & maintenance	(184)	(267)
-	-	Gain / (Loss) on receivables	(550)	-
(305)	(233)	Other **	(1 455)	(1 951)
<b>(1 632)</b>	<b>(1 859)</b>		<b>(12 453)</b>	<b>(16 577)</b>

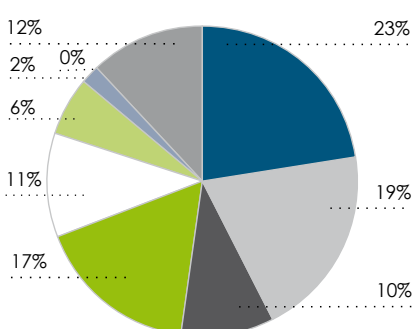
\* Taxes consists of Brazilian transaction taxes required to be reported as operating expenses under IFRS.

\*\* Other includes training & recruitment, insurance, subscriptions, consumables and communication.

Operational expenses 2017



Operational expenses 2018



### Auditor's remuneration (exclusive of VAT)

Spectrum ASA			Spectrum Group	
2017	2018		2017	2018
(114)	(98)	Statutory audit	(224)	(241)
(9)	(1)	Other attestation services	(9)	(1)
(77)	(30)	Tax services	(190)	(83)
<b>(200)</b>	<b>(129)</b>	<b>Total</b>	<b>(423)</b>	<b>(325)</b>

# Note 8 Income Taxes

Spectrum ASA			Spectrum Group	
2017	2018		2017	2018
-	-	<b>Tax payable *</b>	<b>(171)</b>	<b>(4 656)</b>
-	(357)	Adjustments in respect to previous years	(1 492)	(1 322)
1 724	(582)	Changes in temporary differences	19	3 267
(177)	(290)	Utilized withholding tax	(6 705)	(3 649)
<b>1 548</b>	<b>(1 229)</b>	<b>Current tax charge</b>	<b>(8 350)</b>	<b>(6 361)</b>
		<b>Analysis of tax expense:</b>		
(13 006)	2 084	Profit before tax	(18 493)	25 266
<b>(13 006)</b>	<b>2 084</b>	<b>Profit before tax</b>	<b>(18 493)</b>	<b>25 266</b>
3 122	(466)	At statutory income tax rate 23% (2017: 24%)	4 438	(5 811)
-	-	At income tax rates outside Norway different from 23% (2017: 24%)	2 352	2 526
(36)	(33)	Non-deductible expenses	(60)	(75)
(48)	(206)	Translation differences	565	(419)
(1 406)	-	Write down investments in subsidiaries	-	-
15	-	Foreign taxes	15	-
(177)	-	Deferred withholding tax	(1 903)	(1 078)
-	(468)	Changes of unrecognized tax losses	(9 093)	(1 653)
77	(56)	Changes of applied tax rate	(347)	214
-	-	Provisions not taxable	(4 318)	(65)
<b>1 548</b>	<b>(1 229)</b>	<b>Income tax expense reported in the consolidated income statement</b>	<b>(8 350)</b>	<b>(6 361)</b>
<b>11.9%</b>	<b>59.0%</b>	<b>Effective tax rate in%</b>	<b>(45.2%)</b>	<b>25.2%</b>
		<b>Tax effect of temporary differences</b>		
157	1 801	Fixed assets	(3 156)	7 436
129	124	Other short term receivables	185	241
(391)	(697)	Other long term items	244	244
-	-	Other short term liabilities	(551)	(858)
-	-	Effects of changes in tax rates	-	-
<b>(104)</b>	<b>1 227</b>	<b>Total temporary differences</b>	<b>(3 277)</b>	<b>7 063</b>
1 893	-	Tax losses carried forward	8 345	8 576
-	-	Deferred tax assets not recognized	(5 690)	(6 742)
<b>1 789</b>	<b>1 227</b>	<b>Net deferred tax assets/(liabilities)</b>	<b>(622)</b>	<b>8 897</b>
		<b>Balance sheet deferred tax assets / (liability)</b>		
-	-	Deferred tax liability	(5 123)	(2 997)
1 789	1 227	Deferred tax assets **	4 501	11 897
465	505	Other receivables - withholding taxes ***	3 621	3 713

Additional information of tax losses carried forward and deferred tax assets recognized ****		Spectrum Group			
		Tax losses carried forward		Deferred tax assets recognized	
		2017	2018	2017	2018
Spectrum ASA	Tax rate 22% (2017: 23%)	7 703	-	1 772	-
Carmot Seismic AS	Tax rate 22% (2017: 23%)	289	-	66	-
Spectrum Geo CH AS	Tax rate 22% (2017: 23%)	-	18 079	-	1 834
Spectrum Geo Ltd	Tax rate 17% (2017: 18%)	4 807	-	817	-
Spectrum Geo Pty Ltd	Tax rate 30% (2017: 30%)	3 636	3 826	-	-
Spectrum Geo GmbH	Tax rate 12% (2017: 12%)	38 322	-	-	-
<b>Total</b>		<b>54 757</b>	<b>21 905</b>	<b>2 655</b>	<b>1 834</b>

\* Tax payable for the year is USD 4.7 million (2017: USD 0.2 million).

Tax and other public duties payable in the statements of financial position is USD 8.1 million (2017: USD 2.4 million). This includes corporate tax of USD 4.7 million (2017: USD 0.2 million), and taxes on financial transactions, VAT and social security taxes of USD 3.4 million (2017: USD 2.2 million).

\*\* Deferred tax assets are recognized when it is probable and sufficiently documented that the company will have a profit in the future to utilize the tax asset.

\*\*\* Withholding taxes relates to transactions between Spectrum Geo Inc and Spectrum Geo do Brasil Servicos Geofisicos LTDA, and transactions between Spectrum ASA and clients in countries where WHT is applicable.

\*\*\*\* The Company has operations that are subject to taxation in different countries, and losses in one subsidiary in one country cannot be offset against a gain in a subsidiary in another country.

## Note 9 Financial Items

### Finance income

Spectrum ASA			Spectrum Group	
2017	2018		2017	2018
47	200	Bank interest income	62	256
6 095	7 197	Interest to group companies	-	-
-	210	Other	109	-
<b>6 142</b>	<b>7 607</b>	<b>Total</b>	<b>171</b>	<b>256</b>

### Finance expense

Spectrum ASA			Spectrum Group	
2017	2018		2017	2018
(54)	(511)	Bank charges	(71)	(611)
(647)	(2 439)	Net foreign exchange loss	(762)	(4 778)
-	-	Finance lease interest	(30)	(33)
(1 565)	(1 686)	Loan interest	(1 565)	(1 766)
(1 793)	(2 776)	Interest to group companies	-	-
(181)	(252)	Other *	(201)	(139)
<b>(4 239)</b>	<b>(7 664)</b>	<b>Total</b>	<b>(2 628)</b>	<b>(7 327)</b>

\* Includes bank guarantee fees, waiver fees and amortization of establishment fee for loan facilities.

# Note 10 Non-current intangible and tangible assets (fixed assets)

Spectrum ASA			Spectrum Group			
Multi-Client library	Software		Goodwill	Multi-Client library	Software	Fixtures, fittings and office equipment
<b>37 736</b>	<b>13</b>	<b>Net carrying amount 1 January 2017</b>	<b>13 203</b>	<b>192 721</b>	<b>663</b>	<b>1 627</b>
(183)	-	External capitalization of expenses	-	72 369	193	776
2 029	-	Internal capitalization of expenses	-	9 990	-	-
-	-	Disposals	-	-	-	(18)
(6 809)	-	Amortization	-	(81 714)	-	-
-	(13)	Depreciation	-	-	(628)	(789)
(9 760)	-	Impairment	(1 640)	(23 958)	-	-
<b>23 013</b>	<b>-</b>	<b>Net carrying amount 31 December 2017</b>	<b>11 563</b>	<b>169 408</b>	<b>228</b>	<b>1 596</b>
90	-	IFRS 15 adjustment *	-	8 723	-	-
<b>23 103</b>	<b>-</b>	<b>Net carrying amount 1 January 2018</b>	<b>11 563</b>	<b>178 131</b>	<b>228</b>	<b>1 596</b>
5 216	-	External capitalization of expenses	-	42 251	2 339	294
958	-	Internal capitalization of expenses	-	10 265	-	-
-	-	Disposals	-	-	-	(31)
(7 287)	-	Amortization	-	(68 544)	-	-
-	-	Depreciation	-	-	(580)	(751)
<b>21 991</b>	<b>-</b>	<b>Net carrying amount 31 December 2018</b>	<b>11 563</b>	<b>162 102</b>	<b>1 987</b>	<b>1 108</b>
Up to 5 years	3 - 5 years	Useful Life		Up to 5 years	3 - 5 years	3 - 5 years

\* See page 46.

## Tangible non-current assets

As at 31 December 2018 Spectrum had fully depreciated a number of tangible assets that were still in use. The Gross cost of these assets were as follows:

Spectrum ASA			Spectrum Group	
2017	2018		2017	2018
-	-	Fixtures, fittings & equipment	7 754	5 886
-	-	Software	7 185	7 543
<b>-</b>	<b>-</b>		<b>14 939</b>	<b>13 429</b>



## Intangible non-current assets

### Goodwill

Business combinations are accounted for using the acquisition method. This involves the recognition of identifiable assets (including intangible assets that have not previously been recognized), and liabilities (including contingent liabilities but excluding provisions for future restructuring) of the purchased business at fair value. Goodwill acquired in business combinations is initially measured at cost, being the excess purchase price paid over the acquired interest in the fair value of the separable identifiable assets, liabilities and contingent liabilities of the acquiree.

### Multi-Client library

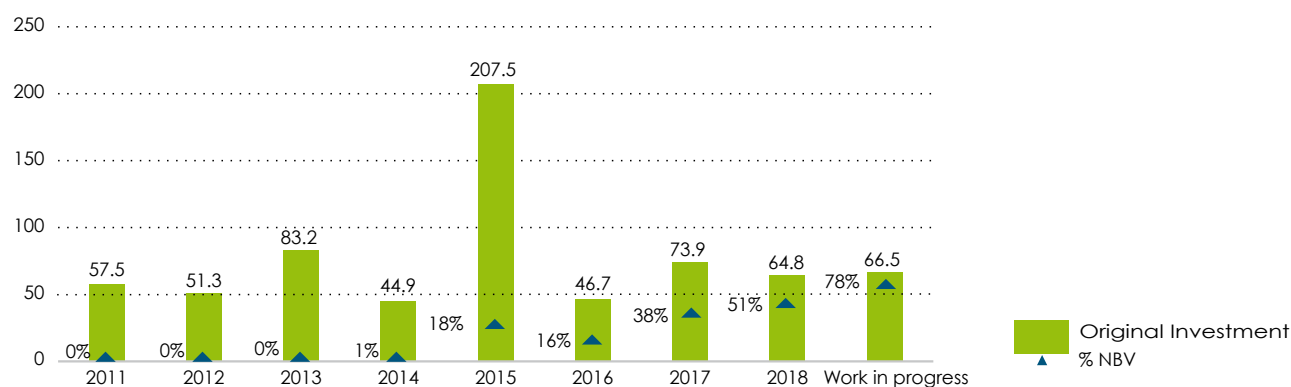
The Multi-Client library consists of geophysical and geological datasets that are both complete and in-progress. These datasets are licensed on a non-exclusive basis to oil and gas exploration and production companies. For early sales amortization is calculated based on total cost versus forecasted total revenues of the project. This ratio is applied to the revenue recognized for the survey. After a project is completed, a straight-line amortization is applied.

As at 31 December 2018 Spectrum had fully depreciated a number of Multi-Client surveys that were still available for sale in the market. The gross cost of these assets were as follows:

Spectrum ASA			Spectrum Group	
2017	2018		2017	2018
83 960	104 086	Multi-Client library	260 274	289 582

### Investment per vintage

MUSD



### Additions

Carrying value of investments by operating segment is not included in management reporting and is therefore not disclosed separately in these accounts. Interest cost that can be directly allocated to additions to the Multi-Client library has been capitalized. For 2018 the capitalized interest cost is USD 0.0 million (2017: USD 0.0 million).

All tangible assets in the Group are part of the support functions, and all additions to tangible assets has as such not been allocated to the operating segments.

### Impairment testing

Impairment testing is performed on the individual cash generating units (CGU). The net-book value of intangible assets is tested annually for impairment based on figures as of 31 December, or more frequently if there are indications that assets might be impaired. Spectrum has performed a full impairment analysis based on 31 December figures for all Multi-Client surveys in Spectrum's library for 2018.

A CGU should be impaired if the carrying amount is higher than the recoverable amount. The recoverable amount is the higher amount of the fair value and the value in use of a CGU.

Spectrum performs impairment testing based on value in use, as a market price for the asset doesn't exist and as such the fair value is difficult to determine. The value in use calculations prepared for the CGU used cash flow projections from financial budgets approved by the Board of Directors covering a period of 3 years (2017: 3 years). The cash flows for the CGU was discounted at an average pre-tax WACC of 10.5% (2017: 9.3%), the WACC varies between the CGU's based on the geographical risks in the regions. The discount rate is based on a risk free rate of 2.49% (2017: 1.88%) and Spectrum's peers average equity  $\beta$  ratio of 1.06 (2017: 1.07).

The impairment testing was performed for goodwill and the Multi-Client library.

#### *Multi-Client library*

All individual Multi-Client library balances held by the Group were subject to an internal impairment test as at 31 December 2018, using an average WACC of 10.5% (2017: 9.3%), the WACC varies between the CGU's based on the geographical risks in the regions. This discount rate is based on a risk free rate of 2.49% (2017: 1.88%) and Spectrum's equity  $\beta$  ratio of 1.06 (2017: 1.07).

Spectrum believes that the Multi-Client library is well positioned for upcoming license rounds, and approx. 99% of the book value of the library relates to on-going investments or to investments made in 2015 - 2018. Based on an overall level the value in use of the library is over the carrying amount of the library, and there is no need for impairment. However, an impairment analysis is performed on each individual survey. Some of the individual surveys are considered to have higher risk in the cash flow projections due to uncertainty regarding licence rounds, competition, political risk etc. All such risks are factored into the cash flow projections applied in the impairment analysis.

An assessment was performed on the surveys with value in use close to book value, with regards to risk and competition, and no impairment was recognized in 2018 (2017: USD 24.0 million).

With regard to the assessment of value-in-use of the individual Multi-Client surveys, a sensitivity analysis was performed. The key assumption in the forecasted cash flow per survey is the estimated sales, and the sensitivity analysis was performed by changing the estimated sales.

- \* 10% reduction in all sales compared to the forecast would lead to an increased impairment of 0% of the net book value of the Multi-Client library.
- \* 20% reduction in all sales compared to the forecast would lead to an increased impairment of 3% of the net book value of the Multi-Client library.
- \* 30% reduction in all sales compared to the forecast would lead to an increased impairment of 7% of the net book value of the Multi-Client library.
- \* As the cash flow projections only covers a period of 3 years any changes to the WACC will have limited impact on the net book value of the Multi-Client library, and an increase in WACC to 15% would lead to an increased impairment of 0% of the net book value of the Multi-Client library.

#### *Goodwill*

As of 31 December 2018 the balance of goodwill amounting to USD 11.6 million (2017: USD 11.6 million) was allocated to the Multi-Client CGU. The cash flows were discounted using an average WACC of 10.5% (2017: 9.3%).

Cash flows for a three year period for the Multi-Client CGU were covered by forecasts, with assumptions applied to amortization and operating costs. An assumed group tax rate of 25% (2017: 30%) was applied.

The carrying value of the Multi-Client CGU was found to be lower than its recoverable amount and no impairment of the goodwill was required based on the analysis. With regard to the assessment of value-in-use of the Multi-Client CGU, a sensitivity analysis was performed, and management believes that no reasonably possible change in any of the above key assumptions would cause the recoverable amount of the unit to materially fall below its carrying value.

# Note 11 Receivables and accrued revenues

## Accounts receivable

Spectrum ASA			Spectrum Group	
2017	2018		2017	2018
6 605	1 320	Not Due	42 317	36 794
-	4 669	0 - 30 days	-	10 707
-	-	30-60 days	165	-
-	-	60-90 days	-	1 176
282	363	> 90 days	955	1 056
<b>6 887</b>	<b>6 352</b>	<b>Total</b>	<b>43 437</b>	<b>49 733</b>

Accounts receivable are stated at net realisable value which management consider to be a close approximation to fair value given the short maturity period for these balances. Provisions are made for expected credit losses.

Accounts receivable are non-interest bearing and are generally on 30 – 60 day terms.

## Provisions

Spectrum ASA			Spectrum Group	
2017	2018		2017	2018
(561)	(561)	Provisions for loss on accounts receivable	(561)	(561)

## Accrued revenues and other receivables

Spectrum ASA			Spectrum Group	
2017	2018		2017	2018
-	2 875	Accrued revenue	13 016	13 931
1 999	3 810	Prepayments	5 416	8 558
1 230	3 542	VAT and other taxes recoverable	16 440	3 951
-	-	Other	19	-
<b>3 229</b>	<b>10 227</b>	<b>Total</b>	<b>34 891</b>	<b>26 440</b>

## Note 12 Cash and cash equivalents

Cash and cash equivalents are on demand bank deposits. As at 31 December 2018 Spectrum ASA has USD 0.0 million restricted cash deposits (2017: USD 0.0 million) and the Spectrum Group has USD 1.1 million restricted deposits \* (2017: USD 0.0 million).

### Bank and bank deposit in currency

As of 31 December 2018 the Spectrum Group has bank deposits of USD 37.7 million (2017: USD 14.2 million) which are mainly in USD 81% (2017: 93%), BRL 18% (2017: 2%) and in other currencies such as NOK, GBP, EUR, CHF, AUD, ARS and SGD total 1% (2017: 5%).

The parent company, Spectrum ASA, has as of 31 December 2018 bank deposits of USD 25.1 million (2017: USD 10.3 million), of which 99% (2017: 95%) are in USD and 1% are in other currencies such as NOK, GBP and EUR (2017: 5%).

The Spectrum Group has a joint intra-group Cash Pool facility. An intra-group claim arises between the owner of the Cash Pool, Spectrum ASA, and the companies participating in the Cash Pool, Spectrum Geo Ltd and Spectrum Geo AS.

The net Cash Pool balance is included in ASA's statement of financial position.

\* See note 23 for further details

## Note 13 Share capital and shareholder information

The Company's registered share capital is NOK 54,785,103 divided into 54,785,103 shares, each at a nominal value of NOK 1. The share capital is fully paid, and all shares have the same rights.

As proposed for 2017, a dividend of NOK 0.5 per share were distributed in 2018. The Board recommends to the Annual General Meeting a dividend of NOK 1.5 per share for 2018.

	Number of Shares	USD 1000
<b>In issue as at 31 December 2016</b>	<b>53 449 103</b>	<b>8 826</b>
Issued 10 March by exercise of options	1 000 000	120
<b>In issue as at 31 December 2017</b>	<b>54 449 103</b>	<b>8 945</b>
Issued 3 September by exercise of options	336 000	40
<b>In issue as at 31 December 2018</b>	<b>54 785 103</b>	<b>8 985</b>

## 20 largest shareholders and ownership interest as at 31 December 2018

Name	Location	Shares	% of Shares
ALTOR INVEST 2 AS	NOR	8 000 232	14.60%
ALTOR INVEST 1 AS	NOR	8 000 232	14.60%
SWEDBANK ROBUR SMABOLAGSFOND	GBR	2 898 964	5.29%
SKANDINAVISKA ENSKILDA BANKEN S.A.	LUX	2 742 858	5.01%
CREDIT SUISSE AG, DUBLIN BRANCH	IRE	2 613 615	4.77%
GROSS MANAGEMENT AS	NOR	2 493 995	4.55%
VERDIPAPIRFONDET PARETO INVESTMENT	NOR	1 815 439	3.31%
THE BANK OF NEW YORK MELLON SA/NV	BEL	1 349 115	2.46%
SKANDINAVISKA ENSKILDA BANKEN AB	SWE	884 186	1.61%
EUROCLEAR BANK S.A./N.V.	BEL	861 648	1.57%
VERDIPAPIRFONDET ALFRED BERG GAMBA	SWE	860 046	1.57%
STATE STREET BANK AND TRUST COMP	USA	802 556	1.46%
STATE STREET BANK AND TRUST COMP	USA	768 981	1.40%
VPF NORDEA NORGE VERDI	NOR	767 908	1.40%
HOLBERG NORGE	NOR	765 000	1.40%
VEVLEN GÅRD AS	NOR	745 000	1.36%
VJ INVEST AS	NOR	705 994	1.29%
NORRON SICAV - TARGET	LUX	648 354	1.18%
INVESCO PERP EURAN SMLER COMPS FD	USA	614 246	1.12%
AAT INVEST AS	NOR	600 000	1.10%
		<b>38 938 369</b>	<b>71.07%</b>

Spectrum ASA owned no treasury shares at 31 December 2018 or at 31 December 2017. Spectrum ASA held 12,479 shares in a Custody account related to the Stock option program on behalf of US based employees as at 31 December 2018 (2017: 0).

## Shares owned by the Spectrum Board of Directors and management or in which they had an interest at 31 December 2018

Name	Shares	% of Shares	Country	Note
Pål Stampe (Chairman)	-	0.00%	NOR	a
Glen Rødland	2 493 995	4.55%	NOR	b
Ingrid Elvira Leisner	-	0.00%	NOR	
Maria Tallaksen	-	0.00%	NOR	a
Rune Eng (CEO)	141 694	0.26%	NOR	c
Jan Schoolmeesters (COO)	46 961	0.09%	NOR	
Svein O. Stålen	10 549	0.02%	NOR	
Dean Zuzic (CFO)	-	0.00%	NOR	
Neil Hodgson	-	0.00%	GBR	
Richie Miller	219 505	0.40%	USA	
Graham Mayhew	11 000	0.02%	GBR	
Ian Edwards	1 030	0.00%	GBR	
Mike Mellen	4 810	0.01%	USA	d

### Notes

- a) Mr. Stampe and Ms. Tallaksen have limited ownership through Altor Fund IV, which is the wholly owner of Altor Invest 1 AS and Altor Invest 2 AS.  
b) Shares held by Gross Management AS, wholly owned by Mr. Rødland.  
c) Shares held by Eng Invest AS, wholly owned by Mr. Eng.  
d) Shares held by Spectrum ASA on behalf of Mr. Mellen.



# NOTE 14 Mortgages

## Bank facilities with Danske Bank

### Revolving credit facility (RCF)

As of 31 December 2018 Spectrum ASA had a fully utilized credit facility of USD 21.1 million. USD 13.1 million is classified as long term interest bearing debt in the financial statements. USD 8.0 million is due within 12 months and is classified as short term interest bearing debt in the financial statements.

The covenants as of 31 December 2018

- Equity ratio (excl. Goodwill) > 40.0%
- NIBD / 12 months EBITDA less Capex (excl. Fugro acquisition) < 1.5
- Aggregate amount of Cash held by the Group > USD 2.0 million
- Sum of relevant trade receivables and cash > USD 12.0 million

Covenants are measured using the Alternative Performance Measurements (APM).  
All covenants were well covered as of 31 December 2018.

### Overdraft facility

In Q3 2018 Spectrum secured a new overdraft facility of up to USD 30.0 million. As of 31 December 2018 Spectrum had utilized USD 10.0 million of the overdraft facility. The facility is classified as short term interest bearing debt in the financial statements.

See note 4, 18 and 19 for further details.

# Note 15 Earnings per share

Basic earnings per share is calculated by dividing the profit or loss for the year attributable to equity holders of the Company by the weighted average number of shares outstanding during the period of trading.

Diluted earnings per share is calculated by dividing the net profit attributable to equity holders of the company by the weighted average number of shares outstanding during the year adding the weighted average number of shares that would be issued on conversion of all the dilutive instruments into shares.

	Spectrum Group	
	2017	2018
Profit attributed to ordinary equity holders of the Company (USD 1 000)	(26 843)	18 905
Weighted average number of shares	54 260 062	54 558 648
Effect of dilutions:		
Share options	4 819 685	4 576 647
<b>Weighted average numbers of ordinary shares adjusted for the effect of dilution</b>	<b>59 079 747</b>	<b>59 135 295</b>
Earnings per share (USD)	(0.49)	0.35
Fully diluted earnings per share (USD)	(0.49)	0.32

There has been no other transactions involving ordinary shares or potential ordinary shares between the reporting date and the date of these financial statements.

## NOTE 16 Commitments

Spectrum has the following non-cancellable lease commitments for premises and equipment.

Spectrum ASA			Spectrum Group	
2017	2018		2017	2018
145	152	in less than one year	1 959	2 017
24	724	in more than one year and less than five years	5 337	6 073
-	31	in more than five years	1 721	969

### Rent

Rent mainly relates to rent of premises in countries where Spectrum has operations. The total annual rent for all premises was USD 2.1 million in 2018 (2017: USD 1.9 million). The future obligations related to payments for premises are included in the table above.

## NOTE 17 Related parties

The Spectrum Group consider all group companies, management and Board members as related parties. See note 5 for remuneration to management and note 13 for shareholders information.

No further material transactions took place during 2018 with related parties other than those described below. All transactions with associates were unsecured and at an arms-length basis.

	Spectrum ASA 2018				Long-term amounts owed by (owed to) subsidiaries	Short-term amounts owed by (owed to) subsidiaries
	Sales to subsidiaries	Costs from subsidiaries	Interest charges to subsidiaries	Interest charges from subsidiaries		
Spectrum Geo Ltd	903	(1 694)	-	(952)	-	(28 648)*
Spectrum Geo Inc	3 791	(899)	1 884	-	-	39 706
Spectrum Geo Pty Ltd	12	-	2 477	-	-	25 439
Spectrum Geo Pte Ltd	-	(143)	-	(16)	-	(817)
Spectrum Geo do Brasil	1 948	-	1 921	-	13 720	5 572
Spectrum Geo AS	348	-	-	(869)	-	(25 975)*
Spectrum Geo GmbH	-	-	-	(194)	-	1
Spectrum Geo CH AS	7	-	-	(7)	-	(4 506)
Spectrum Geo Australia Pty Ltd	403	-	-	(739)	-	-
Spectrum Geo S.A. de C.V.	13	-	788	-	-	9 783
Carmot Seismic AS	161	-	127	-	-	(867)
Carmot Processing AS	-	-	-	-	-	(4)
Capitalized group expenses	-	958	-	-	-	-
<b>Total</b>	<b>7 586</b>	<b>(1 779)</b>	<b>7 197</b>	<b>(2 776)</b>	<b>13 720</b>	<b>19 685</b>

Spectrum ASA 2017						
	Sales to subsidiaries	Costs from subsidiaries	Interest charges to subsidiaries	Interest charges from subsidiaries	Long-term amounts owed by (owed to) subsidiaries	Short-term amounts owed by (owed to) subsidiaries
Spectrum Geo Ltd	1 520	(3 234)	-	(1 014)	-	(30 536)*
Spectrum Geo Inc	7 183	(1 313)	1 285	-	-	36 471
Spectrum Geo Pty Ltd	-	(11)	1 904	-	-	53 072
Spectrum Geo Pte Ltd	-	-	10	-	-	(283)
Spectrum Geo do Brasil	491	-	2 399	-	17 220	4 773
Spectrum Geo AS	315	-	12	(297)	-	(13 703)*
Spectrum Geo GmbH	23	-	-	(150)	-	(4 228)
Spectrum Geo Australia Pty Ltd	298	-	-	(332)	-	(16 818)
Spectrum Geo S.A. de C.V.	1	-	274	-	-	(8 171)
Carmot Seismic AS	264	-	212	-	-	1 835
Carmot Processing AS	-	-	-	-	-	(4)
Capitalized group expenses	-	2 029	-	-	-	-
<b>Total</b>	<b>10 095</b>	<b>(2 529)</b>	<b>6 095</b>	<b>(1 793)</b>	<b>17 220</b>	<b>22 409</b>

\* Joint intra-group Cash Pool facility. An intra-group claim arises between the owner of the Cash Pool, Spectrum ASA, and the company participating in the Cash Pool, Spectrum Geo Ltd and Spectrum Geo AS. The net Cash Pool balance is included in Spectrum ASA's statement of financial position.

In Spectrum ASA costs from subsidiaries are mainly data processing done in Spectrum Geo Ltd and Spectrum Geo Inc for the Multi-Client library owned by Spectrum ASA, and commissions for sales of Multi-Client data from the library owned by Spectrum ASA. Sales to subsidiaries are mainly commissions for sales of Multi-Client data from libraries owned by subsidiaries made by Spectrum ASA, and management fees charged for services provided.

#### Transactions with joint ventures

Spectrum ASA			Spectrum Group	
2017	2018		2017	2018
-	-	<b>Spectrum Geopex</b>		
-	-	Sales to	189	160
-	-	Sales from	1 031	1 335
-	-	Amounts owed	(313)	(68)

## NOTE 18 Long term liabilities

### Long term interest bearing debt

Spectrum ASA			Spectrum Group	
2017	2018		2017	2018
23 100	13 100	Revolving credit facility *	23 100	13 100
-	-	Long term leasing liabilities	338	124
23 100	13 100	<b>Total</b>	<b>23 438</b>	<b>13 224</b>

\* See note 14.

### Finance leases

Spectrum ASA			Spectrum Group	
2017	2018		2017	2018
		<b>ANALYSIS OF PRESENT VALUE PAYMENTS:</b>		
-	-	In less than one year	376	193
-	-	In more than one and less than five years	338	124
-	-	In more than five years	-	-
-	-	<b>Present value of payments</b>	<b>714</b>	<b>317</b>
		<b>CARRYING VALUE OF LEASED ASSETS:</b>		
-	-	Machinery & equipment	835	408
-	-	Software	76	-
-	-	Fixtures, fittings and office equipment	-	-
-	-	<b>Total</b>	<b>911</b>	<b>408</b>

Financial leasing commitments due in less than one year are classified as short term interest bearing debt, see note 19.

The leasing commitments is related to leasing of equipment and software in the subsidiary Spectrum Geo Ltd. See note 9 for finance lease expense.

### Other long term liabilities

Other long term liabilities consists of operating liabilities with no contractual obligation to settle within the next 12 months.

## Changes in liabilities arising from financing activities 2018

Spectrum ASA								
	1 January 2018	Reclas- sifications	Accrued interest	Payments	Foreign exchange movement	New leases	New loan	31 December 2018
Long term interest bearing debt	23 100	(10 000)	-	-	-	-	-	13 100
Short term interest bearing debt	2 026	10 000	1 338	(5 364)	-	-	10 000	18 000
<b>Total liabilities from financing activities</b>	<b>25 126</b>	<b>-</b>	<b>1 338</b>	<b>(5 364)</b>	<b>-</b>	<b>-</b>	<b>10 000</b>	<b>31 100</b>

Spectrum Group								
	1 January 2018	Reclas- sifications	Accrued interest	Payments	Foreign exchange movement	New leases	New loan	31 December 2018
Long term interest bearing debt	23 100	(10 000)	-	-	-	-	-	13 100
Short term interest bearing debt	2 026	10 000	1 338	(5 364)	-	-	10 000	18 000
Long term leasing liabilities	338	(214)	-	-	-	-	-	124
Short term leasing liabilities	376	214	33	(363)	(67)	-	-	193
<b>Total liabilities from financing activities</b>	<b>25 840</b>	<b>-</b>	<b>1 371</b>	<b>(5 727)</b>	<b>(67)</b>	<b>-</b>	<b>10 000</b>	<b>31 417</b>

## Changes in liabilities arising from financing activities 2017

Spectrum ASA								
	1 January 2017	Reclas- sifications	Accrued interest	Payments	Foreign exchange movement	New leases	New loan	31 December 2017
Long term interest bearing debt	-	22 556	-	-	544	-	-	23 100
Short term interest bearing debt	42 556	(22 556)	1 565	(21 565)	-	-	2 026	2 026
<b>Total liabilities from financing activities</b>	<b>42 556</b>	<b>-</b>	<b>1 565</b>	<b>(21 565)</b>	<b>544</b>	<b>-</b>	<b>2 026</b>	<b>25 126</b>

Spectrum Group								
	1 January 2017	Reclas- sifications	Accrued interest	Payments	Foreign exchange movement	New leases	New loan	31 December 2017
Long term interest bearing debt	-	22 556	-	-	544	-	-	23 100
Short term interest bearing debt	42 556	(22 556)	1 565	(21 565)	-	-	2 026	2 026
Long term leasing liabilities	200	(271)	-	-	26	383	-	338
Short term leasing liabilities	494	271	-	(518)	32	96	-	375
<b>Total liabilities from financing activities</b>	<b>43 250</b>	<b>-</b>	<b>1 565</b>	<b>(22 083)</b>	<b>602</b>	<b>479</b>	<b>2 026</b>	<b>25 839</b>



## NOTE 19 Short term liabilities

### Short term interest bearing debt

Spectrum ASA			Spectrum Group	
2017	2018		2017	2018
-	8 000	Revolving credit facility *	-	8 000
2 026	10 000	Overdraft facility	2 026	10 000
-	-	Leasing liabilities	376	193
<b>2 026</b>	<b>18 000</b>	<b>Total</b>	<b>2 402</b>	<b>18 193</b>

\* See note 14. As of 31 December 2018 Spectrum had a RCF of USD 21.1 million. USD 8.0 million is due within 12 months and is classified as short term interest bearing debt in the financial statements.

### Other short term liabilities

Spectrum ASA			Spectrum Group	
2017	2018		2017	2018
103	21	Deferred income	892	16 306
433	9 307	Accrued expenses	33 761	13 953
1 414	2 883	Revenue share	10 114	23 570
292	1 067	Other	2 015	2 949
<b>2 242</b>	<b>13 278</b>	<b>Total</b>	<b>46 782</b>	<b>56 778</b>

Operating liabilities with no contractual obligation to settle within the next 12 months have been classified as other long term liabilities, see note 18.

## NOTE 20 Subsidiaries and joint ventures

Spectrum ASA is the ultimate parent company of all Spectrum Group subsidiaries.

Company and country of incorporation	Parent Company	Relation and shareholding
Spectrum Geo Ltd (UK)	Spectrum ASA	Subsidiary - 100%
Spectrum Geo Inc (USA)	Spectrum Geo Ltd	Subsidiary - 100%
Spectrum Geo Pte Ltd (Singapore)	Spectrum ASA	Subsidiary - 100%
Spectrum Geo do Brasil Servicos Geofisicos LTDA (Brazil)	Spectrum ASA	Subsidiary - 100%
Spectrum Geo Pty Ltd (Australia)	Spectrum ASA	Subsidiary - 100%
Spectrum Pty Ltd (Australia)	Spectrum Geo Pty Ltd	Subsidiary - 100%
Spectrum Geo GmbH (Switzerland)	Spectrum ASA	Subsidiary - 100%
Spectrum Geo CH AS (Norway)	Spectrum Geo GmbH	Subsidiary - 100%
Spectrum Geo S.A. de C.V. (Mexico)	Spectrum ASA	Subsidiary - 100%
Spectrum Geo Panama LLC (Panama)	Spectrum ASA	Subsidiary - 100%
Spectrum Geo AS (Norway)	Spectrum ASA	Subsidiary - 100%
Carmot Seismic AS (Norway)	Spectrum ASA	Subsidiary - 100%
Carmot Processing AS (Norway)*	Spectrum ASA	Subsidiary - 100%
Spectrum-Geopex Egypt Ltd (Egypt)	N/A	Joint venture - 50%
Geo Bridge Pte Ltd (Singapore)*	N/A	Joint venture - 50%

\* The company is dormant

### Joint ventures:

Spectrum holds a 50% interest in Spectrum-Geopex Egypt Ltd and the Group's share of the result is shown under result from joints ventures in the statement of comprehensive income.

	Spectrum-Geopex Egypt	
	2017	2018
<b>Joint Venture Statement of Financial Position</b>		
Current assets	696	604
Non-current assets	62	118
Current liabilities	(260)	(32)
<b>Equity</b>	<b>498</b>	<b>690</b>
<b>Joint Venture Revenue and Profit</b>		
Revenue	1 412	1 390
Other expenses	(1 576)	(1 198)
<b>Profit / (loss) of Joint Venture</b>	<b>(164)</b>	<b>192</b>
<b>Share of Profit / (loss) of Joint Venture</b>	<b>(82)</b>	<b>96</b>

**Joint operation**

Spectrum has several Multi-Client projects in partnership with other parties as joint operations. A joint operation is an arrangement where Spectrum with joint control has rights to the assets and obligations for liabilities of the arrangement. Proportionate share of each of the assets, liabilities, income and expenses of the joint venture is combined with similar items, line by line, in the consolidated financial statements. The partners in the joint operations are vessel providers and other seismic companies.

	Spectrum Group	
	2017	2018
<b>Share in the joint operations</b>		
Net revenues	35 305	69 716
Amortization	(32 914)	(36 937)
Impairment	(13 000)	-
Net book value of Multi-Client library	78 581	86 356

## NOTE 21 Significant transactions

*PIS/COFINS tax credit filing in Brazil*

Spectrum was in 2016 able to file credits for certain transaction taxes in Brazil (PIS/COFINS). It had previously not been clear how to treat PIS/COFINS on investments, and whether the costs meet the set requirements for credits. The estimates for any PIS/COFINS recovery has also been considered too uncertain for recognition. As such Spectrum has treated the taxes as part of the investments. After a change in the legislation and developed practice regarding credits on PIS/COFINS on investments in Brazil, Spectrum was able to file credits for the taxes on the investments from 2012-2016. As the taxes have been included in the investments and to a large degree been amortized, this increase was treated as other revenue. A total other revenue of USD 13.1 million was recognized in 2016 based on the tax filings. Starting 1 January 2017 all investments in Brazil are recognized net of PIS/COFINS taxes.

The tax credit is recognized as Other receivables, and classified as current and non-current based on expected utilization. The credits recognized as current other receivables is expected to be utilized within the next 12 months. However, new credits will arise through the year, and as such the total Brazilian tax credit is not expected to be fully utilized even if the credits recognized in the balance sheet as of 31 December 2018 are utilized. The total Brazilian tax credit also includes tax credits not related to the 2012-2016 filing of credits related to investments.

	Spectrum Group	
	2017	2018
Non-current other receivables	6 055	6 162
Current other receivables	11 811	9 403
<b>Total Brazilian tax credit</b>	<b>17 866</b>	<b>15 565</b>

## NOTE 22 Fair value measurement

Spectrum uses the following hierarchy for determining and disclosing the fair value of financial instruments by valuation techniques.

Level 1: quoted (unadjusted) prices in active markets for identical assets or liabilities.

Level 2: other techniques for which all inputs that have a significant effect on the recorded fair value are observable, either directly or indirectly.

Level 3: techniques that use inputs that have a significant effect on the recorded fair value that are not based on observable market data.

For financial instruments where the carrying amount is a reasonable approximation of fair value (e.g., accounts receivables, other receivables, accounts payables, interest bearing debt and other liabilities), fair value measurements are not included in the below table. Financial assets measured at fair value amount to USD 62.2 million (2017: USD 65.3 million). Financial liabilities measured at fair value amount to USD 99.5 million (2017: USD 76.9 million). The fair value of the interest bearing debt approximate to the book value of the debt due to the recent utilization of the facilities and the short maturities. The interest bearing debt are measured at amortized cost and amount to USD 31.1 million (2017: USD 25.1 million).

### Quantitative disclosures fair value measurement hierarchy for assets and liabilities as at 31 December 2018, total book value.

Spectrum ASA				Spectrum Group						
Level 1	Level 2	Level 3	Total		Date of valuation	Level 1	Level 2	Level 3	Total	
<b>Long term interest bearing debt</b>										
-	-	-	-	Long term leasing liabilities *	31.12.2018	-	-	124	124	
<b>Short term interest bearing debt</b>										
-	-	-	-	Leasing liabilities *	31.12.2018	-	-	193	193	

During the reporting period ending 31 December 2018, there were no transfers between levels.

### Quantitative disclosures fair value measurement hierarchy for assets and liabilities as at 31 December 2017, total book value.

Spectrum ASA				Spectrum Group						
Level 1	Level 2	Level 3	Total		Date of valuation	Level 1	Level 2	Level 3	Total	
<b>Long term interest bearing debt</b>										
-	-	-	-	Long term leasing liabilities *	31.12.2017	-	-	338	338	
<b>Short term interest bearing debt</b>										
-	-	-	-	Leasing liabilities *	31.12.2017	-	-	376	376	

During the reporting period ending 31 December 2017, there were no transfers between levels.

\* Valuation technique = DCF method

# NOTE 23 Contingent liabilities and provisions

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## Contingent liabilities

### *Brazil service tax dispute*

Spectrum received 30 December 2016 a tax assessment in Brazil for municipal services tax ("ISS") related to the licensing of Multi-Client data. Whether licensing of Multi-Client data is to be considered a service and applicable to ISS tax is a controversial questions, and several different cases related to this topic are currently ongoing in the Brazilian administration and court system.

Spectrum has taken a conservative position on the issue, and has reported and paid ISS tax on revenues with certain exemptions. The total dispute in the assessment received is for BRL 23.5 million (USD 6.7 million). Spectrum disputes the assessment on the basis that ISS is not due on licensing of Multi-Client data, and has also filed a legal action to recover the ISS collected in the past on the licensing of Multi-Client data. Going forward, Spectrum will make ISS deposits relating to future licensing transactions. Spectrum has made deposits in local currency equivalent to USD 1.1 million as of 31 December 2018. Amounts deposited are held in an interest-bearing bank account with Banco do Brasil and will be released to Spectrum if and when a positive final ruling is awarded, which may take several years. The deposit is presented as long-term restricted cash in the statements of financial position.

The view that licensing of Multi-Client data is not to be considered a service has been the outcome in the preliminary rulings made on the matter in Brazil, and is considered to be the most likely outcome. The municipality issued in 2017 an update of the legislation specifying that ISS is due on licensing of Multi-Client data at a reduced rate, which may be considered as an admission that it was not applicable in earlier periods. In combination with the update of the legislation an amnesty program was also available, in which ISS assessments claimed by the municipality could be settled at a discounted rate. Spectrum did not accept the terms of the amnesty, and continues both to dispute the assessment and the legal claim to recover the ISS collected in the past on the licensing of Multi-Client data.

Spectrum considers it more likely than not that this contingency will be resolved in its favour, and no provision is recognized for any portion of the exposure. The ruling, both of the assessment and of the counterclaim, may take several years.

# NOTE 24 Subsequent events

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## Argentine Colorado Basin Gains New Multi-Client 2D Seismic Survey

On 20 February 2019, Spectrum commenced a new 20,000 km 2D survey in Colorado and Salado basin offshore Argentina. This new program ties with Spectrum's existing 35,000 km survey that was acquired in 2017 for the ongoing first offshore licensing round. The survey is done in cooperation with BGP utilizing the vessel BGP Pioneer. Data is being acquired with a 12 km streamer with continuous recording to image deep reflection and high fold data. This will support full interpretation from Moho to water bottom. The data will be reprocessed with PSTM, PSDM and Broadband products with first deliveries in Q2 2019.



# Alternative Performance Measures (APMs)

Alternative performance measures (financial performance measures not within the IFRS framework), are used by the Group to provide supplemental information. Financial APMs are intended to enhance comparability from period to period. The APMs are also used internally for management reporting. These measures are adjusted IFRS measures defined, calculated and used in a consistent and transparent manner. Financial APMs should not be considered as a substitute for measures of performance in accordance with the IFRS.

IFRS 15 Revenue from Contracts with customer is effective from 1 January 2018. Under the new standard all revenue will be recognized upon delivery of data while revenue previously were recognized based on the percentage of completion (POC) of the projects. Spectrum will for reporting use percentage of completion as it is a more fair view of the revenue when it coincides with the progression of the projects, the resources applied and the value created. The new standard affects several measurements in the financial statements, and Spectrum will use APM's for these measurements to reflect revenue recognized on percentage of completion basis.

## Deferred Prefunding

Deferred prefunding is POC applied to the value of existing signed contracts related to products that are not ready for delivery, and where the revenue has not been recognized under IFRS 15.

	Spectrum Group
	2018
Deferred prefunding	15 281
of which invoiced to customers	13 231
of which un-invoiced to customers	2 050
Recognized prefunding	35 482
Increase in deferred prefunding	30 439

Recognized prefunding is the amount that has been recognized as early sale based on deliveries and not on production in the period. Increase in deferred prefunding is the result of production (increased POC) in the period and new sales contract for products not ready for delivery. Prior to the IFRS 15 standard taking effect this was presented as early sale in the Profit/Loss statement.

## Net Segment Revenue

Net operating revenue adjusted for recognized prefunding and increase in deferred prefunding. The adjusted revenue reflects the value of the production and the sales contracts executed in the period.

	Spectrum Group
	2018
Early Sale	35 482
Less recognized prefunding	(35 482)
Added increase in deferred revenue	30 439
<b>Segment Early Sale</b>	<b>30 439</b>
Segment Early Sale	30 439
Late Sale	103 210
Other revenue	105
<b>Segment Revenue</b>	<b>133 754</b>

**Segment amortization**

Amortizations adjusted for amortizations on the Segment Early Sale. On-going projects amortized based on prefunding vs. estimated sales potential. As the early sale is adjusted this will affect the amortization recognized in the period.

	Spectrum Group
	2018
Amortization	(68 544)
Amortization on adjustment of segment early sale	3 313
<b>Segment amortization</b>	<b>(65 232)</b>

**Segment EBIT**

EBIT using segment revenue and segment amortization.

	Spectrum Group
	2018
EBIT	32 337
Less operating revenue	(138 793)
Added segment revenue	133 754
Less amortization	68 544
Added segment amortization	(65 232)
<b>Segment EBIT</b>	<b>30 612</b>

**Segment EBITDA**

Segment EBIT with depreciation, segment amortization and impairments added.

	Spectrum Group
	2018
Segment EBIT	30 612
Added segment amortization	65 232
Added depreciation	1 330
Added impairment	-
<b>Segment EBIT</b>	<b>97 173</b>

**Segment Net Profit / (loss)**

Segment EBIT less net financial items and tax cost.

	Spectrum Group
	2018
Segment EBIT	30 612
Net financial items	(7 071)
Tax	(6 361)
<b>Segment Net profit / (loss)</b>	<b>17 180</b>

**Segment Multi-Client Library**

Multi-Client library using the segment amortization.

	Spectrum Group
	2018
Multi-Client library	162 102
Added restated amortizations in prior periods	(8 723)
Less amortization in the period	68 544
Added segment amortization in the period	(65 232)
<b>Segment Multi-Client Library</b>	<b>156 693</b>

### Segment Non-Current Assets

Non-current assets using Segment Multi-Client Library

	Spectrum Group
	2018
Non-current assets	198 454
Less Multi-Client library	(162 102)
Added Segment Multi-Client library	156 693
<b>Segment Non-Current Assets</b>	<b>193 044</b>

### Segment Accrued Revenue

Accrued Revenue adjusted for deferred prefunding. Un-invoiced prefunding is under IFRS 15 not recognized.

	Spectrum Group
	2018
Accrued Revenue	13 931
Un-invoiced prefunding in deferred revenue	2 050
<b>Segment Accrued Revenue</b>	<b>15 981</b>

### Segment Current Assets Non-Cash

Current assets using Segment Accrued Revenue.

	Spectrum Group
	2018
Current Assets Non-Cash	76 173
Less Accrued Revenue	(13 931)
Added Segment Accrued Revenue	15 981
<b>Segment Current Assets Non-Cash</b>	<b>78 224</b>

### Segment Other Short Term Liabilities

Other Short Term Liabilities adjusted for deferred prefunding invoiced to customers. Invoiced prefunding is under IFRS 15 included in other current liabilities as prepayments from customers.

	Spectrum Group
	2018
Other Short Term Liabilities	56 778
Invoiced prefunding in deferred revenue	(13 234)
<b>Segment Other Current Liabilities</b>	<b>43 544</b>

### Segment Current Liabilities

Current liabilities adjusted for Segment Other Current Liabilities.

	Spectrum Group
	2018
Current Liabilities	125 777
Less Other Short Term Liabilities	(56 778)
Added Segment Other Current Liabilities	43 544
<b>Segment Current Liabilities</b>	<b>112 543</b>

**Segment equity**

Equity using segment revenue and segment amortization.

	Spectrum Group
	2018
Equity	165 735
Added IFRS 15 adjustment in prior periods	11 600
Less operating revenue in the period	(138 793)
Added segment revenue in the period	133 754
Less amortization in the period	68 544
Added segment amortization in the period	(65 232)
<b>Segment Equity</b>	<b>175 610</b>

**Segment Net cash flow from operating activities**

Cash flow using the segment revenue, segment amortization and segment other current liabilities will impact profit before tax, amortization and working capital changes, but will have no impact on the total net cash flow from operating activities.

	Spectrum Group
	2018
Profit before tax	25 266
Less operating revenue	(138 793)
Added segment revenue	133 754
Less amortization	68 544
Added segment amortization	(65 232)
<b>Segment Profit before tax</b>	<b>23 540</b>
Depreciation, amortization and impairment	69 875
Less amortization	(68 544)
Added segment amortization	65 232
<b>Segment depreciation, amortization and impairment</b>	<b>66 562</b>
Working capital changes	(21 072)
Adjusted for change in deferred prefunding	5 042
<b>Segment working capital changes</b>	<b>(16 030)</b>

**Organic Multi-Client investment**

	Spectrum Group	
	2017	2018
Net Multi-Client additions	82 359	52 516
<b>Multi-Client investment</b>	<b>82 359</b>	<b>52 516</b>
Library acquisitions	-	-
<b>Organic Multi-Client investment</b>	<b>82 359</b>	<b>52 516</b>

**Multi-Client investment ratio**

	Spectrum Group	
	2017	2018
Multi-Client investment	82 359	52 516
Operational cash flow	99 400	74 083
<b>Multi-Client investment ratio</b>	<b>83%</b>	<b>71%</b>

## INDEPENDENT AUDITOR'S REPORT

To the Annual Shareholders' Meeting of Spectrum ASA

### Report on the audit of the financial statements

#### Opinion

We have audited the financial statements of Spectrum ASA, which comprise the financial statements for the parent company and the Group. The financial statements for the parent company and the Group comprise the statements of financial position as at 31 December 2018, the statements of comprehensive income, cash flows and changes in equity for the year then ended and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the financial statements have been prepared in accordance with laws and regulations and present fairly, in all material respects, the financial position of the Company and the Group as at 31 December 2018 and their financial performance and cash flows for the year then ended in accordance with International Financial Reporting Standards as adopted by the EU.

#### Basis for opinion

We conducted our audit in accordance with laws, regulations, and auditing standards and practices generally accepted in Norway, including International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the financial statements* section of our report. We are independent of the Company and the Group in accordance with the ethical requirements that are relevant to our audit of the financial statements in Norway, and we have fulfilled our ethical responsibilities as required by law and regulations. We have also complied with our other ethical obligations in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

#### Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements for 2018. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. For each matter below, our description of how our audit addressed the matter is provided in that context.

We have fulfilled the responsibilities described in the *Auditor's responsibilities for the audit of the financial statements* section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the financial statements.

#### Impairment assessment of Multi-Client library

Multi-Client library accounts for USD 162 102 thousand and USD 21 991 thousand for the Group and for the parent company respectively. The Company performed an impairment evaluation and determined the value in use to assess impairment. The impairment evaluation of Spectrums' Multi-Client library is a key audit matter due to size of the Multi-Client library and the significant management judgment involved related to the future market conditions. In 2018, no impairment charges for the Group or for the parent company were recognized.

We evaluated management's assessment of impairment indicators for the Multi-Client library. Our audit procedures included inquiries of management, analyses and evaluation of historical accuracy of prior year's forecasts. We further evaluated the assumptions used in the sales forecasts provided by internal

sales representatives, based on developments and expectations in the seismic industry about the future oil prices, licensing rounds, farm-ins and exploration activities. Furthermore, we evaluated the valuation methodology and the discount rate applied in the value in use model. We also tested the mathematical accuracy of the value in use calculations and performed sensitivity analysis of key assumptions. Further we assessed the Company's disclosures regarding those assumptions and the impairment losses of Multi-Client libraries recorded, which are disclosed in notes 1 – "Accounting Policies" and 10 – "Non-Current Intangible and Tangible Assets (Fixed Assets)" of the consolidated financial statements.

#### **Revenue recognition from sale of Multi-Client pre-funding licenses**

The Group adopted IFRS 15 – Revenue from Contracts with Customers from 1 January 2018 using the modified retrospective approach. Management assessed its different customer contracts and determined the performance obligations and the transaction price relating to the services provided. This evaluation concluded that revenue recognition from Multi-Client pre-funding licenses was impacted, while other revenue contracts are recognized in the same manner as prior to the adoption of IFRS 15. For Multi-Client pre-funding contracts, the performance obligation was considered to be a "right to use" license, and revenue is recognized when the customer is granted access to the finished data or when delivery of the finished data has occurred. Multiclient pre-funding revenues were a key audit matter due to the cumulative effect at the date of initial application of IFRS 15 amounting to USD 9 050 thousand after taxes and the significant change in the timing of revenue recognition.

We obtained an understanding of the IFRS 15 adoption process and evaluated the accounting principles applied by management. We tested a sample of contracts from sale of Multi-Client pre-funding licenses by agreeing the amounts in the analysis to the prior year's audited consolidated financial statements to assess the cumulative effect. For a sample for revenue recognized in 2018, we obtained evidence that the performance obligation had been satisfied.

We refer to notes 1 and 3 of the consolidated financial statements.

#### **Other information**

Other information consists of the information included in the Company's annual report other than the financial statements and our auditor's report thereon. The Board of Directors and Chief Executive Officer (management) are responsible for the other information. Our opinion on the financial statements does not cover the other information, and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information, and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

#### **Responsibilities of management for the financial statements**

Management is responsible for the preparation and fair presentation of the financial statements in accordance with International Financial Reporting Standards as adopted by the EU, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting, unless management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

#### **Auditor's responsibilities for the audit of the financial statements**

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an



audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with law, regulations and generally accepted auditing principles in Norway, including ISAs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- ▶ identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;
- ▶ obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control;
- ▶ evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management;
- ▶ conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern;
- ▶ evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- ▶ obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

## **Report on other legal and regulatory requirements**

### **Opinion on the Board of Directors' report and on the statements on corporate governance and corporate social responsibility**

Based on our audit of the financial statements as described above, it is our opinion that the information presented in the Board of Directors' report and in the statements on corporate governance and corporate social responsibility concerning the financial statements, the going concern assumption, and proposal for the allocation of the result is consistent with the financial statements and complies with the law and regulations.

### Opinion on registration and documentation

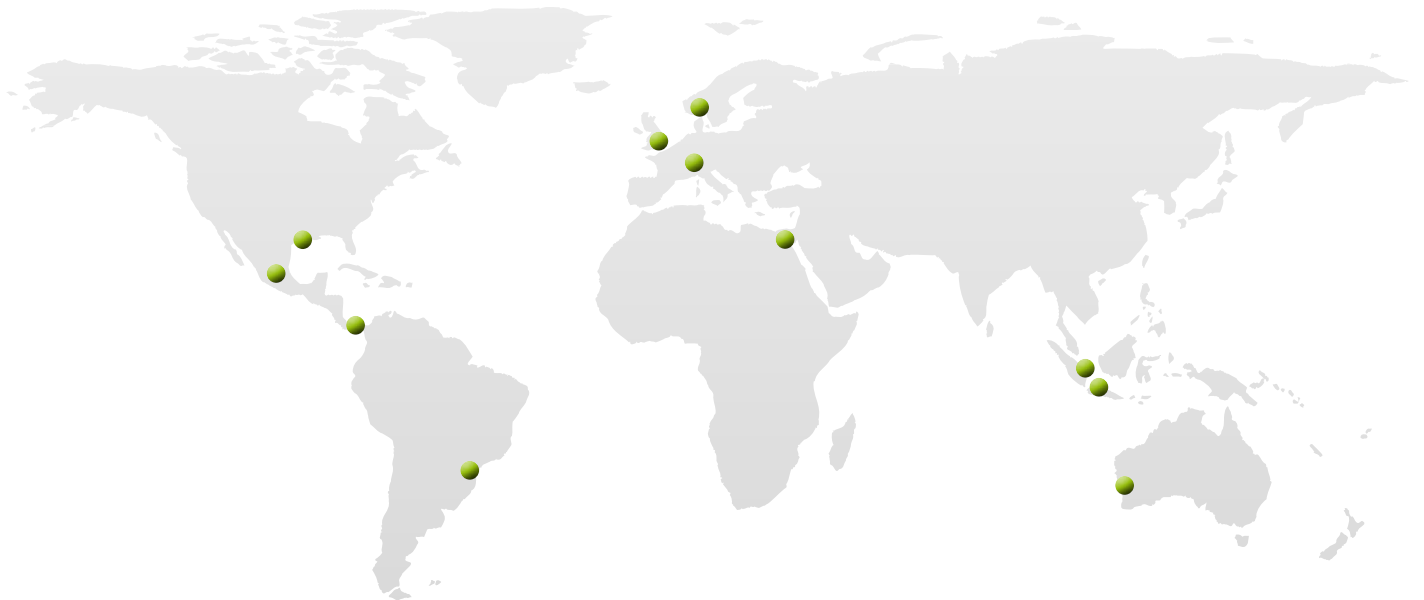
Based on our audit of the financial statements as described above, and control procedures we have considered necessary in accordance with the International Standard on Assurance Engagements (ISAE) 3000, *Assurance Engagements Other than Audits or Reviews of Historical Financial Information*, it is our opinion that management has fulfilled its duty to ensure that the Company's accounting information is properly recorded and documented as required by law and bookkeeping standards and practices accepted in Norway.

Oslo, 11 April 2019  
ERNST & YOUNG AS



Jon-Michael Grefsrød  
State Authorised Public Accountant (Norway)

## Subsidiaries and joint ventures



### EUROPE / MIDDLE EAST / AFRICA

Company	Country	City	Address	Telephone	Fax
Spectrum ASA	Norway	Oslo	Karenslyst Allé 11, N-0278 Oslo, NORWAY	+47 23 01 49 60	
Spectrum Geo AS	Norway	Oslo	Karenslyst Allé 11, N-0278 Oslo, NORWAY	+47 23 01 49 60	
Carmot Seismic AS	Norway	Oslo	Karenslyst Allé 11, N-0278 Oslo, NORWAY	+47 23 01 49 60	
Spectrum Geo CH AS	Norway	Oslo	Karenslyst Allé 11, N-0278 Oslo, NORWAY	+47 23 01 49 60	
Spectrum Geo Ltd	United Kingdom	Woking	Dukes Court, Duke Street, Woking, GU21 5BH, UK	+44 (0) 1483 730201	+44 (0) 1483 762620
Spectrum Geo GmbH	Switzerland	Zug	c/o Jan Nikolaisen, Baarerstrasse 80, 6300 Zug, SWITZERLAND	+47 23 01 49 60	+47 23 01 49 61
Spectrum Geopex Egypt Ltd Egypt (Joint Venture)		Cairo	Spectrum Geopex Building, Nasr City Public Free Zone, Block 1-A, Cairo, EGYPT	+2 02 2270 4341	+2 02 2270 6479

### AMERICA

Company	Country	City	Address	Telephone	Fax
Spectrum Geo Inc.	USA	Houston	11750 Katy Freeway, Suite 900, Houston, Texas 77079, USA	+1 281 647 0602	+1 281 589 8111
Spectrum Geo do Brasil	Brazil	Rio De Janeiro	Av. Presidente Wilson nº 231 Sala 937, CEP 20030-021 Centro, Rio de Janeiro, BRAZIL	+55 21 3578 5547	
Serviços Geofísicos LTDA					
Spectrum Geo Panama LLC Panama		Panama City	Piso 23 MMG Tower, Avenida Paseo del Mar, Costa del Este, Corregimiento de Parque Lefevre, Distrito de Panamá, Provincia de Panamá, 265 7636, PANAMA	+1 281 647 0602	+1 281 589 8111
Spectrum Geo S.A. de C.V.	Mexico	Mexico City	Av. Paseo de las Palmas, No.820 Desp. 604., Lomas de Chapultepec C.P., 11000 D.F., MEXICO	+52 55 5202 3600	

### ASIA / AUSTRALIA

Company	Country	City	Address	Telephone	Fax
Spectrum Geo Pty Ltd	Australia	Perth	Level 3, 55 St Georges Terrace, Perth, 6000, AUSTRALIA	+61 8 9322 3700	+61 8 9322 1844
Spectrum Pty Ltd	Australia	Perth	Level 3, 55 St Georges Terrace, Perth, 6000, AUSTRALIA	+61 8 9322 3700	+61 8 9322 1844
Spectrum Geo Pte Ltd	Singapore	Singapore	Level 28 Gateway East, 152 Beach Road, 189721, SINGAPORE	+65 6827 9773	+65 6295 2567
Spectrum Jakarta	Indonesia	Jakarta	PT Geoxindo Pratama (Agent), Jl. Kramat No. 40, Cilandak, Timur, Jakarta, Selatan 12560, INDONESIA	+62 21 788 39751	



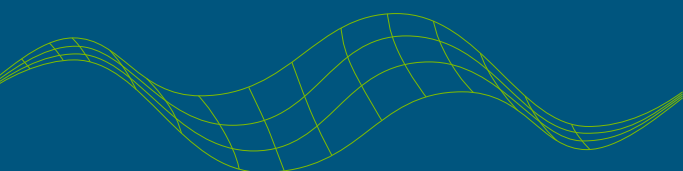


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