Due Diligence and Valuation Report

EURONEXT MAUREL & PROM

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Fair share value bracket:	€4.6 - €5.6
Share Price (25th January 2019):	€3.50

Company:	Etablissements Maurel & Prom SA
Ticker:	EPA: MAU
Headquarters:	Paris, France
CEO:	Michel Hochard
Website:	https://www.maureletprom.fr/en/

Analyst

Ankit Gupta
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Market Data[i]

52-Week Range:	€2.91 – €6.51
Average Daily Volume:	171,749[ii]
Market Cap. on date:	€702.50 M

Fiscal Year (FY): 1st January –31st December

Maurel & Prom ("M&P") is an upstream oil and natural gas company specializing in onshore exploration & production (E&P) of hydrocarbons. The Company generates majority of its revenue through sale of oil and gas.

M&P's stock price has dropped significantly in the recent past and has been volatile, in line with the recent volatility in oil prices. The stock price fell from €6.49 on 9th July 2018 to €3.50 on 25th January 2019.

M&P's business model is to explore, develop and produce hydrocarbon assets. The Company's profitability is highly dependent on its ability to efficiently operate its production assets and create significant value by developing its exploration assets.

M&P had working interest 2P gross reserves of 216 MMboe as on 31st December 2017. A high percentage of these reserves were 1P (approximately 74%). Maurel & Prom's strategy is to diversify its business across products and geographies, to weather the impact of volatile market conditions. The Company has a combination of oil and gas assets in Gabon and Tanzania and generates some cash flows from its drilling activities. Additionally, the dividends paid by Seplat provide the Company with a steady stream of cash flows. The planned acquisitions of two new oil producing assets in Angola and Venezuela will help the Company achieve further diversification.

Arrowhead is initiating its coverage on Maurel & Prom with a fair value bracket of €4.6 – €5.6 based on Discounted Cash Flow Valuation and Company Comparable Valuation.

We are initiating this report at a time when oil prices are highly volatile and have dropped significantly from the highs of 2018. Oil price is the single most important factor contributing to the value of an oil and gas company and hence the decline in oil prices are likely to have a significant impact on the value of Maurel & Prom.

We believe that this decline in oil prices is temporary and, although oil prices are not expected to touch the highs of 2018, they are expected to rise from the current levels in the near future and stabilize in early 2020.

Oil price volatility remains a major risk

Recent volatility in oil prices remains a major risk to Maurel and Prom's business. We estimate the Brent oil prices to average at $61/bbl in 2019, which is in line with EIA's estimates. However, there remains significant uncertainty on oil prices,

See important disclosures on page 39 of this report.

at least in the short run. The market does not seem to have a consensus on the short-term price movements, but several analysts seem to suggest that prices will settle at a slightly higher levels and will continue to rise moderately in the long run. The uncertainty is based on several factors, including demand side dynamics such as slowdown in global trade, largely fueled by political decisions and supply side dynamics like OPEC production and Iran sanctions. For example, the prices were expected to witness an upward trend in November 2018 due to the sanctions on Iran's oil supply, but the prices witnessed a sharp fall instead, due to record production increase from the US and the OPEC countries, majorly Saudi Arabia and Russia, and the US's decision to exempt some of Iran's largest oil purchasing countries from sanctions.

The oil producing countries are trying to stabilize the oil prices and have announced production cuts in 2019. The recent news of Qatar's exit from the 15-member OPEC community in January 2019 is also expected to affect the global oil inventory, which can push the oil prices upwards in the near future.

Acquisitions led growth strategy

Maurel & Prom was acquired by the Pertamina Group in 2017 with the intent to strengthen its upstream business globally. Post the acquisition, Pertamina intends to use M&P as a vehicle for its growth and international development. This has led to M&P having a strategy of aggressive growth through acquisitions.

Two new acquisitions expected to bring further stability to cash flows

In October 2018, M&P announced that it has acquired stakes in two oil producing assets, one in Angola and one in Venezuela. The acquisition of these assets will increase the Company's production capacity by approximately 11,000 boepd.

These two acquisitions are expected to create some value for the Company, but the upside may be limited if the oil prices continue to remain near the current level for a prolonged period. Although the management had considered lower oil prices in their models, the timing of the deal is noteworthy, as it was done at a time when oil prices were fairly high. This would have likely played a role in deal negotiations and the valuation may not have left too much upside for M&P.

However, these deals will lead to portfolio diversification and are expected to bring more stability to revenues.

Past operating experience and capability to deal with uncertainty and complexity

The Company is currently operating in Africa and Latin America. These are some of the most challenging geographies with significant geopolitical risks.

The Company has a history of operating assets in the Congo basin as well. The Company's acquisition of Angola asset in the Congo basin, provides an opportunity to capitalize on its experience and create value in the asset.

M&P's strengths to operate in these challenging geographies creates tremendous opportunities to evaluate assets that are relatively difficult to manage. Such assets are typically available at an attractive price and have significant potential for value creation.

Geopolitical risks continue to weigh on valuation

M&P's business model provides opportunities to create significant value, but at the same time the high geopolitical risks weigh on the valuation.

For example, one of the latest acquisitions is in Venezuela; a country in midst of an economic and political crisis, from where more than 2 million people have fled since 2014. The mass migrations have diminished the workforce, including those working in the oil industry. As a result of this lack of labor and other issues, Venezuela’s oil production has fallen to 1.34 million barrels per day in June 2018, its lowest in more than 70 years.

Future debt service obligations are expected to keep growth in check

Maurel & Prom refinanced its debt in the fourth quarter of 2017. Although the debt terms are favorable, largely due to the undertaking offered by shareholder Pertamina group (PIEP), the leverage of the Company is above-average, with a debt-to-equity ratio of 68%. The current leverage is comfortable if the oil prices rise back to slightly higher levels. However, if the oil prices fall further or remain at current levels for a prolonged period, the Company may find it challenging to service its debt obligations.

This also poses a risk for future growth as inorganic growth may be difficult to achieve. Also, growth from increase in existing production is expected to be limited. Raising additional capital may not be very easy, given the credit tightening and softening global economy.

Having a backing from Pertamina would surely help weather some of these potential issues.

Another silver lining is that weak oil prices may bring down price expectations for some of the sellers in the market and M&P may be able to acquire some of these assets at attractive valuations.

The mandatory minimum cash requirement of $100 million as mentioned in its existing lending agreement would also force M&P to be slightly less aggressive.

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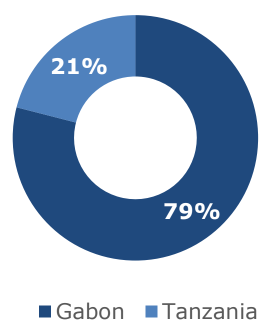
Company Presentation

Maurel & Prom ("M&P" or "the Company") is an upstream oil and natural gas company specializing in onshore Exploration & Production (E&P) of hydrocarbons. The Company is headquartered in Paris, France and is listed on the Euronext Paris. Maurel and Prom Group currently operates production assets in Gabon and Tanzania, and also holds 20.46% stake in Seplat, one of Nigeria's leading operators.

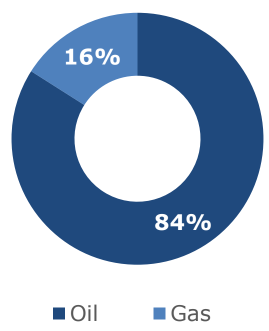
M&P generates business primarily through the exploitation of its two major on-shore assets in Gabon and Tanzania. The asset in Gabon (Ezanga) produces oil, while the asset in Tanzania (Mnazi Bay) produces natural gas. As on 31st December 2017, the Company had Working Interest ("WI") proven and probable (2P) gross reserves of 216 million barrels of oil equivalent ("MMboe") (79% in Gabon and 21% in Tanzania). 74% of these reserves were proven (P1) reserves, amounting to 159.3 MMboe.

The working interest share of production in 2017 was 23,903 barrels of oil equivalent per day ("boepd"). Oil contributed 84% to total working interest share of production with 19,970 barrels of oil per day ("bopd"), while gas contributed the remaining with 23.6 million cubic feet per day ("MMcf/d").

Working Interest 2P Reserves (by Country)



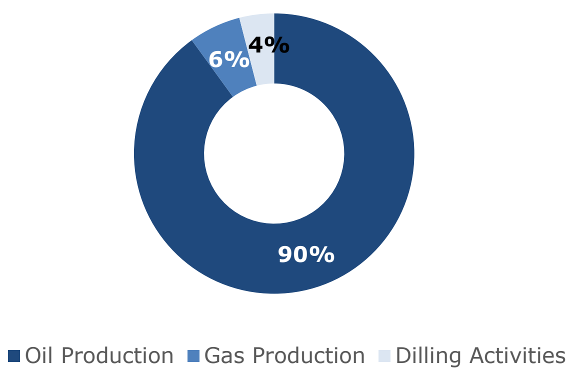
Working Interest 2P Reserves (by Type)



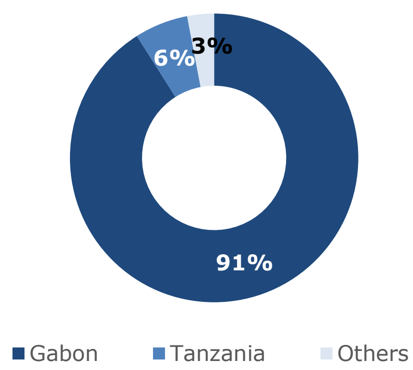
**Reserves were certified by DeGloyer and MacNaughton in Gabon and RPS Energy in Tanzania as on 31st December 2017*

M&P generates a majority of its Revenue from oil in the Gabon region. In 2017, the Company generated 90% of its Revenue from sale of oil, followed by 6% and 4% of Total Revenue respectively from sale of gas and from drilling activities. Geographically, the Company generated 91% of Revenue from oil production in Gabon and 6% of Revenue from gas production in Tanzania. The remaining 3% Revenue was generated from various other geographies.

Sales by Activity



Sales by Geography



Incorporated in 1831, shifted focus to hydrocarbon exploration and production in 1998

Maurel & Prom was incorporated in 1831 as an operator of shipping lines between France and West Africa. In 1998, the Company shifted its focus to exploration and production of hydrocarbons. M&P also expanded its operations to Congo in 1998 and has since expanded to Tanzania, Gabon, Colombia, Venezuela, Peru and Italy. The Company now operates production assets in Gabon and Tanzania and has exploitation assets in Canada, Namibia, Colombia, Nigeria, Italy and France.

Entry into Nigeria through acquisition of 45% stake in Seplat

Maurel & Prom entered Nigeria in 2010 by acquiring a 45% stake in Seplat, a Nigerian oil and gas company. Seplat was subsequently listed simultaneously on the London Stock Exchange and the Nigerian Stock Exchange in April 2014 and raised $500 million (Naira 82.5 billion), valuing it at about $1.9 billion. Currently, M&P's stake in Seplat is 20.46%.

Spinning off the Nigerian business through an IPO of Maurel & Prom Nigeria (MPI)

In December 2011, M&P spun off its Nigerian business through an IPO of Maurel & Prom Nigeria. The rationale behind separating the Nigerian business was to improve visibility on both entities to better value them and enable significant growth. Maurel & Prom Nigeria raised €288 million through the IPO by issuing 115,336,534 shares at the price of €2.08 per share.

Merger and Absorption of MPI

In November 2015, Maurel & Prom announced the merger and absorption of MPI. Operating separately, both the companies had to face a difficult macroeconomic environment following the sudden drop in oil prices. Also, the lack of visibility due to their size limited their access to the best conditions that the financial markets had to offer and restricted their capacity for external growth in a capital-intensive industry. The Company claimed that other reasons for the merger were cost synergies, tax savings and geographical diversification.

Public takeover by the PT Pertamina (Persero)

In 2016, the Pertamina Group bid for the takeover of Maurel & Prom. Pertamina is an integrated oil and gas group that has been operating since 1957 and is wholly owned by the Indonesian government. In 2017, following the result of the public takeover bid, Pertamina acquired a 72.65% in M&P, with the intention of keeping M&P public. M&P was acquired with the intent that the Company will be the vehicle of international development for Pertamina.

Entry into Angola and Venezuela through acquisitions

Maurel & Prom announced the acquisition of stake in two oil producing assets in Angola and Venezuela in October 2018. These acquisitions are in line with the Company's new strategy of acquiring value-creating assets to become the international platform for the development of Pertamina. The acquisition of these assets will increase the Company's production capacity by approximately 11,000 boepd.

Business Model

Maurel & Prom looks to create value by discovering assets that have potential to produce oil and gas and developing these assets to their full potential. Once the asset reaches this stage, the Company monetizes it either by producing and selling hydrocarbons from it or by liquidating it (completely or in part) through a farm-out agreement, straight sale or an IPO.

Exploration & Appraisal	Development	Production	Portfolio Management
1. Permitting 2. Seismic acquisition & Data interpretation 3. In-house exploratory drilling 4. Final investment decision	1. Design & Planning 2. In-house development drilling 3. Delivery	1. Production from the asset 2. Production growth 3. Production optimization to Maximize Value	1. Production optimization and further reserves development 2. Partial or complete monetization by way of: (a) Farm-out (b) Straight sale (c) IPO

Corporate Strategy

Value creation through strategic acquisitions

Maurel & Prom was acquired by Pertamina with the intent to strengthen its upstream business globally. M&P's new growth strategy post the acquisition and refinancing has been to grow via acquisition of new assets and increase production. As part of its external growth value creation strategy, the Company has acquired a share in two new oil producing assets in Angola and Venezuela. The Company's acquisition of Angola asset in the Congo basin, provides an opportunity to capitalize on its experience and create value in the asset.

Value creation through development of exploration assets

M&P has exploration assets in Canada, Namibia, Colombia, Nigeria, Italy and France. The Company plans to develop these assets with the aim to start production or to monetize these assets fully or partially in future. However, the probability of converting these exploration assets into production assets is not very high and the value of these assets, if any, would be far in the future.

Diversified Cash Flows

The Company relies on multiple revenue streams and diversification of cash flows to mitigate some of its business risks. In addition to its existing oil and gas assets in Gabon and Tanzania, the Company is acquiring two new oil producing assets in Angola and Venezuela. This will lead to portfolio diversification which is expected to bring more stability to existing revenues. Additionally, M&P generates some revenue from its drilling activities and from the dividends received from Seplat, which bring in steady cash flows.

Focus on production activities during periods of weak oil prices

In 2014, M&P introduced a strategy to focus its investment efforts on production activities while mothballing its exploration and drilling activities during periods of low oil prices. In the same year, the Company also adopted austerity measures including reducing its production and exploration investments to the Company’s minimum contract commitments.

This strategy was adopted in response to a sharp decline in oil prices and has been regularly used to maintain its cash flows during periods of low oil prices. Adoption of this strategy resulted in the shutdown or definitive closing of activities in Congo, Mozambique, Myanmar, Syria and Peru and in the postponement of the works programs in Canada and Colombia.

News

Completion of acquisition of Shell's stake in the Urdaneta West Field in Venezuela:
20th December 2018

Maurel & Prom announced that the acquisition of Shell's stake of 40% working interest in the Urdaneta West Field in Venezuela has been completed. The total consideration for the acquisition of Shell's stake is €70 million, funded by M&P's existing cash resources. €47 million have been paid at the closing of the transaction and the remaining €23 million is payable in December 2019.

Completion of buyback of deferred payments from Rockover:
17th December 2018

Maurel & Prom announced the launch and subsequent completion of the capital increase reserved for Rockover Energy Limited. Under the Transaction, M&P was to acquire from Rockover the deferred payments held by Rockover in consideration of US$10.75 million to be paid in cash and the issuance of 5,373,209 new shares.

Rockover buyback of deferred payments (Gabon):
7th November 2018

Maurel & Prom announced that it has entered into an agreement with Rockover Energy Limited on 5 November 2018 to acquire the deferred payments owned by Rockover for a consideration of cash and M&P shares to be issued.

Activity and sales for first nine months of 2018:
24th October 2018

Maurel & Prom announced sales of $342 million (€256 million) for the first nine months of 2018, up 19% compared with the same period in 2017.

Announcement of acquisition of AJOCO's 20% in Angola:
23rd October 2018

Maurel & Prom announced the signing of an SPA for the acquisition of AJOCO's 20% interest in two producing and development blocks in shallow waters offshore Angola.

Share sale and purchase agreement has been signed with Shell for stake in Venezuela:
12th October 2018

Maurel & Prom confirmed that it has signed a share sale and purchase agreement with shell for its 40% stake in the Urdaneta West Field in Venezuela. The Urdaneta West Field is a producing asset with large reserves and significant upside potential.

Listing Information

Maurel & Prom, headquartered in Paris, France, is listed on the Euronext Paris Stock Exchange – (Euronext: MAU).

Contacts

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Major Shareholders as on 17th December 2018

Equity Holder	% shareholding
PIEP	70.70%
Public	17.25%
Other Institutional Investors	4.53%
Rockover	2.68%
Other	1.91%
Treasury Shares	2.15%
Employees	0.78%
Total	**100.00%**

Management and Governance

Aussie B. Gautama
(Chairman of Board of Directors)

- Aussie B. Gautama has been the Chairman of Maurel & Prom's Board of Directors since April 2017. He has been an adviser to Pertamina's CEO on Exploration and Production activities since 2015.
- He has more than 35 years of experience in the hydrocarbon sector, 30 of which were with the TOTAL Group, where he worked on various projects in France, Indonesia, Norway, Libya and Nigeria.
- He is a geology graduate from the Bandung Institute of Technology (Indonesia) and an alumnus of schools such as ENSPM and INSEAD.

Michel Hochard
(Chief Executive Officer)

- Michel Hochard serves as the Chief Executive Officer of the Group and the Director of the Seplat's board. From September 2007 to May 2014, he served as the Chief Financial Officer of the Company.
- Michel Hochard's prior work experiences include working as Internal auditor and then head of the Elf Aquitaine Finance Division for Africa and the Middle East. He then became the Finance Director of SNEAP (Société Nationale Elf Aquitaine Production) and Elf Aquitaine Production. He also served as a Deputy Director of Human Resources at Elf E&P and Director of Operations for PriceWaterhouseCoopers BPO.
- He is a graduate from the Commercial Institute of Nancy (ICN) and is also a qualified public accountant.

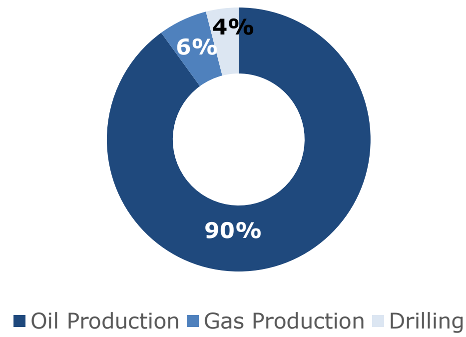
Philippe Corlay
(Chief Operating Officer)

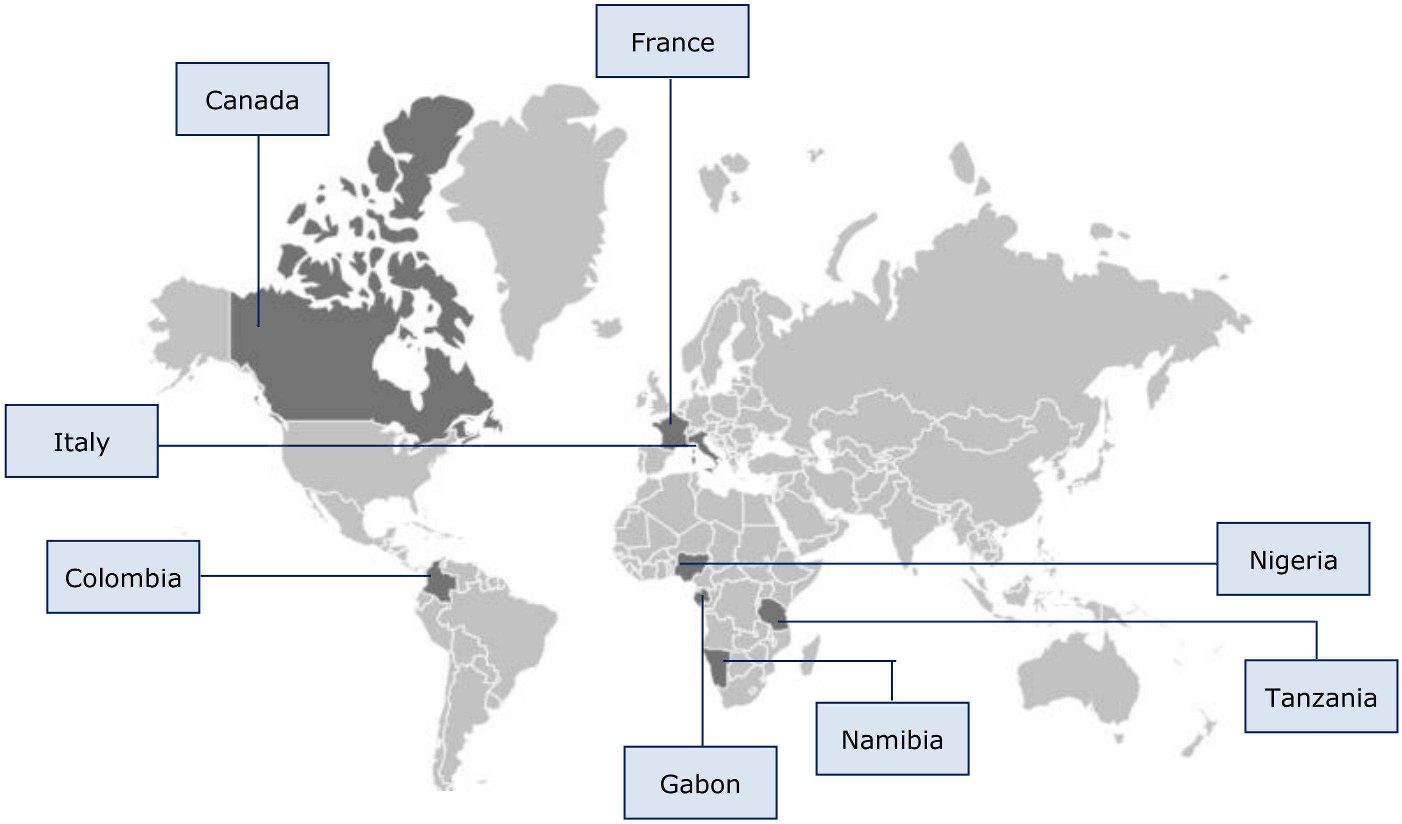
- Philippe Corlay serves as Chief Operating Officer at Maurel & Prom.
- Philippe Corlay began his career in the Deposit Department of Beicip-Franlab. He then joined the French Petroleum Institute, where he became head of the Assisted Recovery Project Hydrocarbons. Mr. Corlay moved on from the French Petroleum Institute in 1998 and served as a Technical Director at Coparex until 2003 at Coparex. He then joined Maurel & Prom as a Production Manager at Maurel & Prom and became the Director of Operations in 2013.
- Mr. Corlay is a graduate from the Hautes Etudes Industrielles in Lille and the School of Petroleum and Engines.

Assets and Projects

Overview

Maurel & Prom's operations comprise of production, exploration and drilling. The Company generates 96% of its revenue from sale of oil and gas and 4% of its revenue from drilling. The Company operates production assets in Gabon and Tanzania and has exploitation assets in Canada, Namibia, Colombia, Nigeria, Italy and France.





Production Assets

Maurel & Prom's two main producing assets are Ezanga and Mnazi Bay. Ezanga is an oil producing asset in Gabon and Mnazi Bay is a gas producing asset in Tanzania. Oil production from Ezanga contributes 84% to the total production. The Company is in the process of acquiring two new oil producing assets in Angola and Venezuela. The Company produces approximately 23,000 boepd from its currently producing assets and expects to add approximately 11,000 boepd to its production capacity with the acquisition of assets in Angola and Venezuela.

Gabon (Ezanga)

A. Asset Overview

Ezanga in Gabon is Maurel & Prom's largest producing asset and contributes about 84% to total production and approximately 90% to the Company's Revenue. Maurel & prom has an 80% working interest share in the total production from this asset. This asset is being operated by M&P.

Asset Snapshot

Current Production*	16,129 bopd
2P Reserves#	171.3 MMbbl
Company's Interest	80% working interest

**Jan to Sep 2018; M&P's working interest share*
 # As on 31st December 2017

B. Regional Geology

The Ezanga Block (formerly called Omoueyi) is located onshore Gabon, 150 kilometers southeast of Libreville. Maurel & Prom assumed ownership of the asset following the acquisition of Rockover Oil and Gas in 2005. The large Onal field was discovered in 2006 and a development license was granted the same year. Maurel & Prom discovered the Omko field seven kilometres east of Onal in 2008.

C. Recent Activities & Current Status

- Maurel & Prom achieved an average production level 19,970 bopd in 2017, a decline of 8% from 21,756 bopd in 2016. The decline was due to a strike in the first quarter of 2017 and due to natural depletion of the fields on the Ezanga permit. The depletion was a result of a three-year suspension of the development because of drop in oil prices.
- Maurel & Prom began the development drilling campaign in the second quarter of 2018 with a total of six wells drilled and completed by October 2018. The drilling activities are continuing with two rigs in operation and a third one expected in December 2018. This development program will involve the drilling of 11 development wells and three sidetracks.
- Although the total production capacity from Ezanga is 25,000 bopd (20,000 bopd for M&P's 80% working interest), the Company could only produce 16,129 bopd for its working interest in the first nine months of 2018 due to severe pipeline disruptions in the area during the period.
- Exports were interrupted in recent months due to a build-up of pressure in third-party operated export pipeline, which transports the production of several oil operators. Despite taking several remedial and preventive measures such as optimizing oil processing and injecting gasoil into the pipeline, Maurel & Prom had to completely halt production on two separate occasions.
- The Company is working on several long-term technical solutions to its recent challenges. It is consulting various pipeline users and the Gabonese authorities to bring the production back to normal levels through better management of pipeline flows.

Tanzania (Mnazi Bay)

A. Asset Overview

The asset in Tanzania is a gas producing asset. Maurel & Prom has a gross working interest of 48.06% in this asset that has total 2P reserves of 265.4 bcf. The Company's working interest production was 39.3 MMcf/d in the first nine months of 2018. This asset is being operated by M&P.

Asset Snapshot

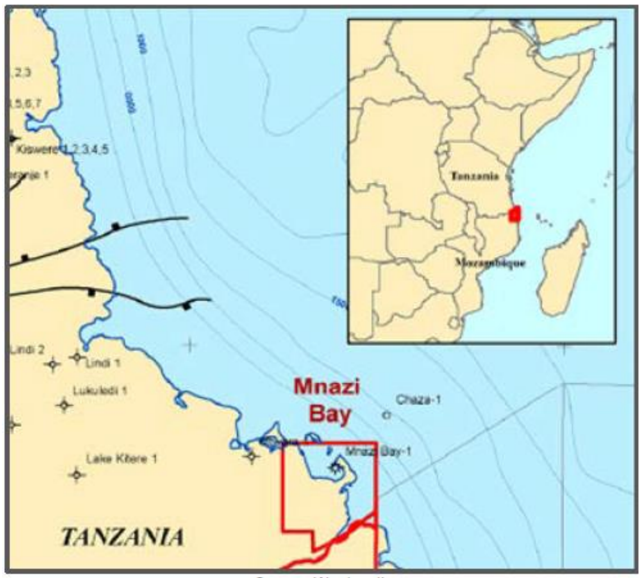
Current Production*	39.3 MMcf/d (6,552 boepd)
2P Reserves#	265.4 bcf (44.2 MMboe)
Company's Interest	48.06%

**Jan to Sep 2018; M&P's working interest share*
 # As on 31st December 2017

B. Regional Geology

The first natural gas discovery in Tanzania was made in 1974 on the Songo Songo Island (Lindi Region) and this was followed by another discovery at the Mnazi Bay (Mtwara Region) in 1982.

Natural gas was discovered both offshore and onshore the Songo Songo Island, while the gas discovery at Mnazi Bay was only offshore. The natural gas produced at Songo Songo was first commercialized in 2004 and the gas produced at Mnazi Bay was commercialized in 2006. The commercialization of these two discoveries propelled further both onshore and offshore gas exploration both onshore and offshore. Since 2010, Tanzania has witnessed natural gas discoveries and further exploration.



C. Recent Activities & Current Status

Maurel & Prom's total operated production averaged 81.8 MMcf/d in the first nine months of the year, or 39.3 MMcf/d for M&P's working interest (48.06%), an 83% increase compared with the same period in 2017.

D. Future plans

The operated production reached 86.7 MMcf/d in the third quarter and is expected to stabilize at this level. The increase is a result of the increased gas demand from Dar Es Salaam's industrial sector.

Angola

A. Asset Overview

In October 2018, Maurel & Prom signed a sale and purchase agreement to acquire Angola Japan Oil Company's (AJOCO) stake of 20% working interest in two production and development blocks located in the shallow waters off the Angolan coast.

Asset Snapshot

Current Production*	4,600 bopd
Company's Interest	20%
Location	Congo Basin, Angola

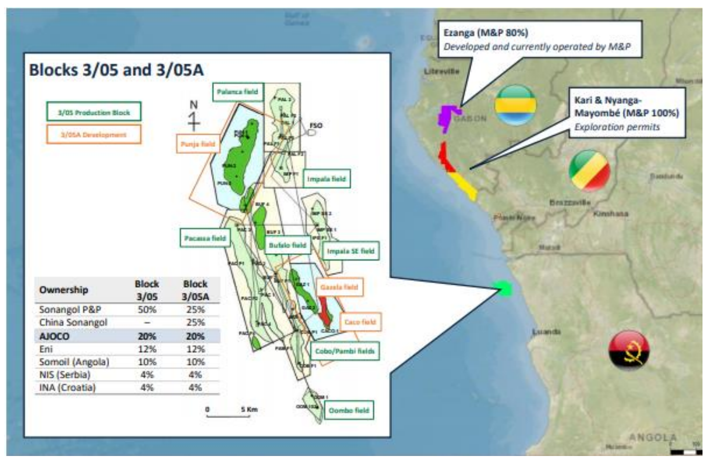
**M&P's working interest share*

B. Acquisition Terms

M&P acquired the asset for a consideration of $80 million with an additional contingent consideration of up to $25 million subject to oil price performance and resources development. The contract will be funded from the Company's existing cash resources and is contingent on receiving government approvals. The consideration of $80 million translates into a price of approximately $7 per barrel which is very low for a producing asset.

C. Regional Geology

These assets are located in shallow water (100m depth) in the Congo basin, where M&P has extensive expertise. The assets in Block 3/05 consist of eight mature fields - Bufalo, Cobo, Impala, Impala SE, Oombo, Pacassa, Palanca and Pambi. The assets in Block 3/05A include the Caco and Gazela commercial fields and access to Punja field which is in pre-development stage.



D. Potential E&P

Maurel & Prom estimate that the net production for its 20% stake in block 3/05 will be 4,600 bopd. Block 3/05A contains two exploitable fields and offers perspectives through the field of Punja, an important discovery in the pre-development phase.

E. Future plans

The acquisition is an opportunity for the Company to further expand in the Congo Basin, a region where the Company has extensive operating experience. There is also a possibility to extend the license beyond June 2025 (the current license limit).

Venezuela (Urdaneta West Field)

A. Asset Overview

In December 2018, M&P announced the completion of acquisition of Shell's stake of 40% working interest in the Urdaneta West Field on Lake Maracaibo in Venezuela.

Asset Snapshot

Current Production*	6,400 bopd
Company's Interest	40%
Location	Urdaneta West Field, Venezuela

**M&P's working interest share*

B. Acquisition Terms

Maurel & Prom Venezuela, a subsidiary of Maurel & Prom, acquired Shell's stake for a consideration of €70 million. Out of the total consideration, €47 million has been paid at the closing of the transaction and the remaining €23 million is payable in December 2019. The consideration of €70 million (approximately $80 million) translates into a price of approximately $5 per barrel which is very low for a producing asset.

C. Regional Geology

Lake Maracaibo in Venezuela is a hydrocarbon-rich region that has produced over 30 billion barrels of oil till date and has an estimated 44 billion barrels of oil yet to be recovered.

D. Potential E&P

The field is currently producing a total of 16,000 barrels of oil per day on a 100% basis. M&P's 40% working interest share amounts to 6,400 barrels of oil per day from this field.

E. Future plans:

Maurel & Prom believes that the asset offers significant optionality through the development of additional reserves and the possible extension of the license duration beyond 2026 (the current license limit).

Exploration Assets

Maurel & Prom conducts exploration activities in various geographies. The Company has an experienced exploration team and has developed many assets from exploration stage to production stage. Maurel & Prom has exploration assets in Gabon, Namibia, Colombia as well as some small assets in Italy and Southern France. The Company also has an appraisal stage asset in Alberta, Canada with large resources but the asset is not currently producing.

Gabon

Maurel & Prom's exploration activities in the region consisted of finalizing the interpretation of the seismic lines on the Kari and Nyanga-Mayombé permits. The interpretations highlighted several prospects, the most critical of which requires approach work and complex logistics for drilling due to the nature of the terrain.

Canada

Sawn Lake

Maurel & Prom's Sawn Lake project in Alberta continues to be dormant. The pilot test conducted by the Company between September 2014 and March 2016 produced encouraging results and confirmed the validity steam assisted gravity drainage extraction method. The Company filed an application with the Alberta Provincial Government in 2016 for administrative approval for production of 3,200 bopd, by drilling four new horizontal well pairs. The application was accepted in December 2017. The Company is working closely with the operator Andora to define possible options for the project based on the partners' respective market conditions and financing capacities.

Namibia

Maurel & Prom is exploring PEL-44 and PEL-45 offshore permits in Namibia. Additionally, an acquisition is in the pipeline to refine the results on the northern portion of the PEL-44 block.

Colombia

Maurel & Prom has 50% interests in the COR-15 and Muisca blocks through its subsidiary Maurel & Prom Colombia. The Company is currently reprocessing the Seismic lines on COR-15 permit to finalize the establishment of two wells. Drilling is expected to start by the end of the year, subject to Maurel & Prom receiving all necessary government approvals. Application for environmental approval of the Muisca permit will be submitted once the COR-15 exploration program has been finalized.

France

In 2017, the approval was signed to extend the Mios permit and the filing of the application for the Caudos-Nord hydrocarbon exploration concession. The public enquiry into the drilling of two hydrocarbon exploration wells received a favorable opinion. Receipt of the corresponding prefectorial approval is pending.

Drilling Activities

Maurel & Prom’s drilling activities are conducted by its wholly owned subsidiary, Caroil. Caroil is an oil drilling company which owns 8 onshore rigs with capacities of between 250 and 1500 HP operating in Africa. Caroil’s drilling activities in 2017 were limited to exploration drilling in Tanzania and some rig management contracts in Congo.

Maurel & Prom also owns a drilling rig in Colombia. The rig has been leased out to a local company since June 2016. The proceeds from this lease amounted to $2.5 million in 2017.

Drilling of the first exploration well on the Kari and Nyanga-Mayomnbé permits is expected to begin in the Q4, 2018.

Industry Analysis

Market dynamics

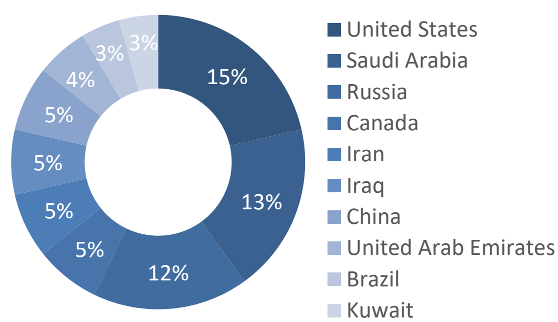
The Oil and Gas industry is undergoing a major transformation due to changes in the global Energy market, which is changing the dynamics of the oil and gas market.

Global Oil and Gas Supply & Demand Outlook

According to the US Energy Information Administration (EIA), the members of OPEC (Organization of the Petroleum Exporting Countries), United States and Russia are the major suppliers of oil globally. While OPEC produces 40% of the total global output, the United States and Russia contribute approximately 15% and 12% respectively. There was a decline in the global oil output following the oil price collapse in 2014. This decline in output was due to a supply cut by OPEC countries and Russia, coupled with a fall in investments in energy assets in the US. However, with the rebound in oil prices since mid-2016, there has been an increase in the daily production and inventory in the US, which is expected to continue as indicated by an increasing number of rigs.

Supply of Oil: According to EIA's Short-Term Energy Outlook, production of crude oil in the US is expected to increase by 16% in 2018 from ~9.4 MMbopd in 2017 to ~10.9 MMbopd in 2018 [iii]. Production is expected to increase to 12.1 MMbopd in 2019, an increase of 11% from 2018 levels. Crude oil production from the OPEC countries which was 32.5 MMbopd in 2017 is expected to increase only marginally by 0.6% in 2018 and by 1% in 2019[iv].

Top Ten Global Oil Producers (2017)



Note: Oil includes crude oil, other petroleum liquids & biofuels.
Source: EIA (International Energy Outlook 2017)

According to EIA[v], global liquid fuel production is forecast to increase by an average of 1.4 MMbopd in 2019. The non-OPEC supply is expected to grow from 57.5 MMbopd in 2017 to 66.1 MMbopd in 2023[vi]. The US oil supply growth is expected to make up the largest share of incremental non-OPEC production from 2017 to 2023, with total production reaching nearly 20 MMbopd in 2023, from 14.4 MMbopd in 2017[vii].

Supply of Natural Gas **–** According to EIA, the US had a natural gas inventory of 3.0 trillion cubic feet ("Tcf") at the end of November 2018, 19% lower than the five-year (2013-2017) average for the end of November. EIA forecasts the dry natural gas production to average 83.3 billion cubic feet per day ("bcf/d") in September 2018, an increase of 9.3 bcf/d over September 2017. EIA expects the production of natural gas to continue to increase to an average of 90.0 bcf/d in 2019.

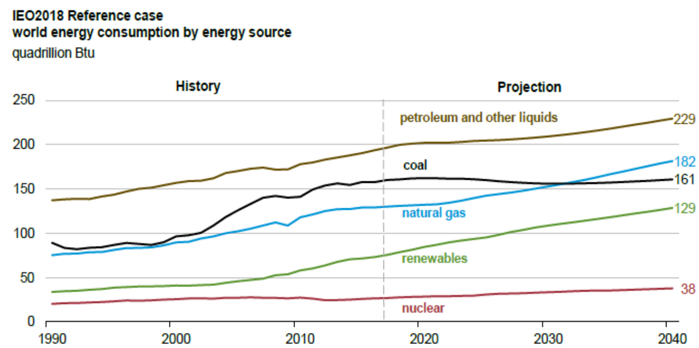
Moody's predict that the reduction in the pace of earnings growth will keep the outlook on the global Oil & Gas industry stable in 2019.

Maurel & Prom has its operations focused majorly in Africa. According to PwC's Africa Oil and Gas outlook[viii], Africa, which is the center of Maurel & Prom's production activity, has seen a significant rise in the number and size of final investment decisions. This indicates growing confidence in the oil and gas sector. These investment decisions were targeted at high-quality and bankable projects. The capex recovery rate for Africa based oil and gas projects is expected to witness a 7% year-on-year growth and is expected to surpass global capex recovery rate growth rate of 5% year-on-year. Exploration investments has also picked up in the region.

Demand

Demand for crude oil primarily comes from three sectors – industrials, residential / commercial use, and transportation. Industrials accounts for 50% of the total crude oil demand while the other two sectors make up a majority of the remaining 50%. Energy consumption is expected to increase in the coming years due to an increase in the industrial production. Growing urbanization and expanding middle class with rising disposable income, increasing dependence on electrical appliances and heating & cooling systems due to adverse climatic conditions is expected to increase demand from the residential and commercial sector. Increasing trade & commerce and rising income are leading to an increase in vehicles, thereby increasing consumption in the transportation sector. Thus, the demand for crude oil and natural gas is expected to continue to rise amidst increasing population, urbanization, transportation and higher GDP growth.

Global energy demand composition from 1990-2040



Source: *EIA (International Energy Outlook 2018)*

In terms of geographies, the developing Asian economies, led by China and India are expected to witness a sharp increase in energy demand, whereas developed economies such as the US, Europe and Japan are expected to witness stable energy demand. In the long run, it is expected that India and Africa will be the major markets for energy consumption.

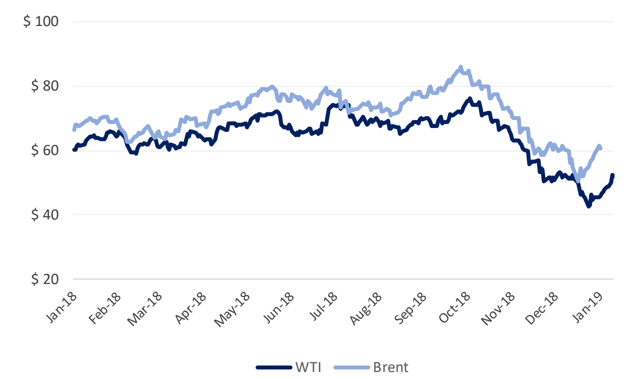
Demand for Oil – According to the IMF, the growth in demand for oil will be driven by global economic growth which is expected to be at 3.9% for the period 2018 to 2020. The demand for oil is expected to fall in the long run due to an increase in consumption of renewable energy and a rapid growth in number of electric vehicles. According to OPEC's World Oil Outlook, the global oil demand may reach 117 mb/d by 2040.[ix]

Demand for Natural Gas – According to International Energy Outlook 2018, demand for natural gas is expected to increase at a rate of 1.6% between 2018 and 2022. The consumption of natural gas is expected to surpass the consumption of crude oil in the long run. Natural gas is also expected to replace coal in the long run, due to its lower carbon content and the global push towards usage of low-carbon products due to deteriorating climatic conditions. In the long run, it is expected that the share of natural gas will be much higher in the fuel mix and surpass that of coal.

Commodity Prices

Crude oil prices increased consistently from 2009 to 2013 and reached 110/bbl before collapsing by 40% to $60/bbl in 2014. This collapse was on account of oversupply and increasing inventories. Oil prices continued to decline gradually and touched a low of $30/bbl in 2016. Prices rebounded from this low in mid-2016 and have been rising After hitting rock bottom, prices started to rebound and have been on an upward trajectory since.

Crude oil price for last 12 months



Source: *www.investing.com*

Price of Oil - In its Short-Term Energy Outlook of December 2018, EIA estimates that Brent Crude oil prices which averaged $65/bbl in November 2018 will average $61/bbl in 2019.

Crude oil prices declined significantly in November but increased during the first week of December. The prices were expected to witness an upward trend due to the sanctions on Iran's oil supply but the record production increase from the US and the OPEC countries, majorly Saudi Arabia and Russia, in November put downward pressure on the oil prices. The US's decision to wave off sanctions for six months for countries that buy the largest quantities of oil from Iran also contributed to the oil price decline. The oil producing countries are trying to stabilize the oil prices and have announced production cuts in 2019. The recent news of Qatar leaving the 15-member OPEC community from January is also expected to negatively impact the global oil inventory, resulting in increasing oil prices.

Price of Natural Gas –Henry Hub natural gas spot prices averaged $4.15 per million British thermal units (MMBtu) in November 2018, up $0.87/MMBtu from their October 2018 average. Low temperatures and declining inventory levels are believed to have contributed to this increase. EIA expects the Henry Hub natural gas spot price to be average around $3.11/MMBtu in 2019.

Strategic changes in the upstream oil industry

Exploration and Production (E&P) companies are going through a major transformation in asset acquisition, production, and cost optimization in view of changing market dynamics. Given a history of negative cash flows due to oil price collapse, and a high probability of increasing cost of debt in future, upstream companies have shifted their focus from making large acquisitions to improving profitability and cash flows by changing their asset mix, optimizing their costs and embracing advanced technologies, such as digitization.

1. Diversified asset portfolio of productive brownfield assets and renewable businesses

E&P companies are not only divesting non-core assets to increase cash flow but are also acquiring low cost assets with high proven reserves. They are also diversifying the asset mix by adding renewable sources to adapt in a changing low-carbon environment. Upstream companies are trying to acquire assets in regions with good infrastructure, low operating costs and high reserves.

Maurel & Prom's strategy to acquire oil producing assets in Angola and Venezuela is in line with this trend. The Company also has exploration assets in Canada, Namibia, Colombia, Nigeria, Italy and France. However, the Company's business model is exposed to risk of rapid growth in renewables as the availability of substitutes at attractive prices makes it difficult to compete with the counterparts in renewables energy sector.

2. Strategic alliances to leverage the expertise of industry specialists

For cost optimization, upstream companies are entering strategic alliances with exploration specialists. These alliances help upstream companies leverage the expertise of these specialists and save time and cost. Instead of having a fully integrated business model wherein the companies internally handle all the processes from exploration to drilling, companies are engaging specialists to manage some of these operations. For example: British major British Petroleum formed an alliance with Kosmos, which specializes in exploration to acquire assets in Mauritania and Senegal.

Maurel & Prom is acquiring assets in regions where it already has extensive expertise and experience. The Company has alliances with local contractors which helps it maintain efficiency across processes.

3. Cost optimization through advanced drilling techniques, automation and digitalization

Upstream companies are focusing on advanced drilling techniques, autonomous processes and use of digital technologies across all segments to increase efficiency. Drilling cost can be reduced by proper selection of specialized rigs, depending on the availability and pricing, as rig rate is a major component of drilling cost. Besides this, there are various technologies which are being used to increase production in a cost-efficient manner, such as infill drilling and MPD. Given the volatility in oil prices, companies need to explore alternatives to survive in the industry and gain a competitive edge.

4. Use of superior drilling techniques to increase productivity

Multiple advanced drilling techniques such as Infill Drilling, MPD, Logging While Drilling, Rotary Steerable drilling, and smart completions are being used by E&P companies to increase productivity, reduce cost and non-productive time (NPT), as well as generate data related to oil wells in the drilling phase. Infill drilling increases the total reserves by discovering new reserves and increases the rate of recovery from the wells. MPD technologies are increasingly being used to drill wells that are complex and impossible to drill using conventional techniques. MPD technology reduces NPT risk to the environment. It also lowers overall costs by reducing formation damage, casings and gas kicks & losses.

5. Use of automated systems to reduce human deployment in adverse environment

Automated systems such as robotic drilling and high speed well communication result in higher productivity at lower costs by standardizing operations, reducing work stoppages, enabling timely and accurate execution and saving monitoring costs. High speed well communication helps in automating drilling by generating real time data from the well downhole diagnosis. It enables the use of MPD and helps save time and cost by detecting transport problems and stuck pipe. It also improves wellbore conditions, generates high data quality related to drilling, and ensures higher safety. Robotic drilling systems are used for land and under water operations. Large companies such as BP use sensors in rigs, wells and pipelines, to derive real time operational data like temperature, pressure, chemicals and equipment vibrations and analyze it to increase productivity and lower safety risk.

6. Employment of digital technologies likely to change upstream ecosystem

Implementation of digital technologies is expected to transform the entire value chain of upstream companies from exploration, project execution, to drilling and production. Upstream companies are investing in big data & analytics, cloud computing and artificial intelligence for faster and more accurate information processing in various areas related to production, maintenance, and asset management. Big Data and predictive analytics help in real-time decision-making by providing a better understanding of reservoir activity leading to higher refinery efficiency and production. BP has funded an artificial intelligence company, Beyond Limits, for the development of Artificial Intelligence (AI) software used in deep space exploration missions. They have also partnered with Oceaneering International to explore underwater pipelines and subsea infrastructure in the Gulf of Mexico using Seabed robots.

Industry Prospects

Oil prices are expected to stabilize in first half of 2019: Oil prices have fallen since November 2018, due to speculations about oil supply shortage following the reinforcement of sanctions on Iran's oil supply were negated by an increase in production from the US and Saudi Arabia. Additionally, in November 2018, the US waved of sanctions on eight countries that are Iran's largest oil customers for buying oil from Iran. These wavers created a supply glut and resulted in excess inventory of oil. The OPEC nations announced that they would cut production by 1.2 million b/d in 2019 to tackle the excess inventory. This is likely to help stabilize oil prices.

Bleak long-term prospects amidst increasing share of renewable energy*:* In the long term, the fuel mix is expected to change. Currently, oil and gas make up about 40% of the total energy demand. This share is expected to reduce to about 25% while the share of renewable energy is expected to grow at a fast rate and surpass the share of oil and gas. The share of cleaner fuels, such as natural gas, is also expected to increase and surpass the share of coal as growing environmental concerns cause a spike in the demand for carbon-free energy sources. Consumption of crude oil is expected to reduce in the long run due to an increase in supply of alternative sources of energy, availability of superior technologies, rising demand of oil due to electrification of transportation, increasing use of renewable energy for industrial and residential uses, and favorable government policies.

Digitization, automation and innovation to drive future growth: The development and increasing adoption of autonomous systems such as robotic drilling systems for exploration is expected to drive businesses growth in the future. Companies should try and reduce dependence on labor as the supply of qualified staff has declined considerably in the oil & gas industry given a history of layoffs and low employment opportunities in the past. There is a scope for improving of digital technologies to manage operations and decision-making processes that can improve real time decision making and reduce operational and exploration cost as well as improve efficiency. In an increasingly competitive environment, companies with quality assets, superior drilling techniques, low operating costs and access to digital technology are better positioned to survive in the long run.

 See important disclosures on page 39 of this report.

Risk Profile Analysis

SUMMARY

Key Risks	Risk Rating	Rationale
Operational Risk	Medium	Maurel & Prom operates in different geographies, which exposes the Company to various regulatory and geopolitical risks.
Financing Risk	Medium	Although, the Company is adequately capitalized and has secured funding for imminent acquisitions and near-term requirements, future debt obligations after prolonged grace period does pose some risk. However, being backed by a well-capitalized parent does bring the risk down to some extent.
Environmental Risk	High	Exploration and development activities are subject to state and federal environmental laws. Maurel & Prom is exposed to high industrial and environmental risks which could have an adverse effect on the Company's activities, results of operations growth and its brand image.
Key Personnel Risk	Low	M&P is not dependent on a few individuals. The acquisition by PIEP has helped the Company to join forces and build a solid management and operational team.
Overall	**Medium-High**	

1. OPERATIONAL RISKS

A. Risk Definition

Following are the various parameters considered to define and measure the operational risk of the Company:

- **Regulatory factors:** The location of projects and their regulatory environment are key factors that affect the acquisition of licences and the subsequent development of the project. Obtaining necessary approvals can be time consuming, and any delay could impact operations significantly. Other regulatory risks include non-renewal of licenses, leases, permits etc.
- **E&P techniques:** The development plan for the assets, including resource determination, extraction and production methodology, and the corresponding capex estimates, together define

the operational efficiency of the project. The high quality of reserves and the ease of extraction provide higher return on investment and reduce the operational risk involved.

- **Other operating factors:** Technical ease, implementation of new technologies for operations, and availability of operators also determine the operational risk of projects.

We consider a project based on all the above parameters and assign high/medium/low risk profiles in comparison with their peers. Also, as the company matures, the operational risk gets reduced considerably.

High risk: A Company is considered as having a high operational risk profile when its assets are in early stage of development and are located in regions with regulatory uncertainties.

Medium risk: A Company is considered as having medium operational risk, if it has already made some progress progresses towards the acquisition of necessary licenses and environmental clearances. Also, depending on the reserve and the possible methodologies of extraction and development, an operational risk profile is assigned in comparison with peers.

Low risk: A company that is in the advanced stages of development has attractive project characteristics such as high percentage of proven and producing reserves, healthy cash flows, and low operating expenditures etc. Such a company has a low operational risk profile.

B. Risk Analysis

- **Regulatory risk:** Maurel & Prom operates production and exploration assets in various geographies. The Company is heavily dependent on obtaining and maintaining appropriate licenses, concessions, leases, claims, permits and regulatory consents which may be withdrawn or made subject to limitations. Operating in different geographies exposes the Company to various regulatory and geopolitical risks as the Company is required to deal with regulatory requirements imposed by governments of various geographies and these requirements may change in future. The Company was forced to shut down its operations in Quebec due to the government’s decision to exclude the territory of Anticosti Island from all future hydrocarbon or underground reservoir exploration for which the Company had already been granted exploration permits. Also, the closing of the Company’s recent acquisition in Angola is dependent on obtaining required governmental approvals. Overall, the Operational Risk due to regulatory factors is HIGH for the Company.

- **Risk in reserve & resource determinations:** M&P has a working interest proven and probable (2P) gross reserves of 216 MMboe. A high percentage of these reserves are 1P (approximately 74%), which means the Company can be fairly confident of production from these assets. Also, the Company is planning to acquire assets which are already in production. The Company relies on third party reserve reports to determine the amount of reserves available in a particular region or asset. However, significant judgement is required by the operational team when assessing each area of interest, especially in case of exploration assets, carrying the risk of misstating the reserve numbers. The Operational Risk due to this factor is LOW for the Company.

- **Risk in exploration, development and production:** M&P's business model is to discover, explore, develop and produce hydrocarbon assets. The Company's profitability is highly dependent on its ability to efficiently operate its production assets and create significant value by developing its exploration assets. However, money invested in exploration activities is no guarantee of economically viable results as the probability of converting exploration assets into production assets is very low. Additionally, developing a hydrocarbon production field requires significant investments to build facilities, drill production or injection wells as well as to implement advanced technologies to extract and produce hydrocarbons. These investments and implementation of advanced technologies under difficult conditions, can result in uncertainties about the amount of investment necessary and the operating costs, and can have a negative impact that lowers the expected results. The Operational Risk due to this factor is HIGH for the Company.

C. *Risk Rating*

We believe that Maurel & Prom has a ***MEDIUM*** operational risk based on all the above parameters.

2. FINANCING RISK

A. *Risk Definition*

Initial stages of project development, including exploration and resource estimation, require higher capital investment. Investments in the exploration stage can be riskier, as the economic viability of region/project is not established. As the project stages proceed, a company has varied options such as equity (IPO) and debt financing, among others.

High risk: Companies in the initial stages of project development without proper estimates on funding requirements and a clear view on financing options are considered to have high financing risk.

Medium risk: When a company has established reasonable estimates on funding requirements and has visibilty on early funding for planned project milestones, it is estimated to have medium financing risk.

Low risk: When a company's funding requirements are clearly stated and has already secured adequate funding, the company has low financing risk.

B. *Risk Analysis*

- Maurel & Prom is adequately capitalized for the near term. The Company refinanced all its existing loan after the acquisition by PIEP. The Company was required to repay the 2019 and 2021 ORNANE bonds to holders who requested early redemption as a result of the change in control of the Company following the takeover bid by PIEP.

- On 12th December 2017, the Company announced the refinancing of all its debt under favourable conditions and the reorganisation of the payment instalments over a seven year period. The refinancing includes a two year grace period in 2018 and 2019 and the Company will be required to payback its term loan and shareholder loan from 2020 onwards over next four years.

- As part of its refinancing strategy, the Company signed a new term loan of $600 million through its subsidiary, Maurel & Prom West Africa S.A., sole and whole owner of Maurel & Prom Gabon. The Company also signed a new shareholder loan with PIEP for an initial amount of $100 million, with a second tranche of $100 million that could be drawn down at the Company's discretion.

- The Company has enough cash on its balance sheet to go ahead with its acquisitions in Angola and Venezuela. However, the Company is required to meet certain ratios and maintain a cash balance of $100 million as part of its lending agreement.

C. Risk Rating

Although, the Company is adequately capitalized and has secured funding for imminent acquisitions and near-term requirements, future debt obligations after prolonged grace period does pose some risk. However, being backed by a well-capitalized parent does bring the risk down to some extent. We believe Maurel & Prom has ***MEDIUM*** financing risk.

3. ENVIRONMENTAL RISK

A. Risk Definition

Exploration and development activities are subject to state and federal environmental laws. Production of oil and gas can adversely impact the environment due to improper handling of hydrocarbons, emissions to air and water, improper disposal of wastes, etc. The Company is subject to various operational risks and hazards such as explosions, pipe failures, gas leaks etc. Such events could lead to loss of life, damage to property, natural resources, other environmental damages.

B. Risk Analysis

Maurel & Prom is exposed to industrial and environmental risks which could result in a material adverse effect on the Company's activities, results of operations growth and its brand image. In December 2017, the Company's Gabonaise subsidiary recorded an accidental spillage of crude. The subsidiary had to mobilise the financial, human and technical resources required to clean the pollution. The Company is also exposed to risks due to change in government policies. Additionally, since the Company operates in countries where the natural resource extraction sector can account for a significant portion of the country's economy, its operations are exposed to tense labour relations, particularly during periods of weak global raw material prices. The Company has experienced multiple labour strikes at its production sites over the past couple of years, affecting the Company's operations and cash flows.

C. Risk Rating

We believe Maurel & Prom has ***HIGH*** environmental risk***.***

4. KEY PERSONNEL RISK

A. Risk Definition

A company is considered to have a low risk profile, if the management team is highly qualified, has good experience in the resource sector and the company does not have high dependence on a few people. Better the quality and profile and higher the number of independent directors on the board, lower is the key personal risk for a company.

B. Risk Analysis

Maurel & Prom has a knowledgeable management team with decades of experience in the oil & gas industry. The Company has a Board of Directors committee which includes three Independent Directors. The Company is not dependent on few individuals and the acquisition by PIEP has helped the Company to join forces and build a solid management and operational team.

C. Risk Rating

We believe Maurel & Prom has a ***LOW*** key personnel risk.

Maurel & Prom is also exposed to the following additional risks:

<u>Commodity price risk</u>

The Company's financial results are subject to various market risks. The most significant of these are hydrocarbon prices, fluctuations in which has a direct impact on the Company's cash flows. Viability of the entire business is dependent on future oil and gas prices and any price decline could result in production becoming uneconomical.

<u>Economic risks</u>

General economic conditions, movements in interest and inflation rates and currency exchange rates may have an adverse effect on Maurel & Prom's exploration, development and production activities. Share market conditions may also affect the value of the Company's quoted securities. Market conditions are affected by general economic outlook, interest rates, currency fluctuations, inflation rates, demand of capital etc. The Company operates in emerging countries which are exposed to significantly higher political and economic risks and risks to personal and material safety than in more developed countries.

<u>Credit risk</u>

The Company is exposed to a credit risk due to loans and receivables that it grants to third parties as part of its operating activities, short-term deposits that it holds at banks. Maximum exposure corresponds to the balance sheet outstanding net of provisions. The Company believes that it does not incur any significant counterparty risk, as its production is mainly sold to a leading oil group: Total Gabon. The Company also has guarantees in place to cover outstanding amounts on gas sales in Tanzania.

Foreign currency risk and interest rate risk

The Company is exposed to risks related to US dollar exchange rate fluctuations. The Company's reporting currency for its financial statements is the Euro, however, its operating currency is the US dollar. Consequently, the Group's financial statements are highly sensitive to the euro/US dollar exchange rate.

The Company is also exposed to interest rate risk as the Company's balance sheet consists of two floating rate loans. The Company's consolidated gross debt at 31st December 2017 amounted to €580 million.

We have factored in these risks while arriving at the discount rate to be applied to the Company's cash flows for calculating the Equity Value.

Financial Analysis

1. **Cash Reserves**
   - Maurel & Prom had cash reserves of €217 million as on 31st December 2017. The Company had a cash ratio of 1.3x in 2017 implying a sufficient cash buffer to cover its current liabilities without holding too much capital in low return investments.
   - The Company's cash ratio increased from 0.7x in 2016 to 1.3x in 2017. This increase in cash reserves was due to an issue of fresh debt and repayment of old debt which also resulted in the inflow of $75 million which was held as collateral.

2. **Liquidity**
   - Maurel & Prom has current liabilities amounting to €163 million and current assets amounting to €376 million, leading to a current ratio of 2.3x.
   - Maurel & Prom's current ratio increased from 1.4 in 2016 to 2.3 in 2017. This was because of increase in cash balance and the repayment of existing liabilities which were due. The Company refinanced the existing debt which resulted in the release of $75 million cash which was held as collateral.

3. **Debt Structure**
   - Maurel & Prom successfully refinanced and rescheduled all its debt at the end 2017 at favorable terms allowing the Company to repay its current obligations and strengthen its financial structure. The increased financial flexibility after the refinancing will allow the Company to pursue its plans for growth and development in line with its new growth and development strategy.
   - The Company has taken out a term loan of $600 million at an interest rate of LIBOR + 1.5% and has also received a shareholder loan from a PIEP for a maximum amount of $200 million at LIBOR + 1.6%. $100 million of the shareholder loan had been drawn down as on 31 December 2017.
   - Maurel & Prom will benefit from the two-year grace period with repayments starting from March 2020. Also, the refinancing of the debt is in US dollars which will substantially reduce the Company's exposure to foreign exchange fluctuations by aligning the currency of its debt with that of its revenue.
   - Although Maurel & Prom has been able to raise debt at favorable terms due to the undertaking offered by shareholder PIEP, the leverage of the Company is above-average, with a debt-to-equity ratio of 68%.

 See important disclosures on page 39 of this report.

Valuation

The equity Value of Maurel & Prom stands between **€923 million** and **€1.13 billion**.

The fair price per share for Maurel & Prom stands between **€4.6** and **€5.6.**

Important information on Arrowhead methodology

The principles of the valuation methodology employed by Arrowhead BID are variable to a certain extent, depending on the sub-sectors in which the research is conducted. But all Arrowhead valuation researches possess an underlying set of common principles and a generally common quantitative process.

With Arrowhead commercial and technical due diligence, Arrowhead researches the fundamentals, assets and liabilities of a company, and builds estimates for revenue and expenditure over a coherently determined forecast period.

Elements of past performance such as price/earnings ratios, indicated as applicable, are mainly for reference. Still, elements of real-world past performance enter the valuation through their impact on the commercial and technical due diligence.

We have presented the discounted cash flow estimate approach for FCFE valuation and Comparable Company Analysis. The fair value bracket is built on the basis of these two methods.

Arrowhead BID Fair Market Value Bracket

The Arrowhead Fair Market Value is given as a bracket. This is based on quantitative key variable analyses such as key price analysis for revenue and cost drivers or analysis and discounts on revenue estimates for projects, especially relevant to projects estimated to provide revenue near the end of the chosen forecast period. Low and high estimates for key variables are produced as a valuation tool.

In principle, an investor comfortable with the high brackets of our key variable analysis will align with the high bracket in the Arrowhead Fair Value Bracket, and, likewise, in terms of low estimates. The investor will also note the company intangibles to analyze the strengths and weaknesses, and other essential company information. These intangibles serve as supplementary decision factors for adding or subtracting a premium in investor's own analysis.

The bracket should be taken as a tool by Arrowhead BID for the reader of this report and the reader should not solely rely on this information to make his decision on any particular security. The reader must also understand that while on the one hand global capital markets contain inefficiencies, especially in terms of information, on the other, corporations and their commercial and technical positions evolve rapidly. This present edition of the Arrowhead valuation is for a short to medium-term alignment analysis (one to twelve months).

See important disclosures on page 39 of this report.

Estimation of Final Equity Value

Value of Maurel & Prom's equity has been arrived at by using the Comparable Company Analysis and Discounted Cash Flow Valuation Approach. We have assigned an equal weightage to both methods to calculate the weighted average value of equity from operating assets.

Equity Value Excluding Seplat & New Acquisitions

Valuation Approach	Weight	Implied Equity Value (€ million)
Discounted Cash Flow*	50.0%	717
Comparable Company Analysis~	50.0%	870
Weighted Average		**794**

**As on 31st Dec 2018*

~As on 15th Jan 2019

To this equity value of operating assets, we have added the equity value created from new acquisitions and the equity value contribution from M&P's stake in Seplat to arrive at the final equity value of Maurel & Prom:

Equity Value created from New Acquisitions

Asset	Equity Value Creation (€ million)
Angola	18
Venezuela	35
Total Equity Value Created from New Acquisitions	**52**

As on 31st Dec 2018

Equity Value contribution from stake in Seplat

Stake in Seplat	20.46%
Market Cap of Seplat (GBP million)	777
GBP / EUR	1.13
Equity Value contribution from stake in Seplat (€ million)	**180**

As on 15th Jan 2019

Equity Value Including Seplat & New Acquisitions

	Equity Value (€ million)
Equity Value Excluding Seplat & New Acquisitions	794
Add: Equity Value from New Acquistions	52
Add: Equity Value contribution from stake in Seplat	180
Equity Value	**1,025**

Share Price Range

	Variance	Equity Value (€ million)	Equity Value (€ / Share)
Downside Case	-10.0%	923	4.6
Base Case	0.0%	**1,025**	**5.1**
Upside Case	10.0%	1,128	5.6

Following is the detailed methodology of the valuation approaches used:

1. Comparable Company Analysis

Comparable Company Analysis method operates under the assumption that similar companies will have similar valuation multiples, such as EV/EBITDAX. We have shortlisted companies similar in business with Maurel & Prom based on regions of operations.

A list of available statistics for the companies was compiled, and the P/E, P/B, P/S, P/CFO, EV/EBITDAX, EV/Proved Reserves and EV/Daily Production multiples were calculated for each of the comparable companies. Since most of the data was not normalized, we have left outliers in our calculations. The weighted average of the resulting multiples was then calculated and used as benchmark for valuing Maurel & Prom.

The weights allocated to the comparable companies were based on the degree of their business match with the subject company. The results have been tabulated below.

Listed Comparables Analysis

Relative Valuation based on:	Weights	Multiple	Implied Enterprise Value (€ million)	Implied Equity Value (€ million)
P / E	14.3%	2.46	625	263
P / B	14.3%	0.98	1,188	826
P / S	14.3%	1.91	1,243	881
P / CFO	14.3%	5.33	1,237	876
EV / EBITDAX	14.3%	6.61	1,598	1,237
EV / Daily Production (€ thousand / Boepd)	14.3%	45.32	1,083	722
EV / Proved Reserves (€ / boe)	14.3%	10.34	1,648	1,286
	100%			**870**

As on 15th Jan 2019

Financial year is from January - December

Stock Exchange	Ticker	Reporting Currency	Exchange Rate (Reporting Currency / EUR)	Company Name	Business Match	VALUATION MULTIPLES P / E	P / B	P / S	P / CFO	EV / EBITDAX	EV / Daily Production (€ thousand / Boepd)	EV / Proved Reserves (€ / boe)
Euronext Paris	MAU	EUR		Maurel & Prom		6.3	0.8	1.5	4.1	4.3	43.3	6.5
Euronext Paris	FP	USD	0.88	Total S.A.	50%	17.0	1.3	0.8	6.3	3.1	52.0	11.6
London Stock Exchange	RDSA	USD	0.88	Royal Dutch Shell plc	50%	19.2	1.3	0.8	7.0	5.8	76.3	22.9
Boerse Frankfurt	ENI	EUR	1.00	Eni S.p.A	50%	15.3	1.1	0.8	5.1	4.5	38.1	9.9
London Stock Exchange	TLW	USD	0.88	Tullow Oil plc	60%	(18.8)	1.3	2.1	2.9	8.4	69.4	20.9
London Stock Exchange	PMO	USD	0.88	Premier Oil plc	60%	(2.9)	1.2	0.7	1.5	5.7	39.2	9.7
NYSE	CVX	USD	0.88	Chevron Corporation	50%	23.1	1.4	1.6	10.4	5.9	80.4	18.8
London Stock Exchange	SIA	USD	0.88	SOCO International plc	50%	(2.0)	0.6	2.0	6.9	9.8	23.8	9.7
London Stock Exchange	GENL	USD	0.88	Genel Energy Plc	70%	2.6	0.4	3.1	3.2	1.7	20.5	7.4
London Stock Exchange	SEPL	USD	0.88	SEPLAT Petroleum Development	80%	3.8	0.7	2.2	2.2	5.7	0.0	
London Stock Exchange	GKP	USD	0.88	Gulf Keystone Petroleum Ltd.	70%	43.8	1.3	3.6	8.2	23.1	23.9	3.6
London Stock Exchange	AMER	USD	0.88	Amerisur Resources PLC	70%	0.8	1.5	3.3	10.1	13.5	48.5	16.9
London Stock Exchange	OPHR	USD	0.88	Ophir Energy PLC	50%	(3.6)	0.3	2.1	3.7	12.8	24.0	6.7
London Stock Exchange	ENQ	USD	0.88	EnQuest PLC	70%	(6.9)	0.6	0.7	1.4	7.9	56.8	
Stockholm Stock Exchange	LUPE	USD	0.88	Lundin Petroleum	70%	25.3	(27.4)	4.8	7.4	8.9	137.5	
Median						3.2	1.1	2.0	5.7	6.9	43.9	9.9
Mean without outliers						2.4	1.0	1.8	5.5	6.7	46.1	10.5
Weighted mean without outliers						**2.5**	**1.0**	**1.9**	**5.3**	**6.6**	**45.3**	**10.3**
Ignore outliers where deviation from median exceeds					**90%**							

Market data as on 15th Jan 2019
P&L numbers are for FY2017
Balance Sheet numbers as on 31st Dec 2017

2. Discounted Cash Flow (DCF) Approach

- **Valuation Methodology:** The Arrowhead fair valuation for Maurel & Prom is based on the Discounted Cash Flow (DCF) analysis of the Company's producing assets.
- **Time Horizon:** The time period chosen is based on the life of various assets under consideration. Period chosen for valuation is 22 years (2019P – 2040P).
- **Prudential Nature of Valuation:** This Arrowhead Fair Value Bracket estimate is a relatively prudential estimate, as it is based on the Company's current projects and excludes the value of other projects.

The following table calculates the cost of equity for Maurel & Prom. The expected return on market is assumed for the broader market, we have applied an additional risk premium to account for the higher risks associated with operating in challenging geographies.

Assumptions

Risk free rate	0.38%
Expected Return on Market	7.21%
Beta	1.3
Additional Company Specific Risk	20.00%
Cost of Equity for the Company	**11.11%**

The following tables summarize the free cash flow to equity calculations, which are subsequently discounted at the risk adjusted cost of equity.

FCFE

All figures are in EUR thousands

	2019P	2020P	2021P	2022P	2023P	2024P	2025P	2026P	2027P
Free Cash Flow to Equity									
Net Income	100,203	76,183	44,666	51,760	57,336	67,659	67,620	66,178	64,435
Add: Depreciation and Amortization	99,953	98,248	98,103	95,315	91,095	95,342	91,009	86,339	81,676
Add: Impairment Expense	1,876	1,600	1,667	1,616	1,606	1,583	1,564	1,544	1,525
Less: Increase in Non Cash Working Capital	(3,876)	(8,308)	6,094	(2,151)	(1,135)	2,254	(1,233)	(1,522)	(1,471)
Less: Capital Expenditure	32,276	31,933	32,051	32,010	32,024	32,018	32,020	32,019	30,019
Add: Increase in Debt	0	(128,182)	(142,897)	(142,897)	(142,897)	(19,619)	0	0	0
Free Cash Flow to Equity	**173,632**	**24,224**	**(36,606)**	**(24,063)**	**(23,748)**	**110,691**	**129,406**	**123,564**	**119,088**
Present Value of Free Cash Flow To Equity	156,269	19,621	-26,686	-15,788	-14,023	58,827	61,896	53,191	46,138

FCFE

All figures are in EUR thousands

	2028P	2029P	2030P	2031P	2032P	2033P	2034P	2035P	2036P	2037P
Free Cash Flow to Equity										
Net Income	63,654	62,653	64,058	67,353	106,417	107,266	108,097	108,863	109,555	110,164
Add: Depreciation and Amortization	78,580	75,781	75,427	74,013	52,834	53,521	54,254	55,038	55,881	56,793
Add: Impairment Expense	1,506	1,488	1,469	1,451	1,433	1,415	1,397	1,380	1,363	1,346
Less: Increase in Non Cash Working Capital	(1,050)	(1,010)	(77)	343	8,381	93	81	70	59	47
Less: Capital Expenditure	30,019	30,019	30,018	30,018	30,018	30,018	30,017	30,017	30,017	30,017
Add: Increase in Debt	0	0	0	0	0	0	0	0	0	0
Free Cash Flow to Equity	**114,772**	**110,914**	**111,013**	**112,456**	**122,285**	**132,091**	**133,650**	**135,194**	**136,724**	**138,239**
Present Value of Free Cash Flow To Equity	40,020	34,807	31,354	28,586	27,976	27,198	24,767	22,548	20,523	18,675

FCFE

All figures are in EUR thousands

	2038P	2039P	2040P	2041P	2042P	2043P	2044P	2045P
Free Cash Flow to Equity								
Net Income	95,911	102,010	108,190	114,490	120,969	127,720	134,908	36,829
Add: Depreciation and Amortization	52,301	47,741	43,085	38,293	33,305	28,029	22,299	889
Add: Impairment Expense	1,329	1,313	1,296	1,280	1,264	1,249	1,233	1,218
Less: Increase in Non Cash Working Capital	35	24	12	(0)	(12)	(25)	(37)	(21,810)
Less: Capital Expenditure	17	16	16	16	16	16	15	15
Add: Increase in Debt	0	0	0	0	0	0	0	0
Free Cash Flow to Equity	**149,489**	**151,024**	**152,544**	**154,048**	**155,535**	**157,007**	**158,462**	**60,730**
Present Value of Free Cash Flow To Equity	18,175	16,526	15,023	13,654	12,407	11,272	10,239	3,532

Equity Value from Operating Assets **716,727**

Sensitivity Analysis

We have extended the DCF valuation analysis further to analyze the sensitivity of the Company's equity value to the average oil price for 2019.

The present value calculated from these discounted cash flows gives us the value of operating assets of M&P. We have added the equity value contribution of M&P's stake in Seplat to the value of these operating assets to calculate the total equity value of Maurel & Prom from DCF valuation.

Equity Value

Equity Value from Operating Assets*	**716,727**
Equity Value contribution from Stake in Seplat~	179,583
Total Equity Vaue	**896,310**
Number of Shares Outstanding (thousands)	200,714
Price per Share (EUR)	**4.5**

**As on 31st Dec 2018*

~As on 15th Jan 2019

Equity Value contribution from stake in SEPLAT

Stake in SEPLAT	20.46%
Market Cap of SEPLAT (GBP thousand)	776,750
GBP / EUR	1.13
Equity Value contribution from stake in SEPLAT (€ thousand)	**179,583**

As on 15th Jan 2019

Share Price Sensitivity

Oil Prices (columns); **%age Growth in Oil Price** (rows)

4.5	51.0	56.0	**61.0**	66.0	71.0
0.0%	2.5	3.1	3.6	4.2	4.7
1.0%	2.9	3.4	4.0	4.6	5.2
2.0%	3.2	3.9	**4.5**	5.1	5.7
3.0%	3.7	4.3	5.0	5.6	6.3
4.0%	4.1	4.8	5.5	6.2	6.9

3. Equity Value created from new acquisitions:

We have calculated the equity value created from the two new acquisitions in Angola and Venezuela. At the current oil prices, these two acquisitions are creating value for the Company.

Equity Value created from New Acquisitions

Asset	Value Creation (€ thousand)
Angola	17,811
Venezuela	34,599
Equity Value Created	52,410

As on 31st Dec 2018

- **Angola:** M&P has entered into a contract for a 20% working interest share in the Angola asset till 2025. Total average operated production from Angola is 23,000 bopd. M&P's share of 20% at an assumed operational efficiency of 70% is 3,200 bopd.

All figures are in EUR thousands

ANGOLA		2019P	2020P	2021P	2022P	2023P	2024P	2025P
Revenue		50,185	51,189	52,203	53,226	54,259	55,301	56,353
Purchases and Operating Expenses		13,187	13,451	13,720	13,994	14,274	14,559	14,851
Taxes	22%	11,080	11,302	11,526	11,752	11,980	12,210	12,442
Personnel Expenses		6,499	6,629	6,761	6,896	7,034	7,175	7,319
EBITDA		**19,419**	**19,808**	**20,196**	**20,584**	**20,971**	**21,357**	**21,742**
Net Investments		70,400	-	-	-	-	-	-
Debt Issued		70,400	-	-	-	-	-	-
Interest Expense		3,168	3,168	2,640	2,112	1,584	1,056	528
Debt Repayments		-	11,733	11,733	11,733	11,733	11,733	11,733
Cash Flows Before Tax		**16,251**	**4,906**	**5,823**	**6,738**	**7,653**	**8,568**	**9,480**
Income Tax	50%	8,126	2,453	2,911	3,369	3,827	4,284	4,740
Net Cash Flows		**8,126**	**2,453**	**2,911**	**3,369**	**3,827**	**4,284**	**4,740**
Present Value of Cash Flows @	16%	7,005	1,823	1,865	1,861	1,822	1,758	1,677
Net Present Value	**17,811**							

- **Venezuela:** M&P has entered into a contract for a 40% working interest share in the Venezuela asset till 2026. Total average operated production from Venezuela is 16,000 bopd. M&P's share of 40% at an assumed operational efficiency of 70% is 4,500 bopd.

All figures are in EUR thousands

VENEZUELA		2019P	2020P	2021P	2022P	2023P	2024P	2025P	2026P
Revenue		69,823	71,220	72,630	74,053	75,490	76,941	78,404	79,880
Purchases and Operating Expenses		18,347	18,714	19,088	19,470	19,859	20,257	20,662	21,075
Taxes	22%	15,608	15,920	16,235	16,554	16,875	17,199	17,526	17,856
Personnel Expenses		9,042	9,222	9,407	9,595	9,787	9,983	10,182	10,386
Operating Cash Flows from the Asset		26,826	27,363	27,899	28,435	28,969	29,502	30,034	30,563
Net Investments		70,000	-	-	-	-	-	-	-
Debt Issued		70,000	-	-	-	-	-	-	-
Interest Expense		3,150	3,150	2,700	2,250	1,800	1,350	900	450
Debt Repayments		-	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Cash Flows before Tax		23,676	14,213	15,199	16,185	17,169	18,152	19,134	20,113
Income Tax	50%	11,838	7,106	7,600	8,092	8,585	9,076	9,567	10,057
Net Cash Flows		**11,838**	**7,106**	**7,600**	**8,092**	**8,585**	**9,076**	**9,567**	**10,057**
Present Value of Cash Flows @	20%	9,865	4,935	4,398	3,903	3,450	3,040	2,670	2,339
Net Present Value	**34,599**								

Analyst Certifications

I, Ankit Gupta, certify that all of the views expressed in this research report accurately reflect my personal views about the subject security and the subject company.

Important disclosures

Arrowhead Business and Investment Decisions, LLC received fees in 2018 and will receive fees in 2019 from Etablissements Maurel & Prom S.A. for researching and drafting this report and for a series of other services to Etablissements Maurel & Prom S.A., including distribution of this report, investor relations and networking services. Neither Arrowhead BID nor any of its principals or employees own any long or short positions in Etablissements Maurel & Prom S.A. Arrowhead BID's principals intend to seek a mandate for investment banking services from Etablissements Maurel & Prom S.A. and intend to receive compensation for investment banking activities from Etablissements Maurel & Prom S.A. in 2019.

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Appendix

Glossary

USD	US Dollar
PSA	Purchase & Sale Agreement
LOI	Letter of Intent
JV	Joint Venture
HBP	Held by Production
GWI %	Gross Working Interest %
NRI %	Net Revenue Interest %
Bcf/d	Billion Cubic Feet per day
Tcf	Trillion Cubic Feet
Boe	Barrels of Oil Equivalent
Mboe	Thousand Barrels of Oil Equivalent
MMboe	Million Barrels of Oil Equivalent
MMbtu	Million British Thermal Units
Mb/d	Million Barrel per day

Notes and References

i *Bloomberg as on 25th January 2019*

ii *30 Day Avg Volume calculated using Bloomberg data as on 25th January 2019*

iii *https://www.eia.gov/outlooks/steo/pdf/steo_full.pdf*

iv *https://www.eia.gov/outlooks/steo/pdf/steo_full.pdf*

v *https://www.eia.gov/outlooks/steo/pdf/steo_full.pdf*

vi *https://woo.opec.org*

vii *https://www.ogj.com/articles/2018/03/iea-more-investment-needed-to-spur-oil-supply-after-2020.html*

viii *https://pricewaterhousecoopers-pwc.africa-newsroom.com/press/outlook-for-africas-oil-and-gas-industry-improves--pwc-report*

ix *https://woo.opec.org*