



Ref. No. IVL 003/02/2019

26 February 2019

The President

The Stock Exchange of Thailand

**Subject: Submission of Annual Audited Financial Statements and the Management Discussion and Analysis of Indorama Ventures Public Company Limited for year ended December 31, 2018**

We are pleased to submit:

1. Consolidated and Company only Annual Audited Financial Statements for the year ended December 31, 2018 (a copy in Thai and English)
2. Management Discussion and Analysis (MD&A) for the year ended December 31, 2018 (a copy in Thai and English)
3. Company's performance report, Form F45-3 for the year ended December 31, 2018 (a copy in Thai and English)

Please be informed accordingly.

Sincerely yours,

(Mr. Alope Lohia)

Group CEO

Indorama Ventures Public Company Limited

Company Secretary

Tel: +662 661 6661

Fax: +662 661 6664



***Indorama Ventures Public Company Ltd***  
***Management Discussion and Analysis***  
***For the year ended December 31, 2018***

***Milestone Revenues and Earnings, Structural Improvements, Enhanced Portfolio, New Investment Strategy***

**In 2018:**

- Revenue \$10.7 billion, +27% YoY
- Core EBITDA of \$1.4 billion, +44% YoY, Core EBITDA margin 13%
- Net Profit (after Tax/NCI) of \$819 million, up 33% YoY
- Earnings Per Share of THB 4.61, +16% YoY
- Operating Cash Flow of \$1.0 billion
- 2019 Earnings Guidance reaffirmed

## 2018 Summary Financials

**Table 1: Core Financials of Consolidated Business**

	Full Year			Quarterly			
	2018	2017	2018 YoY	4Q18	3Q18	4Q17	4Q18 YoY
\$million (except where stated otherwise)							
<b>Production Volume (kt)</b>	<b>10,419</b>	<b>9,103</b>	<b>14%</b>	<b>2,818</b>	<b>2,730</b>	<b>2,306</b>	<b>22%</b>
Consolidated Revenue <sup>1,2</sup>	10,741	8,438	27%	2,788	2,920	2,135	31%
<b>Core EBITDA<sup>3</sup></b>	<b>1,441</b>	<b>1,004</b>	<b>44%</b>	<b>318</b>	<b>409</b>	<b>256</b>	<b>24%</b>
PET	588	296	98%	113	179	91	24%
Fibers	240	208	15%	72	55	53	35%
Feedstock	613	501	22%	136	178	116	18%
<u><i>New Segments</i></u>							
Integrated PET	791	414	91%	171	256	114	51%
Olefins	232	145	60%	50	52	53	(4)%
Fibers	211	181	17%	64	49	47	36%
Packaging	48	37	29%	13	11	10	29%
Specialty Chemicals	158	229	(31)%	22	44	36	(38)%
Core EBIT	1,000	647	54%	190	292	156	22%
<b>Core Net Profit after Tax and NCI<sup>4</sup></b>	<b>789</b>	<b>459</b>	<b>72%</b>	<b>121</b>	<b>260</b>	<b>117</b>	<b>3%</b>
Core Net Profit after Tax and NCI (THBm)	25,488	15,576	64%	3,974	8,523	3,867	3%
<b>Reported EPS after PERP Interest (THB)</b>	<b>4.61</b>	<b>3.98</b>	<b>16%</b>	<b>0.37</b>	<b>1.75</b>	<b>1.91</b>	<b>(81)%</b>
<b>Core EBITDA/ton (\$)</b>	<b>138</b>	<b>110</b>	<b>25%</b>	<b>113</b>	<b>150</b>	<b>111</b>	<b>2%</b>
<b>Operating Cash Flow<sup>5</sup></b>	<b>989</b>	<b>852</b>	<b>16%</b>	<b>250</b>	<b>276</b>	<b>215</b>	<b>16%</b>
<b>Net Debt to Equity (times)</b>	<b>0.87</b>	<b>0.75</b>	<b>16%</b>	<b>0.87</b>	<b>0.71</b>	<b>0.75</b>	<b>16%</b>

<sup>1</sup>Consolidated financials are based upon elimination of intra-company (or intra-business segment) transactions

<sup>2</sup>Total of each segment may not always tally with consolidated financials due to holding segment

<sup>3</sup>Core EBITDA is Reported EBITDA less Inventory gains/(losses)

<sup>4</sup>Core Net Profit is Reported Net Profit less Inventory gains/(losses) one-time extraordinary items

<sup>5</sup>Operating Cash Flow is after change in net working capital and cash tax, before maintenance capex

## ***FY 2018/4Q 2018 Performance Highlights***

- FY18 core EBITDA increased by 44% YoY to \$1.4 billion, driven by volume growth and higher margin realization.
- In 4Q18, core EBITDA increased by 24% YoY to \$318 million, supported by higher volume.
- In 4Q18, core EBITDA per ton was stable when compared to 4Q17. Core EBITDA per ton QoQ declined by 25% and core EBITDA on a QoQ basis declined by 22% as a result of the following reasons:
  - 4Q18 was impacted due to IVL-specific factors that impacted its EMEA portfolio in particular. IVL acquired two large mothballed sites in Egypt (PET) and Portugal (PTA) which did not operate for most of 2018, suffered from reduced PTA production in the Netherlands due to delay in the brownfield expansion, further reduction in PET and PTA production in the Netherlands (FM in 4Q18), unplanned shutdown in Poland (PET 4Q18), further normalization of IPA margin and lower operating rates in several fiber manufacturing units. As all of these set of issues are now behind us, improved earnings from the EMEA region will have a further positive earnings impact for IVL as a whole in 2019.
  - Sharp decline in crude prices (high of \$ 83/bbl in 3Q18 versus low of 54/bbl in 4Q18) as we entered in to the weak season led to accelerated destocking in the integrated PET segment. Increase in crude prices and restocking to support forthcoming seasonal demand has resulted in this trend being reversed in 1Q19.
  - 2019 is also expected to outperform 2018 as legacy contracts in Integrated PET in Western markets have improved and we produce higher volume of PET in the premium market of Brazil.
- Core EBITDA margin increased to 13%. Core EBITDA per ton was \$138, up 25% from 2017, driven by improvement in the aromatics, PET, olefins and fibers, offset by IPA normalization.
- Annual production increased by 14% YoY to 10.4 million tons, driven by PET acquisitions in Brazil and Egypt; PTA acquisition in Portugal; several debottlenecking projects and the consolidation of PTA in Indonesia. This increase was achieved despite the force majeure of 2 PET lines for a period of 50 days in the Netherlands in 4Q18, which also impacted PTA production at the site. PET production at Poland was also impacted due to a temporary shutdown.
- EPS of THB 4.61, +16% after the impact of 11% dilution due to warrants exercise (W2).
- IVL achieved Operating Cash Flow of \$1.0 billion, up 16% YoY. This was achieved after factoring in higher working capital due to higher production (Egypt, Brazil, and Portugal) and higher cost of raw materials.
- Profit after tax and NCI of \$819 million, up 33% YoY.
- TRIS Rating (an S&P partner) upgrade IVL to AA- from its earlier rating of A+.

## ***Strategic Investments***

IVL continued in its earnings accreting growth journey through several acquisitions and organic imperatives with an overall capital investment of \$2.26 billion in 2018 which has resulted in a marginal increase in its debt to equity ratio.

We strengthened our footprint in North America by acquiring the Corpus Christi JV which, once operational, will provide a low cost production platform of integrated PTA-PET in an attractive region.

We debuted our entry in to South America by acquiring the Brazil's largest PET manufacturing site. Thereafter, we expanded our presence in Brazil by acquiring M&G Fibras (Transaction closed: Feb2019) and entered in to the high growth fibers business.

IVL entered in to the high-growth North African region by first entering in to the JV with Dhunseri in the PET business in Egypt. Thereafter, it acquired a majority stake in MEDCO, the largest PET packaging company in Egypt, in order to strengthen its packaging offering to key bottlers in the region.

The recycling portfolio was enhanced by acquisitions of Sorepla (France) and Custom Polymer (USA; Transaction closed: Jan2019).

The Fibers segment was strengthened by the acquisitions of Avgol (enhances market share in personal hygiene and establishes fiber manufacturing footprint in Russia and India), Kordarna (propel IVL to the Number 2 global position in tire cord business and strengthens its mobility vertical), UTT (Closing; 1Q19E – enhances IVL's airbag yarn and fibers business) and Schoeller – a specialty wool yarn producer in Europe.

Lastly, it created the platform for strengthening its Specialty Chemicals segment by acquiring Invista's barrier resin business in Germany with a global IP (Closing; 1Q19E).

## ***Sustainable Development***

- Included in the Dow Jones Sustainability Index for the second consecutive year.
- Ranked in FTSE4Good.
- Improved rating in the MSCI ESG to BB , indicating a reduction in greenhouse gas emissions, carbon footprint and enhanced recycling of water and chemicals.
- Committed to increase its use of post-consumer PET and polyester waste materials as part of global agreement to combat plastic waste, being led by Ellen MacArthur Foundation.
- Formed a JV with Loop Industries to manufacture and commercialize sustainable polyester resin to meet growing global demand. IVL will have an exclusive, world-wide license to use Loop's technology to produce 100% sustainably produced PET resin and polyester.
- Signed an agreement with Ioniqa and Unilever for chemical recycling of PET waste in Europe.
- Evolving HR strategies by launching the i-Lead, v-Lead and Shadow Talent Development programs, completed the hiring of a Chief Strategy Officer and a Chief Human Resources Officer and formed the Indorama Management Council.

- Commenced review of implanting Industry 4.0 strategies which could drive opportunities in Machine Learning and Mathematical Optimization. Identified 250 digital value creation opportunities across 12 sites and analyzing their implementation.

## Portfolio Development

IVL continues to consolidate its existing businesses. Fundamental shifts in the portfolio, both in its existing shape and form, and, as it evolves over the medium term, necessitate the need to review the way we analyze and report our segments.

To this extent, we have completed a comprehensive assessment of our portfolio, identified areas of synergies and natural alignment, and recalibrated our future capital deployment strategies. All of this is in line with our imperatives towards becoming a world-class, well-diversified, growth-oriented global chemicals Company.

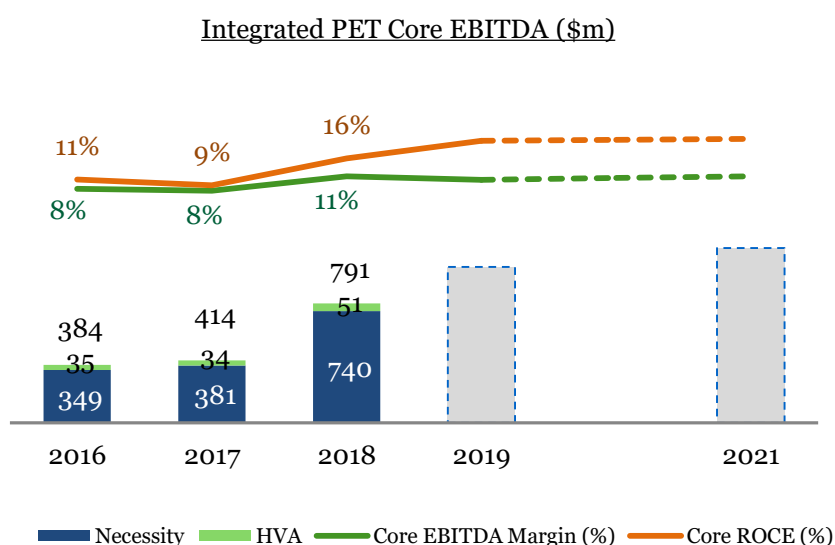
Going forward, each of our segments necessitates differentiated investment and growth strategies depending on role they play in our existing portfolio. Each segment is either already delivering or is capable of delivering double-digit EBITDA margins through its business cycles. These segments are also poised for healthy growth momentum and thereby support IVL overall growth strategy.

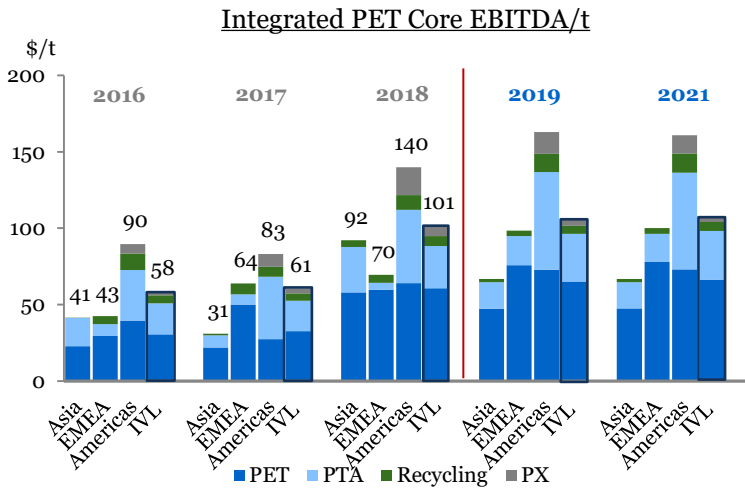
IVL foresees the ability to invest \$3 to 4 billion of projected free cash flow over the next 3 years in these high-growth, high-margin areas. This amount is in addition to the investment already made or announced of \$1.50 billion in projects that are pending completion and their associated contribution to earnings in 2019, 2020 and 2021. These new segments are as follows:

### 1. Integrated PET

This segment will include businesses in the aromatics and PET value chain. Given PET’s unique properties of 100% recyclability, reporting under this segment will include IVL’s recycling initiatives across the polyester value chain. IVL is the world’s largest PET producer with a Number 1 or Number 2 position in 95% of its manufacturing locations.

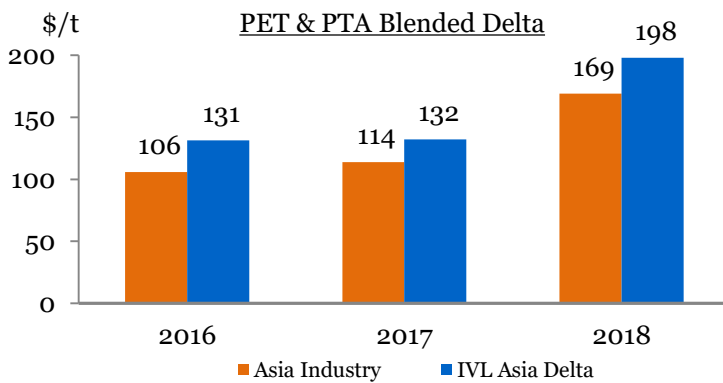
IVL’s consolidation strategy; our global footprint (including strong presence in the Americas and EMEA); high level of feedstock integration (PTA to PET in key markets and PX integration in NA), all of which positions us as the global leader in this 100% recyclable business. Investment plans in enhancing the recycling volumes to 750 KMT by 2025; completing the JV project in Texas, USA; expanding earnings in 2019 from investments made in Brazil and Egypt; consolidating operations in India (PET) and Indonesia (PTA) are all aimed at growing earnings from this segment.





Production makes up for 75% of IVL’s total. In 2018, it contributed to \$791 million of IVL’s total core EBITDA (\$1,441 million). This segment achieved a core EBITDA margin of 11% in 2018. Core EBITDA from this segment was adversely impacted in 2018 due to the acquisitions of mothballed capacities in EMEA (Egypt, Portugal) and FM/shutdown in the Netherlands and Poland. These will contribute to their full capacity in 2019 thereby creating a positive earnings impact especially in EMEA for this segment and IVL as a whole.

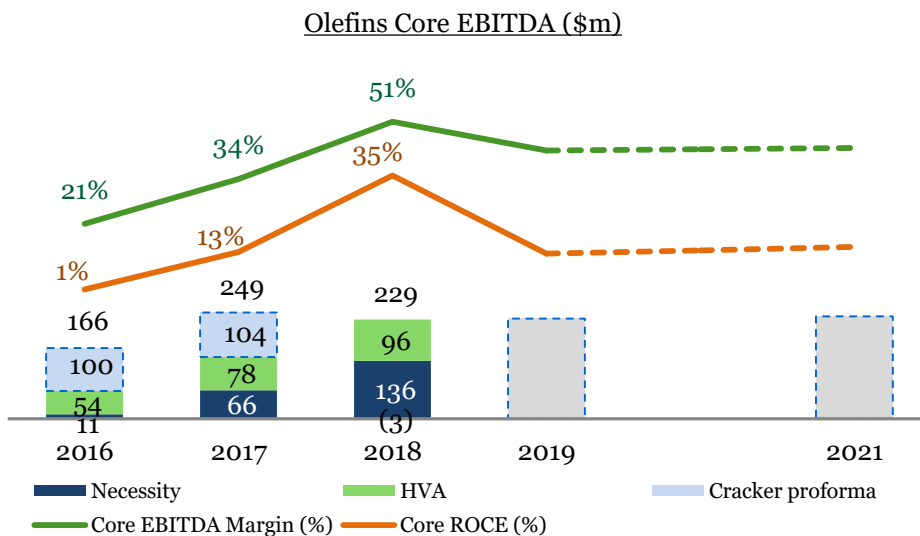
IVL’s unique manufacturing reaches and integrated business model in Asia gives us the ability to earn a premium to industry benchmark in this over-supplied region.



Given IVL’s vast geographical footprint, its integrated business model, its proven ability to benefit from local market dynamics and further grow its recycled PET footprint by aligning with key customer goals, EBITDA margin from this segment is expected to remain firm over the next 2-3 years with higher production from premium markets.

## 2. Olefins

IVL commenced its presence in segment by acquiring the MEG and PEO facility in Texas, USA in 2012. It is in the process of further enhanced its presence in by shortly commencing production from its ethylene cracker in Louisiana, USA. This cracker will mainly support the captive EO-EG facility providing unique integration advantage and the ability to capture the entire value chain margin. The chart highlights the value of this model, especially in the context of the shale gas ecosystem in USA.



Note: 2016-2018 Core EBITDA Margin and ROCE based on actual earnings and capital employed of EOEG plant

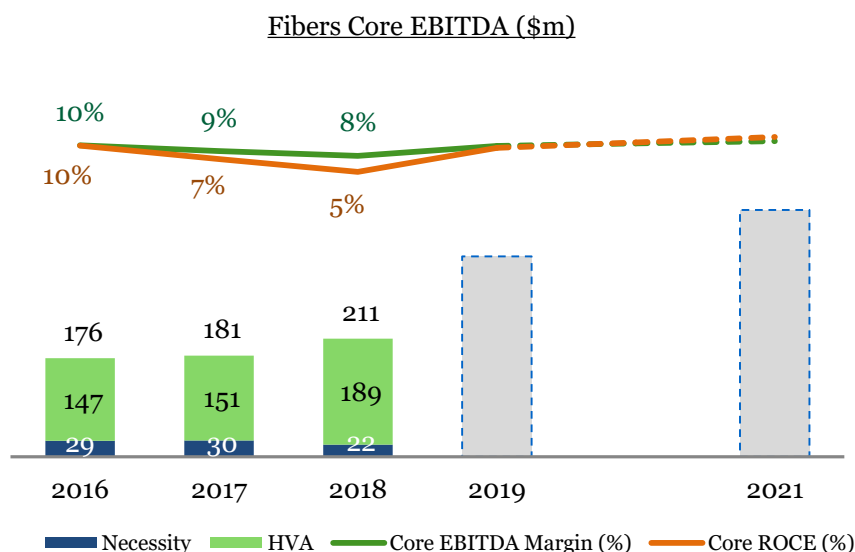
In 2018, production volume was 0.52 MMt, earned a core EBITDA of \$232 million with a core EBITDA margin of 51%.

Traditionally, IVL has allocated its capital towards feedstock investments mainly in the aromatics value chain with the strategy of strengthening the integrated PET value chain. As IVL expand its polypropylene-based fibers portfolio and allocates meaningful capital toward the packaging segment, opportunities to invest in 'fit-for-purpose' olefin capacities will enable IVL to capture additional margins and replicate its success in the integrated PET segment going forward.

### 3. Fibers

This segment includes all our offerings in the mobility (automotive and tires) domain, the personal hygiene domain and lifestyle domain. Each of these domains continues to grow at the rate of 6-7% annually and offer the potential for multi-billion dollar businesses individually. Growth in the fiber business comes as a result of trends towards light-weighting, use of sustainable materials, increasing levels of consciousness for personal hygiene and change in choice of personal wear, specially by the younger generation.

From a production perspective, Fibers is the second largest constituent and achieved a total production of 1.3 MMt (12% of IVL) and contributed \$211 million in core EBITDA. Lag impact of higher feedstock prices, force majeure by one of its suppliers (impacting PHP) and the start-up impact of recently acquired assets including Durafiber, Avgol and Kordana resulted in this segment earning a core EBITDA margin of 8% in 2018. As these facilities are expected to operate at their full potential in 2019, margins from this segment are expected to revert to double-digits.



IVL will continue to invest in this segment; grow its market share and its earnings-per-ton by expanding the higher-value component of its fibers portfolio through ongoing innovation, collaborations with key customers and cost rationalization. Over the next few years, based on investments already made (announced and/or completed), this segment is poised to be one of the highest growth areas in terms of its EBITDA

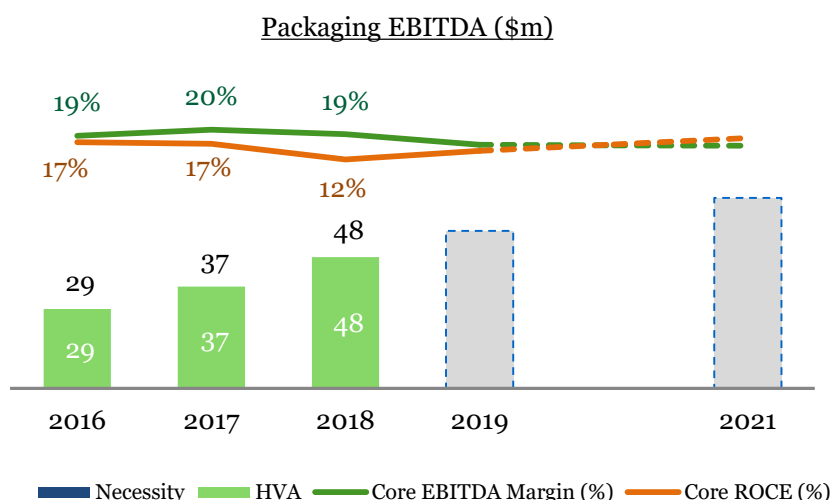
contribution to IVL.

### 4. Packaging

IVL has been involved in this business for the past two decades, first through a JV with Serm Suk PCL in Thailand and thereafter expanding its footprint in to frontier markets. The current portfolio consists of PET-based preforms, PET bottles and HDPE/PP closures with an aggregate production volume of 0.16 MMt making it the smallest segment within IVL.



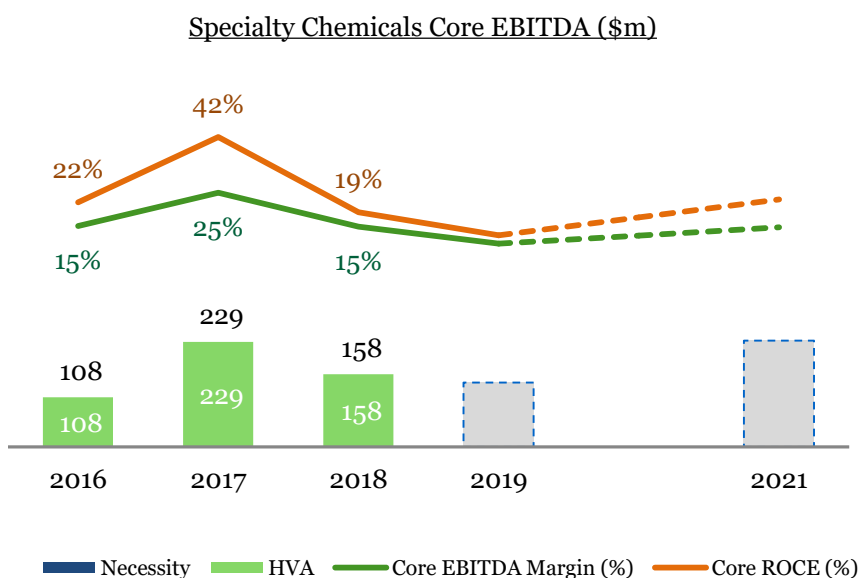
In 2018, this segment earned a core EBITDA of \$48 million with a 19% core EBITDA margin. The recent decline in YoY ROCE is due to startup impact from the acquisition of MEDCO in 4Q18 and is projected to improve to its historical level. The overall packaging industry is valued at around \$1 trillion, growing at 5% p.a. This is a high growth segment, especially in the non-PET-related, predominantly olefins-based, sustainable packaging materials serving key needs in the FMCG and pharmaceutical industries.



This downstream business provides tremendous scope for reducing earnings volatility, scope for margin enhancement through segment integration in to the olefins chain and increase in earnings diversification.

### 5. Specialty Chemicals

IVL made its debut in this segment in 2011 through the acquisition of Auriga Polymers in South Carolina, USA wherein it owns the technology for the Crystal Clear Oxygen Barrier Resin, OxyClear® and Polyshield®. It supplemented its presence in this segment in 2016 by acquiring the world’s only NDC facility in Alabama, USA and IPA facility in Cadiz, Spain.



In 2018, IVL grew this portfolio by expanding its IPA production in Spain and additionally converted a PTA line to IPA in Alabama, USA thereby becoming the world’s 2nd largest producer. Also in 2018, IVL announced the acquisition of Invista’s assets in Germany. Once this transaction is completed, IVL will own the IP for Polyshield® and Oxyclear® resins, Invista’s barrier technology, in all markets

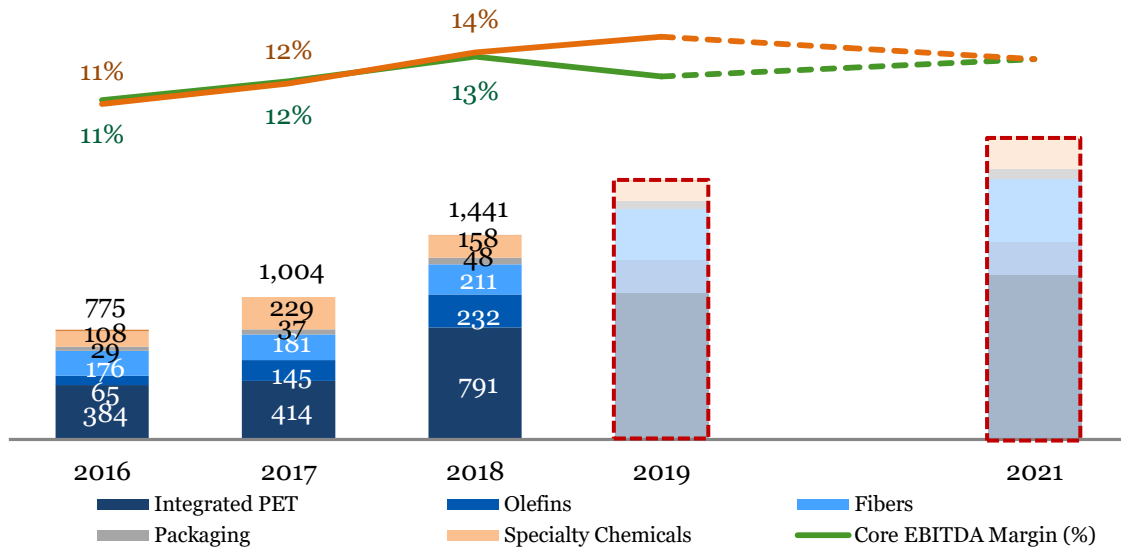
globally.

In 2018, this segment earned a core EBITDA margin of 15% despite the normalization of IPA margin and expects to continue to earn a double-digit margin over the next several years. Production from this segment was 0.65 MMT and its contribution was \$158 million to IVL core EBITDA in 2018.

Going forward, this segment is expected to absorb significant growth capex as we leverage our learning in related industries and grow geographically using our IP and technology platform.

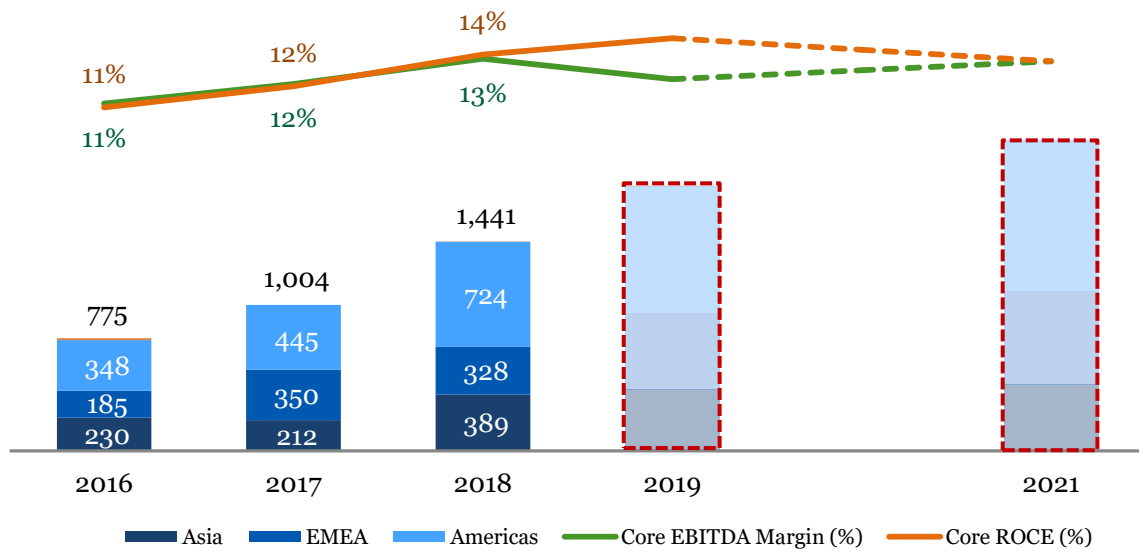
**IVL – Larger-than-Sum-Of-The-Parts**

Core EBITDA By Segment (\$m)

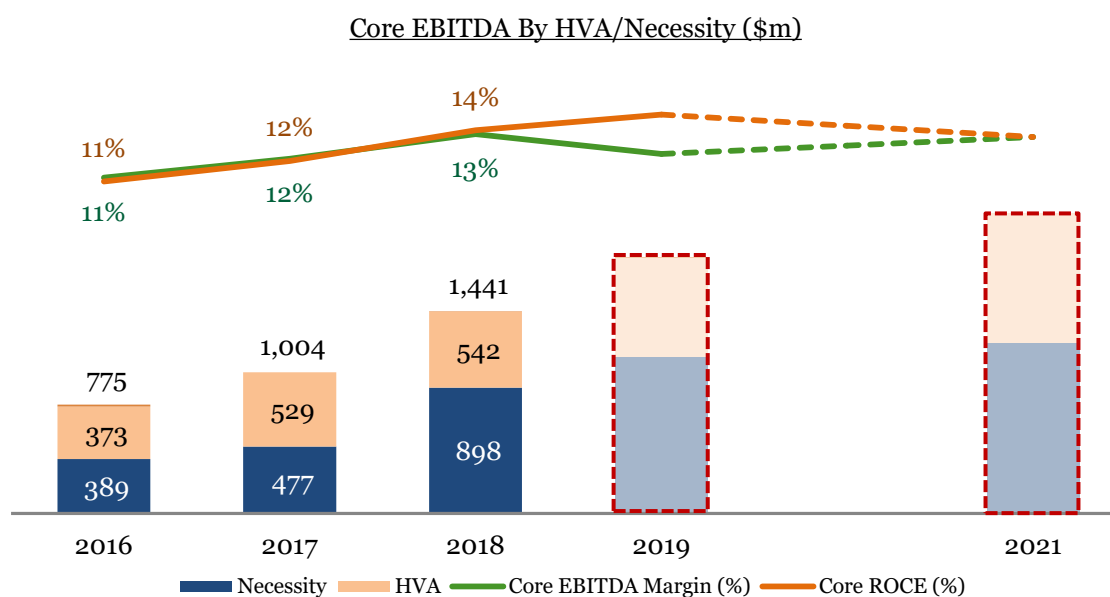


Note: Total of each segment may not always tally with consolidated financials

Core EBITDA By Region (\$m)



Note: Total of each segment may not always tally with consolidated financials



Note: Total of each segment may not always tally with consolidated financials

## Summary

### *Delivering on Promises*

The past 3 years have been momentous, both in terms of earnings growth and in terms of creating a solid framework for the next phase of growth at IVL. We ended 2015 with an overall production of 7.0 MMt, core EBITDA of \$ 640 million and ROCE of 9.7%. Strategic initiatives undertaken during 2016 to 2018 resulted in the Company achieving, in 2018, production of 10.4 MMt, core EBITDA of \$1.4 billion and core ROCE of 13.7%.

It is important to remind our stakeholders that this performance has been achieved despite headwinds in the main integrated aromatics chain including PTA and PET through most of 2016 and 2017, through a gradual increase in level of feedstock integration, increasing domestic-orientation in the portfolio and an evolving fibers portfolio. Events of late 2017 and early 2018 have resulted in further consolidation in the Americas leading to a structural change in the Integrated PET value chain. IVL, as the single largest producer globally, is well poised to continue to benefit from this change.

### *IVL: A Trailblazer in Global Chemical Businesses*

In 2018, IVL made an overall investment of \$2.26 billion. These, and investments made in the latter part of 2017, will have a cumulative impact in the performance for 2019, which promises to be yet another trailblazing year.

Production volume is expected to increase to 13.0 MMt, which is a huge increase on a YoY basis. This additional volume, improving realization in the more disciplined markets in the Western hemisphere in the context of the Integrated PET chain and higher utilization rates and earnings per ton in the fibers portfolio, provide us the confidence that the Company is well poised to achieve the 2019 earnings guidance of \$1.75 billion.

As stated earlier, IVL foresees its ability to invest between \$3 to 4 billion of projected free cash flow over the next 3 years (2019 till 2021) in businesses that deliver double-digit EBITDA margins. This amount is in addition to the investment already made or committed in 2018 on various projects that

are pending completion and will have associated earnings contribution to IVL in 2019, 2020 and 2021 and will also result in deleveraging of the balance sheet.

Seen in the context of our differentiated focus in investing selectively in high growth areas across the 5 segments discussed earlier, IVL is confident of maintaining its long-term growth trajectory and is targeting to double its core EBITDA over the next five years.

Ongoing commitments to sustainability and the circular economy, focus on strengthening human capital, leveraging Industry 4.0 opportunities and improving the health and productivity of our businesses will remain entrenched in the ***IVL way of doing business***.

### ***Reporting***

In order to support transition in capital market coverage and earnings models, IVL will continue to share information as per its earlier three segments (PET, Fibers and Feedstocks) for the next 4 quarters and will simultaneously providing deeper analysis based on the above-mentioned five segments.

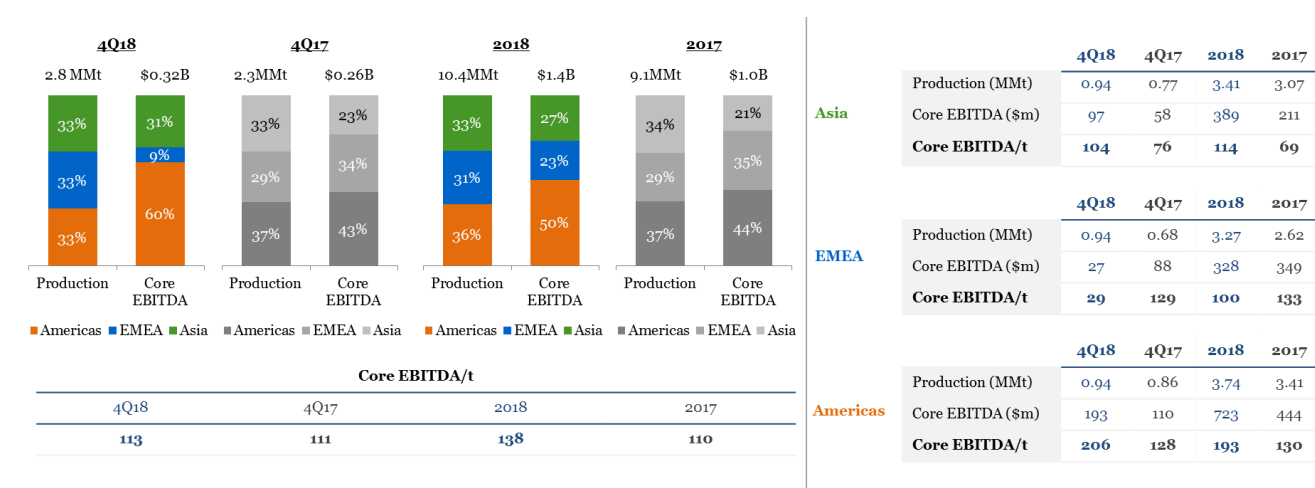
**Table 2: Segment Results (New segment)**

	Full Year			Quarterly			
	2018	2017	2018 YoY	4Q18	3Q18	4Q17	4Q18 YoY
\$million (except where stated otherwise)							
<b>Production Volume (kt)</b>	<b>10,419</b>	<b>9,103</b>	<b>14%</b>	<b>2,818</b>	<b>2,730</b>	<b>2,306</b>	<b>22%</b>
Integrated PET	7,804	6,844	14%	2,128	2,042	1,695	26%
Olefins	515	478	8%	133	120	153	(13)%
Fibers	1,292	1,125	15%	345	355	305	13%
Packaging	162	120	35%	48	39	32	52%
Specialty Chemicals	646	536	20%	164	174	121	35%
<b>Operating rate (%)</b>	<b>88%</b>	<b>88%</b>	<b>26 bps</b>	<b>86%</b>	<b>87%</b>	<b>86%</b>	<b>29 bps</b>
Integrated PET	88%	89%	-170 bps	85%	85%	86%	-51 bps
Olefins	94%	87%	671 bps	96%	86%	111%	-1,473 bps
Fibers	94%	88%	579 bps	88%	95%	90%	-168 bps
Packaging	61%	66%	-513 pbs	65%	59%	69%	-332 bps
Specialty Chemicals	85%	74%	1,054bps	94%	101%	65%	2,942bps
<b>Consolidated Revenue<sup>1,2</sup></b>	<b>10,741</b>	<b>8,438</b>	<b>27%</b>	<b>2,788</b>	<b>2,920</b>	<b>2,135</b>	<b>31%</b>
Integrated PET	6,983	5,366	30%	1,732	2,027	1,268	37%
Olefins	452	422	7%	107	109	127	(16)%
Fibers	2,760	2,112	31%	753	715	624	21%
Packaging	249	182	37%	78	60	49	59%
Specialty Chemicals	1,044	910	15%	229	329	214	7%
<b>Core EBITDA<sup>3</sup></b>	<b>1,441</b>	<b>1,004</b>	<b>44%</b>	<b>318</b>	<b>409</b>	<b>256</b>	<b>24%</b>
Integrated PET	791	414	91%	171	256	114	51%
Olefins	232	145	60%	50	52	53	(4)%
Fibers	211	181	17%	64	49	47	36%
Packaging	48	37	29%	13	11	10	29%
Specialty Chemicals	158	229	(31)%	22	44	36	(38)%
<b>Core EBITDA Margin (%)</b>	<b>13%</b>	<b>12%</b>	<b>152 bps</b>	<b>11%</b>	<b>14%</b>	<b>12%</b>	<b>-58 bps</b>
Integrated PET	11%	8%	361 bps	10%	13%	9%	93 bps
Olefins	51%	34%	1,705 bps	47%	48%	41%	599 bps
Fibers	8%	9%	-90 bps	9%	7%	8%	98 bps
Packaging	19%	20%	-119 bps	17%	18%	21%	-398 bps
Specialty Chemicals	15%	25%	-1,001 bps	10%	16%	17%	-719 bps
<b>Core ROCE%</b>	<b>14%</b>	<b>12%</b>	<b>189 bps</b>	<b>10%</b>	<b>17%</b>	<b>11%</b>	<b>-119 bps</b>
Integrated PET	16%	9%	673 bps	12%	23%	10%	198 bps
Olefins	35%	13%	2,277bps	28%	28%	21%	718 bps
Fibers	5%	7%	-243 bps	4%	4%	7%	-240 bps
Packaging	12%	17%	-425 bps	14%	20%	18%	-381 bps
Specialty Chemicals	19%	42%	-2,227bps	8%	27%	24%	-1,616 bps

<sup>1</sup>Consolidated financials are based upon elimination of intra-company (or intra-business segment) transactions

<sup>2</sup>Total of each segment may not always tally with consolidated financials due to elimination of Intra-company

<sup>3</sup>Core EBITDA is Reported EBITDA less Inventory gains/(losses)

**Figure 1: Regional Performance**

## 2018 Performance Analysis

### Integrated PET (PX, PTA, PET and Recycling)

Integrated PET production in 2018 was 7.8 million tons, up 14% YoY, supported by higher PET volume contributions from Brazil (since 2Q18), Egypt (since 3Q18) and debottlenecking in China. Sorepla (3Q18) helped enhance recycled PET production. PTA volumes also grew with Portugal (since 3Q18), expansion in Netherlands and the consolidation in Indonesia (4Q18).

4Q18 production of the Integrated PET segment was 2.1 million tons, up 26% and 4% when compared to 4Q17 and 3Q18, respectively. This was despite a negative impact to overall production due to the force majeure in 2 PET lines, for 50 days, in Netherlands and a partial shutdown in Poland.

Core EBITDA in 2018 of \$791 million was almost double that of 2017 (\$414 million), driven by a structural improvement in the global polyester chain margins and the impact of higher volume. On a per ton basis, this segment achieved a Core EBITDA per ton of \$101 as compared to \$61 in 2017. Core EBITDA margin in 2018 was 11%, up 3% from 2017.

4Q18 Core EBITDA was \$171 million, up 51% from 4Q17, but down 33% QoQ. This QoQ decline was predominantly due to IVL-specific factors that impacted its EMEA portfolio in particular. As mentioned earlier, IVL acquired two large mothballed sites in Egypt (PET) and Portugal (PTA) which did not operate for most of 2018, reduced PTA production in the Netherlands brownfield expansion, further reduction in PET and PTA production in the Netherlands (FM in 4Q18) and the unplanned partial shutdown in Poland (PET 4Q18).

As all of these set of issues are now behind us, earnings from the EMEA region are returning back to normal levels and this will have a positive earnings impact for IVL as a whole in 2019. 2019 is also expected to outperform 2018 as legacy contracts in Western markets improve and we produce higher volume of PET in the higher-margin market of Brazil.

### Olefins (Ethylene, PEO, MEG and related derivatives)

Production in 2018 increased by 8% YoY to 515 thousand tons, driven by higher utilization rate of 94% in 2018 (2017: 87%).

4Q18 production was 133 thousand tons compared to 120 thousand tons in 3Q18, an 11% increase, primarily due to 12 days unplanned outage at EO-EG plant during 3Q18. On a YoY basis, 4Q18 production declined by 13% from 153 thousand tons in 4Q17 due to lower utilization as a result of an aging catalyst.

The segment delivered strong earnings in 2018 with a core EBITDA of \$232 million, increased from \$145 million in 2017 by 60% driven by US ethylene cost advantage. Core EBITDA margin increased from 34% in 2017 to 51% in 2018.

4Q18 Core EBITDA was \$50 million, lower by 4% YoY due to lower utilization rate, higher conversion cost, and lower Asian Spot MEG prices which is partly compensated by US ethylene cost advantage.

In 1Q19, the EO-EG plant was shut down for 38 days for routine maintenance and catalyst change which was due for scheduled replacement. The US gas cracker will provide ethylene feedstock is expected to start up in 1H19.

### **Fibers**

Production in 2018 was 1.3 million tons, up 15% YoY, driven by contributions from Glanzstoff (acquired May17), Durafiber (acquired 2H17), Avgol (acquired 3Q18), Kordana (acquired 4Q18), and Scholler (acquired 4Q18). Overall production was partly offset by lower volume at PHP (FM by raw material supplier).

4Q18 production of Fibers was 345 thousand tons, up 13% from 2017 as a consequence of the acquisitions mentioned above.

The segment achieved a core EBITDA of \$211 million in 2018, a 17% increase YoY. This was primarily due to higher production. Core EBITDA margin in 2018 was 8% (2017: 9%). Margin for the business was impacted as a result of higher feedstock prices and lower operating rates in the Avgol, Durafiber and Kordana assets. This trend is expected to reverse in 2019 with higher operating rates, lower conversion cost and improved vitality index which will add to the segment EBITDA margin.

### **Packaging**

2018 production volume was 162 thousand tons, up 35% YoY, driven by additional volume from Nigeria, Thailand and Egypt. This translated in to a core EBITDA of \$48 million, 29% increase YoY. Core EBITDA margin in 2018 was 19% (2017: 20%).

4Q18 core EBITDA was \$13 million, an 20% increase QoQ and 29% increase YoY.

### **Specialty Chemicals (NDC, IPA and Specialty PET)**

Production in 2018 was 646 thousand tons, up 20% YoY, as a result of higher production of IPA in Spain. The utilization rate of this IPA plant increased from 67% in 2017 to 100% in 2018.

4Q18 production was 164 thousand tons, up 35% YoY, but down 6% QoQ due to reduced availability of feedstock.

2018 Core EBITDA of the segment was \$158 million. Core EBITDA margin in 2018 was 15%, down from 25% in 2017. The decline in earnings of the segment was due to normalization of IPA spreads compensated, to some extent, by higher volume.

Core EBITDA in 4Q18 was \$22 million, down 38% and 49% when compared to 4Q17 and 3Q18, respectively. In addition to lower IPA margin, unit conversion cost was higher due to the start up of the IPA facility in Alabama, USA in December 2018. This aspect is expected to correct itself once the US facility reaches optimal production rates.

In 2019, we expect higher volume contribution from this segment from the IPA plant in the US with a capacity of 220 thousand tons per annum and the newly acquired assets, Invista Germany. The IPA in the US captures the entire value chain from Paraxylene to PET. IVL has become the only IPA producer in both Europe and North America, in a business wherein IVL is the world's second largest producer.

## ***Capital Expenditure Program***

We continue to invest in the business to enhance overall production, vertical integration and quality of earnings. IVL balance sheet and cash flow generation are strong, allowing us to invest significantly in our growth engines, through selective growth and turnaround opportunities, leveraging our strengths in core markets and in further enhancing our offering.

***Table 3: Pipeline of Ongoing Projects 2019-2020***

<b>Project</b>	<b>Business</b>	<b>Year</b>	<b>Total Installed Capacity (MMt)</b>
Consolidation of India PET JV	Integrated PET	2019	0.7
Custom Polymers acquisition	Integrated PET	2019	0.03
Brazil Fibras and UTT acquisitions	Fibers	2019	0.2
Invista PET Germany acquisition	Specialty Chemicals	2019	0.3
Corpus Christi PET/PTA	Integrated PET	2019 - 2020	PET: 1.1, PTA: 1.3
	Debottlenecking projects		



## ***Forward-looking Statements***

The statements included herein contain “forward-looking statements” of Indorama Ventures Public Company Limited (the “Company”) that relate to future events, which are, by their nature, subject to significant risks and uncertainties. All statements, other than statements of historical fact contained herein, including, without limitation, those regarding the future financial position and results of operations, strategy, plans, objectives, goals and targets, future developments in the markets where the Company participates or is seeking to participate and any statements preceded by, followed by or that include the words “target”, “believe”, “expect”, “aim”, “intend”, “will”, “may”, “anticipate”, “would”, “plan”, “could”, “should”, “predict”, “project”, “estimate”, “foresee”, “forecast”, “seek” or similar words or expressions are forward-looking statements.

Such forward-looking statements involve known and unknown risks, uncertainties and other important factors beyond the Company’s control that could cause the actual results, performance or achievements of the Company to be materially different from the future results, performance or achievements expressed or implied by such forward-looking statements. These forward-looking statements are based on numerous assumptions regarding the Company’s present and future business strategies and the environment in which the Company will operate in the future and are not a guarantee of future performance. 2019 and 2021 projections are based on historical 2017-2018 performance and management forecast. The predicted volume is based on legacy and new assets already committed, planned and announced.

Such forward-looking statements speak only as at the date of this document, and the Company does not undertake any duty or obligation to supplement, amend, update or revise any such statements. The Company does not make any representation, warranty or prediction that the results anticipated by such forward-looking statements will be achieved.

## ***Definitions***

**Core EBITDA** is after excluding inventory gains/losses from reported EBITDA.

**Inventory gains/losses** in a period result from the movement in prices of raw materials and products from the end of the previous reported period to the end of the current reported period. The cost of sales is impacted by inventory gains/losses wherein inventory gains decrease the cost of sales and inventory losses increase the cost of sales.

**Core Net Profit** is the Reported Net Profit less extraordinary items less tax adjusted inventory gain/loss.

**Net Operating Debt** is Net Debt (total debt less cash and current investments) less cash outflow for the various projects underway which are not yet completed and have not yet started contributing to the earnings.

## ***Notes***

We recommend that investors always read the MD&A together with the published financial statements to get complete details and understanding.

The consolidated financials are based on the elimination of intra-company (or intra-business segment) transactions. For this reason, the total of each segment may not always tally with consolidated financials. Similarly segments total may not always match to total due to holdings segment.

The Polyester Chain businesses are generally traded in US\$ and therefore the Company believes in helping its readers with translated US\$ figures. The Company’s reporting currency is THB. THB results are translated into US\$ at the average exchange rates and closing exchange rates where applicable.

The Company has presented the analysis in the MD&A in US\$ as it believes that the business can be explained better in US\$ terms. However THB numbers are also given where needed. Readers should rely on the THB results only.

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**Table 4: Segment Results (Old segment)**

	Full Year			Quarterly			
	2018	2017	2018 YoY	4Q18	3Q18	4Q17	4Q18 YoY
\$million (except where stated otherwise)							
<b>Production Volume (k tons)</b>	<b>10,419</b>	<b>9,103</b>	<b>14%</b>	<b>2,818</b>	<b>2,730</b>	<b>2,306</b>	<b>22%</b>
PET	4,266	3,734	14%	1,092	1,161	916	19%
Fibers	1,545	1,370	13%	398	408	354	13%
Feedstock	4,608	4,000	15%	1,328	1,161	1,036	28%
West Feedstock	3,250	2,796	16%	896	862	723	24%
Asia PTA	1,358	1,204	13%	432	299	312	38%
<b>Operating rate (%)</b>	<b>88%</b>	<b>88%</b>	<b>26 bps</b>	<b>86%</b>	<b>87%</b>	<b>86%</b>	<b>29 bps</b>
PET	88%	88%	-11 bps	84%	89%	85%	-171 bps
Fibers	93%	88%	544 bps	89%	93%	89%	32 bps
Feedstock	86%	87%	-101 bps	87%	83%	85%	208 bps
West Feedstock	85%	87%	-252 bps	86%	82%	83%	216 bps
Asia PTA	91%	88%	289 bps	92%	86%	90%	135 bps
<b>Core EBITDA (\$m)</b>	<b>1,441</b>	<b>1,004</b>	<b>44%</b>	<b>318</b>	<b>409</b>	<b>256</b>	<b>24%</b>
PET	588	296	98%	113	179	91	24%
Fibers	240	208	15%	72	55	53	35%
Feedstock	613	501	22%	136	178	116	18%
West Feedstock	541	484	12%	112	150	113	(1)%
Asia PTA	72	18	310%	24	28	2	903%
<b>Core EBITDA/ton (\$)</b>	<b>138</b>	<b>110</b>	<b>25%</b>	<b>113</b>	<b>150</b>	<b>111</b>	<b>2%</b>
PET	138	79	73%	103	154	99	4%
Fibers	155	152	2%	181	136	150	20%
Feedstock	133	125	6%	103	153	112	(8)%
West Feedstock	166	173	(4)%	125	174	157	(20)%
Asia PTA	53	15	264%	56	92	8	625%
<b>Core EBITDA Margin (%)</b>	<b>13%</b>	<b>12%</b>	<b>152 bps</b>	<b>11%</b>	<b>14%</b>	<b>12%</b>	<b>-58 bps</b>
PET	10%	7%	351 bps	8%	12%	8%	-49 bps
Fibers	8%	9%	-90 bps	9%	7%	8%	44 bps
Feedstock	13%	15%	-127 bps	11%	14%	14%	-508 bps
West Feedstock	16%	19%	-251 bps	13%	16%	18%	-508 bps
Asia PTA	6%	2%	384 bps	6%	9%	1%	483 bps

**Table 5: Regional Revenue Breakdown**

	Full Year			Quarterly			
	2018	2017	2018 YoY	4Q18	3Q18	4Q17	4Q18 YoY
<b>Consolidated Revenue<sup>1</sup></b>							
THBm	347,171	286,332	21%	91,436	96,001	70,417	30%
\$m	10,741	8,438	27%	2,788	2,920	2,135	31%
<b>Revenue breakdown by geography<sup>2</sup></b>							
Thailand	6%	6%		6%	5%	6%	
Rest of Asia	19%	19%		19%	19%	19%	
Americas	36%	37%		34%	38%	35%	
Europe	29%	32%		27%	26%	32%	
Rest of the World	10%	6%		13%	12%	7%	

<sup>1</sup> Consolidated financials are based on elimination of intra-company (or intra-business segment) transactions<sup>2</sup> Breakup by customer sales location

**Table 6: Reconciliation of Core Profit After Tax and NCI to Reported Net Profit**

\$million (except where stated otherwise)	Full Year			Quarterly			
	2018	2017	2018 YoY	4Q18	3Q18	4Q17	4Q18 YoY
<b>Core Net Profit after Tax and NCI</b>	<b>789</b>	<b>459</b>	<b>72%</b>	<b>121</b>	<b>260</b>	<b>117</b>	<b>3%</b>
Inventory gains (losses)	17	37	(55)%	(78)	68	14	(659)%
Total tax on Inventory gains/(losses)	(8)	(5)	53%	8	(13)	(1)	(1,194)%
<b>Net profit, before extraordinary items</b>	<b>798</b>	<b>491</b>	<b>62%</b>	<b>51</b>	<b>315</b>	<b>130</b>	<b>(61)%</b>
Add: Non Operational/Extraordinary income/(expense)	21	124	(83)%	18	(8)	167	(89)%
Acquisition cost and pre-operative expense, Gain on Bargain Purchases, impairments and feasibility study (Net) <sup>1</sup>	(35)	(16)	119%	(10)	(8)	(7)	34%
Other Extraordinary Income/(Expense)	58	41	43%	30	(1)	76	(60)%
Other Extraordinary Income/(Expense)	(2)	99	(102)%	(2)	1	99	(102)%
<b>= Net Profit after Tax and NCI</b>	<b>819</b>	<b>615</b>	<b>33%</b>	<b>69</b>	<b>307</b>	<b>298</b>	<b>(77)%</b>

<sup>1</sup> A gain on bargain purchase needs to be accounted for on completion of any acquisition under Thai Accounting Standards

**Table 7: Cash Flow Statement**

\$million (except where stated otherwise)	Full Year			Quarterly			
	2018	201	2018 YoY%	4Q18	3Q18	4Q17	4Q18 YoY
<b>Core EBITDA</b>	<b>1,441</b>	<b>1,004</b>	<b>44%</b>	<b>318</b>	<b>409</b>	<b>256</b>	<b>24%</b>
Net working capital and others <sup>1</sup>	(353)	(86)	310%	(19)	(108)	(9)	127%
Income tax	(99)	(66)	49%	(48)	(25)	(32)	52%
<b>Operating Cash Flow</b>	<b>989</b>	<b>852</b>	<b>16%</b>	<b>250</b>	<b>276</b>	<b>215</b>	<b>16%</b>
Net growth and investment capex <sup>2</sup>	(2,168)	(720)	201%	(793)	(713)	(176)	351%
Net working capital on acquired /sold assets	(92)	(52)	75%	(54)	(5)	(11)	403%
Maintenance capex	(113)	(101)	12%	(42)	(22)	(30)	42%
<b>Cash Flow After Strategic Spending</b>	<b>(1,383)</b>	<b>(21)</b>		<b>(639)</b>	<b>(465)</b>	<b>(1)</b>	
Net financial costs	(154)	(128)	20%	(68)	(20)	(42)	65%
Dividends and PERP interest	(311)	(154)	101%	(68)	(128)	(11)	501%
Proceeds from issue of ordinary shares due to warrants exercised	490	457	7%	(3)	84	5	(154)%
<b>Increase/(Decrease) in Net Debt on cash basis<sup>3</sup></b>	<b>1,357</b>	<b>(154)</b>		<b>777</b>	<b>530</b>	<b>49</b>	

<sup>1</sup> Includes inventory gains/ (losses)

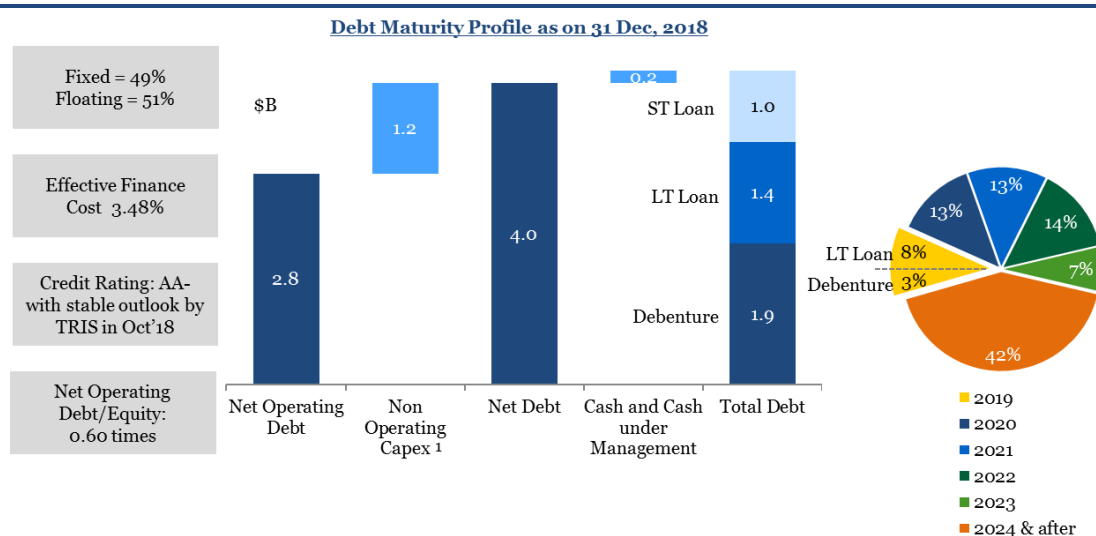
<sup>2</sup> Includes net proceeds from disposals of PPE, other non-current investments and assumed net debt on acquisitions

<sup>3</sup> Includes effect of FOREX changes on balance held in foreign currencies and on the net debt changes over the period of cash flow, due to the increase/decrease in net debt as per statement of financial position might be different

**Table 8: Debt Profile**

\$million (except where stated otherwise)	31-Dec-18	31-Dec-17
<b>Total Debt</b>	<b>4,215</b>	<b>2,931</b>
Bank overdraft and short-term loans	964	187
Long term debt (Current portion)	269	190
Debentures (Current portion)	93	83
Long term debt (Non-current portion)	1,083	1,304
Debentures (Non-current portion)	1,806	1,166
<b>Cash &amp; Cash under management</b>	<b>165</b>	<b>209</b>
Cash and cash equivalents	172	210
Current investments and loans given	(7)	(2)
<b>Net Debt</b>	<b>4,050</b>	<b>2,722</b>
Non-operating Debt (Project Debt)	1,220	764
<b>Net Operating Debt<sup>1</sup></b>	<b>2,830</b>	<b>1,959</b>
Net debt to equity (times)	0.87	0.75
Net operating debt to equity (times)	0.60	0.54
Debts with fixed interest %	49%	58%
Credit Rating by TRIS	AA-	A+

<sup>1</sup> Net debt after debt for capex and investments in progress that are not generating revenue and earnings as on date given

**Figure 2: Repayment Schedule of Long Term Debt**

<sup>1</sup> Includes various projects underway which are not yet completed and have not yet started contributing to the earnings

**Table 9: Joint Ventures Performance**

\$million (except where stated otherwise)	Full Year			Quarterly			
	2018	2017	2018 YoY	4Q18	3Q18	4Q17	4Q18 YoY
<b>Joint Ventures Income / (Loss)</b>	<b>18</b>	<b>1</b>	<b>2,065%</b>	<b>(2)</b>	<b>15</b>	<b>(1)</b>	<b>45%</b>
Polyprima, Indonesia <sup>1</sup>	4	(11)	(134)%	-	9	(2)	-
India PET JV	13	7	80%	(2)	6	(0)	3,284%
Others (FiberVisions, PHP China, Mexico)	1	5	(75)%	0	0	1	(84)%

<sup>1</sup> 74% PTA JV, IVL started consolidating Polyprima Indonesia result since 4Q18. IVL has 100% ownership since January 3rd, 2019

Table 10: IVL Consolidated Statement of Income

THBm	Full Year			Quarterly			
	2018	2017	2018 YoY%	4Q18	3Q18	4Q17	4Q18 YoY%
<b>Reported Financials</b>							
Net sales	347,171	286,332	21%	91,436	96,001	70,417	30%
Other income (expense), net <sup>1</sup>	1,949	1,207	61%	449	263	591	(24)%
Total Revenue	349,120	287,539	21%	91,885	96,263	71,008	29%
Cost of sales <sup>2</sup>	289,107	240,753	20%	80,723	76,961	59,325	36%
Gross profit	<b>60,012</b>	<b>46,786</b>	<b>28%</b>	<b>11,162</b>	<b>19,303</b>	<b>11,683</b>	<b>(4)%</b>
Selling and administrative expenses <sup>2</sup>	27,738	23,512	18%	7,569	7,335	6,120	24%
Foreign exchange gain (loss)	586	(35)	(1,793)%	175	(158)	49	260%
<b>EBITDA</b>	<b>47,129</b>	<b>35,349</b>	<b>33%</b>	<b>7,937</b>	<b>15,641</b>	<b>8,904</b>	<b>(11)%</b>
Depreciation and amortization	14,269	12,109	18%	4,169	3,831	3,293	27%
<b>Operating income</b>	<b>32,860</b>	<b>23,240</b>	<b>41%</b>	<b>3,768</b>	<b>11,810</b>	<b>5,611</b>	<b>(33)%</b>
Share of profit/(loss) from JV	586	28	1,963%	(57)	479	(45)	29%
Extraordinary income/ (expenses) <sup>3</sup>	684	4,205	(84)%	588	(243)	5,691	(90)%
Net interest	(3,980)	(3,762)	6%	(1,293)	(1,036)	(842)	54%
<b>Profit before tax</b>	<b>30,150</b>	<b>23,711</b>	<b>27%</b>	<b>3,006</b>	<b>11,009</b>	<b>10,416</b>	<b>(71)%</b>
Income tax expense	3,812	2,633	45%	768	1,018	387	99%
Current tax expense/(income)	4,191	2,850	47%	512	1,492	1,102	(54)%
Deferred tax expense	(378)	(218)	74%	256	(473)	(715)	(136)%
<b>Profit/(loss) for the period</b>	<b>26,338</b>	<b>21,078</b>	<b>25%</b>	<b>2,238</b>	<b>9,990</b>	<b>10,029</b>	<b>(78)%</b>
Non-controlling interests (NCI)	(128)	195	(165)%	(117)	(64)	26	(548)%
<b>Net profit/(loss) after NCI</b>	<b>26,465</b>	<b>20,883</b>	<b>27%</b>	<b>2,355</b>	<b>10,054</b>	<b>10,003</b>	<b>(76)%</b>
Interest on subordinated capital debentures (PERP) <sup>4</sup>	(1,050)	(1,050)	0%	(265)	(265)	(265)	0%
<b>Net profit/(loss) after NCI &amp; PERP interest</b>	<b>25,415</b>	<b>19,833</b>	<b>28%</b>	<b>2,090</b>	<b>9,789</b>	<b>9,738</b>	<b>(79)%</b>
Weighted average no. of shares (in Millions)	5,512	4,985	11%	5,615	5,585	5,245	7%
<b>EPS (in THB)</b>	<b>4.61</b>	<b>3.98</b>	<b>16%</b>	<b>0.37</b>	<b>1.75</b>	<b>1.91</b>	<b>(81)%</b>
<b>Core Financials</b>							
EBITDA	47,129	35,349	33%	7,937	15,641	8,904	(11)%
Less: Inventory gain/(loss)	539	1,271	(58)%	(2,521)	2,193	469	(637)%
<b>Core EBITDA</b>	<b>46,589</b>	<b>34,077</b>	<b>37%</b>	<b>10,458</b>	<b>13,447</b>	<b>8,435</b>	<b>24%</b>
Net profit/(loss) after NCI	26,465	20,883	27%	2,355	10,054	10,003	(76)%
Less: Inventory gain/(loss) – tax adjusted	292	1,102	(73)%	(2,208)	1,775	445	(596)%
Less: Extraordinary income/(expenses)	684	4,205	(84)%	588	(243)	5,691	(90)%
<b>Core net profit after NCI</b>	<b>25,488</b>	<b>15,576</b>	<b>64%</b>	<b>3,974</b>	<b>8,523</b>	<b>3,867</b>	<b>3%</b>
Interest on subordinated capital debentures (PERP) <sup>4</sup>	(1,050)	(1,050)	0%	(265)	(265)	(265)	0%
<b>Core net profit after NCI &amp; PERP interest</b>	<b>24,438</b>	<b>14,526</b>	<b>68%</b>	<b>3,709</b>	<b>8,258</b>	<b>3,602</b>	<b>3%</b>
<b>Core EPS (THB)</b>	<b>4.43</b>	<b>2.91</b>	<b>52%</b>	<b>0.66</b>	<b>1.48</b>	<b>0.69</b>	<b>(4)%</b>
Net Operating Core ROCE (before JV's and M&A Annualized) %	13.6%	12.2%	138 bps	10.4%	17.2%	11.5%	-116 bps

<sup>1</sup> As per internal classification and includes insurance claim for business interruption loss of profit

<sup>2</sup> As per internal classification and includes depreciation and amortization expenses

<sup>3</sup> As per internal classification and includes gain on bargain purchase on new acquisitions and their related transaction costs and pre-operative expenses

<sup>4</sup> Interest net of tax on THB 15 billion Perpetual Debentures

<sup>5</sup> M&A earnings are annualized for ROCE calculation to appropriately represent the ratio based on restated historical numbers. ROCE calculation is based on THB currency which may not match with other graphs where the calculation is on \$ basis. Including PTA Portugal in 2Q18 while in 2Q18 MD&A has shown ROCE excluding PTA Portugal.

**Table 11: IVL Consolidated Statement of Financial Position**

THBm	31-Dec-18	31-Dec-17	30-Dec-18 vs. 31-Dec-17
<b>Assets</b>			
Cash and current investments	5,713	7,015	(19)%
Trade accounts receivable	37,637	32,098	17%
Inventories	70,085	46,036	52%
Other current assets	10,850	7,803	39%
<b>Total current assets</b>	<b>124,284</b>	<b>92,953</b>	<b>34%</b>
Investment	5,294	6,247	(15)%
Property, plant and equipment	205,182	151,202	36%
Intangible assets	40,349	27,865	45%
Deferred tax assets	2,714	2,620	4%
Other assets	1,371	1,471	(7)%
<b>Total assets</b>	<b>379,195</b>	<b>282,358</b>	<b>34%</b>
<b>Liabilities</b>			
Bank OD and short-term loans from financial institutions	31,272	6,115	411%
Trade accounts payable	54,565	39,301	39%
Current portion of long-term loans	8,627	6,168	40%
Current portion of debenture	3,013	2,729	10%
Current portion of finance lease liabilities	110	49	127%
Other current liabilities	16,113	11,260	43%
<b>Total current liabilities</b>	<b>113,700</b>	<b>65,622</b>	<b>73%</b>
Long-term loans from financial institutions	34,640	42,329	(18)%
Debenture	58,604	38,117	54%
Finance lease liabilities	498	279	79%
Deferred tax liabilities	15,788	13,139	20%
Other liabilities	4,109	3,887	6%
<b>Total liabilities</b>	<b>227,339</b>	<b>163,372</b>	<b>39%</b>
<b>Shareholder's equity</b>			
Share capital	5,615	5,245	7%
Share premium	60,331	44,848	35%
Retained earnings & Reserves	64,018	52,094	23%
<b>Total equity attributable to shareholders</b>	<b>129,964</b>	<b>102,188</b>	<b>27%</b>
Subordinated perpetual debentures	14,874	14,874	0%
<b>Total equity attributable to equity holders</b>	<b>144,838</b>	<b>117,062</b>	<b>24%</b>
Non-controlling interests (NCI)	7,018	1,925	265%
<b>Total shareholder's equity</b>	<b>151,855</b>	<b>118,987</b>	<b>28%</b>
<b>Total liabilities and shareholder's equity</b>	<b>379,195</b>	<b>282,358</b>	<b>34%</b>

Table 12: 2019 Planned Turnaround Schedule

	<b>Plant</b>	<b>Product</b>	<b>Location</b>	<b>2019 Capacity (MMt)</b>	<b>Days Shutdown</b>
<b>Integrated PET</b>	Indorama Polyester Industries Rayong	PET	Thailand	110	10
	Indorama Ventures Polymer Rayong	PET	Thailand	143	45
	Orion Global Pet	PET	Lithuania	266	33
	Indorama Ventures Europe	PET	Netherlands	426	18.5
	Indorama Ventures Quimica	PET	Spain	208	13
	Indorama Ventures Corlu PET	PET	Turkey	301	7
	Alphapet	PET	USA	463	35
	Indorama Ventures Polymers Mexico	PET	Mexico	484	6
	Auriga Polymers	PET	USA	274	5
	Indorama Ventures Poland	PET	Poland	230	1
	Wellman International	Recycling	Ireland		11
	Wellman International	Recycling	Netherlands	176	18
	Wellman International Verdun	Recycling	France		25
	Wellman International Neufchateau	Recycling	France		15
	Indorama Petrochem	PTA	Thailand	771	28
	TPT Petrochemicals	PTA	Thailand	602	29
	PT. Indorama Petrochemicals	PTA	Indonesia	508	42
	Indorama Ventures Europe	PTA	Netherlands	700	7
	Indorama Ventures Quimica	PTA	Spain	325	20
	Indorama Ventures Portugal	PTA	Portugal	700	12
Indorama Ventures Xylenes & PTA	PTA	USA	690	20	
Indorama Ventures PTA Montreal	PTA	Canada	590	30	
<b>Olefins</b>	Indorama Ventures (Oxide & Glycols) <sup>1</sup>	EOEG	USA	550	38
<b>Fibers</b>	Indorama Polyester Industries - Rayong	Fibers	Thailand	199	20
	Trevira	Fibers	Germany	123	43
	Glanzstoff Group	Fibers	Luxembourg		20
	Glanzstoff Group	Fibers	Czech R.	31	6
	Glanzstoff Group	Fibers	Italy		21
	Glanzstoff Group	Fibers	China	1	10
	Glanzstoff Longlaville	Fibers	France	35	21
	FiberVisions	Fibers	China	10	8
	Auriga Polymers	Fibers	USA	72	28
	Indorama Ventures Polymers Mexico	Fibers	Mexico	14	17
<b>Specialty Chemicals</b>	Indorama Ventures Quimica	IPA	Spain	220	24

<sup>1</sup> Catalyst changes every 2 years



**Table 13: Acquisitions Announced in 2018 till Date**

<b>Acquisition</b>	<b>Segment</b>	<b>Transaction Completed</b>	<b>Installed Capacity (MMt)</b>
Brazil PET	Integrated PET	24-May-18	0.6
Corpus Christi (1/3 ownership in JV)	Integrated PET	28-Dec-18 2020E (start-up)	PET: 1.1 PTA: 1.3
Avgol	Fibers	25-Jul-18	0.2
Egypt PET	Integrated PET	14-Jun-18	0.5
Kordarna	Fibers	30-Oct-18	0.05
Medco	Packaging	14-Nov-18	0.07
Sorepla	Integrated PET	30-Jul-18	0.05
Schoeller	Fibers	24-Nov-18	0.00
M&G Fibras	Fibers	1Q19E	0.06
UTT	Fibers	1Q19E	0.1
Invista Germany	Specialty Chemicals	1Q19E	0.3
Custom Polymers	Integrated PET	1Q19E	0.03

## *IVL Investor Relations Contacts*

strategy&ir@indorama.net

+6626616661 Ext: 145