

Part 3

Financial Status and Performance

13. Financial Information

The consolidated and separate financial statements for the year ended December 31, 2016 2017 and 2018 and were audited by Mr. Sakda Kaothanthong, Certified Public Accountant, with registration No. 4628 of KPMG Phoomchai Audit Ltd.

Summary of audit report of Certified Public Accountant of the Company

Financial Statement For the years ended 31 December 2018

The auditor gave an opinion that the consolidated and separate financial statements present fairly, in all material respects, the financial position of the Group and the Company, respectively, as at 31 December 2018 and their financial performance and cash flows for the year then ended in accordance with Thai Financial Reporting Standards.

Without qualifying the opinion, the auditor drew attention to note 4 to the consolidated financial statements for the following matters:

The Group completed the acquisition of an equity stake of 100% in M&G Polimeros Brazil S.A., 65.72% in Avgol Industries 1953 Ltd. and 74% of the share capital of Medco Plast for Packing and Packaging Systems S.A.E. resulting in the recording goodwill of Baht 30.2 million, Baht 4,646.9 million and Baht 997.5 million respectively in the consolidated statement of financial position as of 31 December 2018. The fair value of business acquired and the allocation of purchase price have been provisionally determined and are subject to potential amendment.

The Group completed the acquisitions of an equity stake 100% in KORDÁRNA Plus a.s., Schoeller Group, 100% of the share capital of Sorepla Technologie S.A. and its subsidiary and the formation of Joint Venture in Egyptian Indian Polyester Company S.A.E. in Egypt resulting in the recording gains on bargain purchases of Baht 1,928.5 million in the consolidated statement of income for the year ended 31 December 2018. The fair value of business acquired and the allocation of purchase price have been provisionally determined and are subject to potential amendment.

The following table sets forth summary of the consolidated financial statements of Indorama Ventures Public Company Limited from 2016 to 2018

Statements of Financial Position (Consolidated Financial Statements)

Unit: Baht million	As of December 31					
	2016	%	2017	%	2018	%
Assets						
Current assets						
Cash and cash equivalents	4,025.6	1.6	6,877.0	2.4	5,578.4	1.5
Current investments	114.7	0.0	138.0	0.0	134.3	0.0
Trade accounts receivable	31,085.5	12.0	32,098.2	11.4	37,636.6	9.9
Other receivables	861.42	0.3	1,056.8	0.4	1,324.6	0.3
Short-term loans to related parties	434.2	0.2	155.6	0.1	170.9	0.0
Inventories	40,458.9	15.7	46,036.5	16.3	70,085.3	18.5
Other current assets	7,515.0	2.9	6,590.8	2.3	9,354.1	2.5
Total current assets	84,495.3	32.7	92,953.0	32.9	124,284.2	32.8
Non-current assets						
Investments in joint ventures	5,529.8	2.1	6,247.1	2.2	5,294.0	1.4
Other long-term investments	90.0	0.0	14.9	0.0	15.2	0.0
Long-term loans to related parties	127.0	0.0	53.1	0.0	42.6	0.0
Property, plant and equipment	136,860.3	53.0	151,202.0	53.5	205,182.4	54.1
Goodwill	9,654.8	3.7	9,837.7	3.5	15,210.0	4.0
Other intangible assets	17,602.2	6.8	18,027.2	6.4	25,139.3	6.6
Deferred tax assets	2,233.5	0.9	2,620.5	0.9	2,713.9	0.7
Other non-current assets	1,787.5	0.7	1,402.8	0.5	1,313.2	0.3
Total non-current assets	173,885.1	67.3	189,405.4	67.1	254,910.6	67.2
Total assets	258,380.5	100.0	282,358.4	100.0	379,194.8	100.0
Liabilities and equity						
Current liabilities						
Bank overdrafts and short-term loans from financial institutions	9,205.6	3.6	6,115.1	2.2	31,272.0	8.2
Trade accounts payable	37,316.1	14.4	39,301.4	13.9	54,564.8	14.4
Current portion of long-term loans from financial institutions	4,403.6	1.7	6,167.8	2.2	8,626.7	2.3
Current portion of debentures	5,499.3	2.1	2,728.8	1.0	3,013.1	0.8
Current portion of finance lease liabilities	7.6	0.0	48.5	0.0	110.2	0.0
Income tax payable	1,189.9	0.5	1,327.3	0.5	2,974.1	0.8
Other current liabilities	8,239.4	3.2	9,932.5	3.5	13,139.1	3.5
Total current liabilities	65,861.5	25.5	65,621.6	23.2	113,700.1	30.0
Non-current liabilities						
Long-term loans from financial institutions	51,167.9	19.8	42,329.1	15.0	34,640.0	9.1
Debentures	31,789.8	12.3	38,116.8	13.5	58,604.3	15.5
Finance lease liabilities	12.4	0.0	278.9	0.1	498.1	0.1
Deferred tax liabilities	14,796.0	5.7	13,138.6	4.7	15,788.5	4.2

Unit: Baht million	As of December 31					
	2016	%	2017	%	2018	%
Employee benefit obligations	2,027.8	0.8	2,209.6	0.8	2,327.2	0.6
Other non-current liabilities	910.0	0.4	1,677.1	0.6	1,781.3	0.5
Total non-current liabilities	100,704.0	39.0	97,750.1	34.6	113,639.4	30.0
Total liabilities	166,565.5	64.5	163,371.7	57.9	227,339.5	60.0
Equity						
Share capital						
Authorised share capital	5,666.0	2.2	5,666.0	2.0	5,666.0	1.5
Issued and paid-up share capital	4,814.3	1.9	5,245.4	1.9	5,614.6	1.5
Additional paid in capital:						
Share premium	29,775.1	11.5	44,848.2	15.9	60,331.4	15.9
Unrealised surpluses (deficits)						
Hedging reserve	(52.4)	(0.0)	305.1	0.1	(157.2)	(0.0)
Currency translation differences	1,491.2	0.6	(2,639.6)	(0.9)	(6,638.2)	(1.8)
Excess of cost over book value of acquired subsidiaries	(3,290.8)	(1.3)	(2,862.3)	(1.0)	(2,973.7)	(0.8)
Differences arising from common control transactions	(1,235.6)	(0.5)	(1,235.6)	(0.4)	(1,235.6)	(0.3)
Retained earnings						
Appropriated						
Legal reserve	2,327.1	0.9	2,956.8	1.0	3,207.1	0.8
Unappropriated	40,352.4	15.6	55,569.5	19.7	71,815.3	18.9
Equity attributable to shareholders	74,181.3	28.7	102,187.6	36.2	129,963.7	34.3
Subordinated perpetual debentures	14,874.1	5.8	14,874.1	5.3	14,874.1	3.9
Equity attributable to equity holders	89,055.4	34.5	117,061.7	41.5	144,837.8	38.2
Non-controlling interests	2,759.6	1.1	1,925.0	0.7	7,017.6	1.9
Total equity	91,814.9	35.5	118,986.7	42.1	151,855.4	40.0
Total liabilities and equity	258,380.5	100.0	282,358.4	100.0	379,194.8	100.0

Statements of Income (Consolidated Financial Statements)

Unit: Baht million	For the year ended December 31					
	2016	%	2017	%	2018	%
Income						
Revenue from sale of goods	254,619.5	100.0	286,332.3	100.0	347,170.9	100.0
Net foreign exchange gain	543.1	0.2	0.0	0.0	586.2	0.2
Interest income	124.4	0.0	102.4	0.0	247.2	0.1
Gain on a bargain purchase	6,698.6	2.6	3,672.7	1.3	1,928.5	0.6
Other income	1,459.5	0.6	1,160.2	0.4	1,952.6	0.6
Total income	263,445.1	103.5	291,267.7	101.7	351,885.4	101.4
Expenses						
Cost of sale of goods	218,197.7	85.7	240,888.6	84.1	289,232.0	83.3
Selling and administrative expenses	21,679.0	8.5	25,766.7	9.0	28,593.1	8.2
Management benefit expenses	143.7	0.0	136.9	0.0	190.8	0.1
Impairment losses	607.9	0.2	899.4	0.3	78.0	0.0
Net foreign exchange loss	-	0.0	61.9	0.0	0.0	0.0
Total expenses	240,628.4	94.5	267,753.5	93.5	318,093.8	91.6
Share of losses of investments in joint ventures, net	(173.1)	(0.1)	28.4	0.0	585.9	0.2
Profit before finance costs and income tax expense	22,643.7	8.9	23,542.6	8.2	34,377.4	9.9
Finance costs	4,222.3	1.7	3,864.5	1.3	4,227.4	1.2
Profit before income tax expense	18,421.3	7.2	19,678.1	6.9	30,150.0	8.7
Income tax expense	2,062.1	0.8	(1,400.2)	(0.5)	3,812.4	1.1
Profit for the year	16,359.2	6.4	21,078.3	7.4	26,337.6	7.6
Attributable to:						
Owners of the Company	16,197.1	6.4	20,882.9	7.3	26,465.4	7.6
Non-controlling interests	162.1	0.1	195.4	0.1	(127.8)	(0.0)
Profit for the year	16,359.2	6.4	21,078.3	7.4	26,337.6	7.6
Earnings per share (in Baht)	3.15		3.98		4.61	
Core earnings per share (in Baht)*	1.79		2.91		4.43	

*Core financials are calculated as reported financials less Inventory gain/ (loss) and less extraordinary items, if any to reflect operations before any extraordinary items.

Cash Flow Statement (Consolidated Financial Statements)

	For the year ended December 31		
Unit: Baht million	2016	2017	2018
Cash flows from operation activities			
Profit for the year	16,359.2	21,078.3	26,337.6
<i>Adjustment for</i>			
Depreciation	9,626.6	10,678.8	12,161.2
Amortisation of intangible assets and other assets	1,438.8	1,560.0	2,112.1
Interest income	(124.4)	(102.4)	(247.2)
Gain on bargain purchases	(6,698.6)	(3,672.7)	(1,928.5)
Gain on partial disposal of interest in subsidiary with a change in control	(30.2)	-	(1.4)
Share of net (profit)losses of joint ventures	173.1	(28.4)	(585.9)
Finance costs	4,222.3	3,864.5	4,227.4
Unrealised foreign exchange (gain) loss	(311.9)	45.1	39.7
Provision for bad and doubtful debts expenses, net	30.4	1,978.6	23.9
Reversal of losses on inventories devaluation	(67.1)	(37.4)	345.9
Provision for impairment on property, plant and equipment	501.3	427.6	49.8
Provision for impairment on intangible assets	106.6	-	-
Reversal of unrecoverable advances payment for project	(432.9)	-	-
Employee benefits expense	294.8	268.2	397.0
Reversal of decommissioning liabilities	(221.2)	-	-
Loss on disposal of property, plant and equipment, net	9.3	6.0	(6.5)
Loss on written-off of property, plant and equipment	-	471.8	28.1
Income tax expense	2,062.2	(1,400.2)	3,812.4
	26,938.3	35,137.8	46,765.7
<i>Changes in operating assets and liabilities</i>			
Trade accounts receivable	(236.1)	(895.5)	(596.3)
Inventories	(2,633.0)	(3,672.2)	(18,054.9)
Other current assets	(547.4)	693.9	(818.0)
Other non-current assets	(17.9)	732.1	1,269.4
Trade accounts payable	3,613.7	35.8	8,149.8
Other current liabilities	(217.6)	(897.3)	(1,354.3)
Other non-current liabilities	(504.1)	198.7	20.6
Employee benefits obligation	(186.9)	(178.9)	(215.9)
Income taxes paid	(1,262.8)	(2,247.4)	(3,185.5)
Net cash from (used in) operating activities	24,946.2	28,906.8	31,980.6
Cash flows from investing activities			
Interest received	134.4	122.5	250.6
Acquisition of property, plant and equipment	(13,411.4)	(19,773.6)	(16,353.0)
Proceeds from sale of property, plant and equipment	87.1	336.6	78.4
Proceeds from sale (purchase) of other investment, net	361.8	51.3	2.3

	For the year ended December 31		
Unit: Baht million	2016	2017	2018
Acquisition of intangible assets	(107.8)	(281.9)	(190.2)
Proceeds from sale of intangible assets	-	0.1	0.2
Net cash outflow on acquisitions of businesses	(22,239.0)	(8,453.0)	(26,191.2)
Net cash outflow on investment in joint operation	-	-	(11,535.3)
Additional investments in subsidiaries and joint ventures	(2,198.9)	(558.3)	(2,289.0)
Advance payment on additional investments in subsidiary and a joint venture	(687.4)	(229.3)	-
Net cash inflow on partial disposal of interest in a subsidiary with a change in control	552.4	-	-
Reimbursement for project	1,126.5	-	-
Net cash from (used in) investing activities	(36,382.2)	(28,785.7)	(56,227.3)
Cash flow from financing activities			
Interest paid	(4,340.9)	(4,425.8)	(5,141.6)
Deferred financing cost paid	(224.6)	(32.8)	(73.4)
Dividends paid to owners of the Company	(2,599.5)	(4,048.7)	(8,925.2)
Dividends paid to non-controlling interests	(383.5)	(134.5)	(67.3)
Proceeds from short and long-term borrowings	27,322.7	13,726.4	28,434.9
Repayment of short and long-term borrowings	(8,477.1)	(21,038.6)	(20,310.3)
Repayment of debenture	(2,900.0)	(5,500.0)	(3,551.4)
Repayment of finance leases	(8.6)	(25.8)	(63.6)
Proceeds from issue of ordinary shares due to warrants exercised	-	15,504.1	15,852.4
Proceeds from issue of debenture, net of debenture issuance costs	4,991.6	9,477.6	17,471.7
Coupon payment on subordinated perpetual debentures	(1,052.9)	(1,050.0)	(1,050.0)
Loans to joint ventures	(104.4)	277.9	(9.3)
Net cash from (used in) financing activities	12,222.7	2,729.9	22,566.7
Net increases (decreases) in cash and cash equivalents	786.7	2,851.0	(1,680.0)
Cash and cash equivalents at beginning of year	3,232.5	4,025.6	6,877.0
Effect of exchange rate changes on balances held in foreign currencies	6.5	0.4	381.4
Cash and cash equivalents at end of year	4,025.6	6,877.0	5,578.4

Key Financial Ratio

		For the year ended December 31		
		2016	2017	2018
Liquidity Ratio				
Current ratio	times	1.3	1.4	1.1
Quick ratio	times	0.5	0.6	0.4
Cash from operating ratio	times	0.4	0.4	0.4
Receivable turnover ratio	times	8.7	8.8	9.6
Collection days	days	41.6	41.1	37.3
Inventory turnover ratio	times	5.9	5.5	4.9
Average number of days sales	days	60.7	65.6	73.3
Account payable turnover ratio	times	6.4	6.3	6.2
Payment days	days	56.5	57.3	58.4
Cash cycle	days	45.9	49.4	52.2
Profitability Ratio				
Gross profit margin	%	14.3	15.9	16.7
Operating profit margin	%	5.8	6.9	8.5
Non-operating profit margin	%	3.1	1.3	1.3
Net profit margin	%	6.1	7.2	7.5
Return of equity (ROE)	%	19.2	20.3	20.2
Efficiency Ratio				
Return on asset (ROA)	%	9.4	8.7	10.4
Return on fixed asset	%	17.6	16.3	19.3
Asset turnover	times	1.1	1.1	1.1
Financial Policy Ratio				
Interest bearing debt to equity	times	1.1	0.8	0.9
Net interest bearing debt to equity	times	1.1	0.7	0.9
Interest coverage ratio (on Net Cash provided by operating activities)	times	5.9	7.5	7.6
Interest coverage ratio (on EBITDA)	times	6.5	9.1	11.1

14. Management Discussion and Analysis (MD&A)

The following MD&A should be read in conjunction with our consolidated financial statements. It includes forward-looking statements reflecting our current views with respect to future events and future performance. Thus, a number of factors could cause actual results or outcomes to differ materially from those expressed in any forward-looking statement as described in our Risk Factors and statements appearing elsewhere.

2018 Summary Financials

Table 1: Core Financials of Consolidated Business

	Full Year		
\$ million (except where stated otherwise)	2018	2017	2018 YoY
Production Volume (kt)	10,419	9,103	14%
Consolidated Revenue ¹²	10,741	8,438	27%
Core EBITDA³	1,441	1,004	44%
PET	588	296	98%
Fibers	240	208	15%
Feedstock	613	501	22%
<u>New Segments</u>			
Integrated PET	791	414	91%
Olefins	232	145	60%
Fibers	211	181	17%
Packaging	48	37	29%
Specialty Chemicals	158	229	(31)%
Core EBIT	1,000	647	54%
Core Net Profit after Tax and NCI⁴	789	459	72%
Core Net Profit after Tax and NCI (THB million)	25,488	15,576	64%
Reported EPS after PERP Interest (THB)	4.61	3.98	16%
Core EBITDA/ton (\$)	138	110	25%
Operating Cash Flow⁵	989	852	16%
Net Debt to Equity (times)	0.87	0.75	16%

¹Consolidated financials are based upon elimination of intra-company (or intra-business segment) transactions.

²Total of each segment may not always tally with consolidated financials due to holding segment.

³Core EBITDA is Reported EBITDA less Inventory gains/(losses).

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

⁵Operating Cash Flow is after the change in net working capital and cash tax, before maintenance capex.

FY 2018 Performance Highlights

- FY18 core EBITDA increased by 44% YoY to \$1.4 billion, driven by volume growth and higher margin realization.
- Core EBITDA margin increased to 13%. Core EBITDA per ton was \$138, up 25% from 2017, driven by improvement in aromatics, PET, olefins and fibers, and offset by IPA normalization.
- Annual production increased by 14% YoY to 10.4 million tons, driven by PET acquisitions in Brazil and Egypt; a PTA acquisition in Portugal; several debottlenecking projects and the consolidation of PTA in Indonesia. This increase was achieved despite the force majeure of two PET lines for a

period of 50 days in the Netherlands in 4Q18, which also impacted PTA production at the site. PET production in Poland was also impacted due to a temporary shutdown.

- EPS of THB 4.61, +16% after the impact of an 11% dilution due to a 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 the higher cost of raw materials.
- Profit after tax and NCI of \$819 million, up 33% YoY.
- TRIS Rating (an S&P partner) upgraded 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 resulted in a marginal increase in our 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 initiated our entry in South America by acquiring Brazil's largest PET manufacturing site. Subsequently, we expanded our presence in Brazil by acquiring M&G Fibras (transaction closed in Feb 2019) and entered the high growth fibers business.

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

The recycling portfolio was enhanced with the acquisitions of Sorepla (France) and Custom Polymer (US; transaction closed in Jan 2019).

The Fibers segment was strengthened with the acquisitions of Avgol (enhances market share in personal hygiene and establishing a fiber manufacturing footprint in Russia and India), Kordarna (propelling IVL to the number 2 position globally in the tire cord business and strengthening our vertical mobility), UTT (Closing in 1Q19E – enhances IVL's airbag yarn and fibers business) and Schoeller – a specialty wool yarn producer in Europe.

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

Sustainable Development

- Included in the Dow Jones Sustainability Index for the second consecutive year.
- Ranked in the FTSE4Good Index.
- Improved to a BB rating in the MSCI ESG, indicating a reduction in greenhouse gas emissions, carbon footprint and enhanced recycling of water and chemicals.

- Committed to increasing our use of post-consumer PET and polyester waste materials as part of a global agreement to combat plastic waste led by the 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, worldwide 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.
- Enhanced our 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 a review to implement Industry 4.0 strategies which could drive opportunities in machine learning and mathematical optimization. Identified 250 digital value creation opportunities across 12 sites and continue to analyze 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.

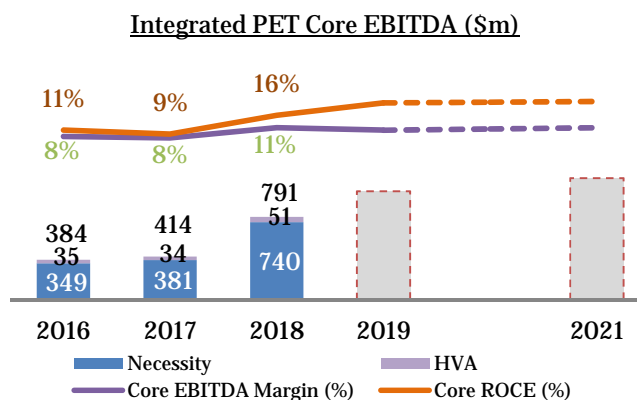
To this extent, we have completed a comprehensive assessment of our portfolio, identified areas of synergies and natural alignment, and recalibrated our future capital deployment strategies. All of this is in-line with our imperatives towards becoming a world-class, well-diversified, growth-oriented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

Going forward, each of our segments necessitates differentiated investment and growth strategies depending on the 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 supporting IVL's overall growth strategy.

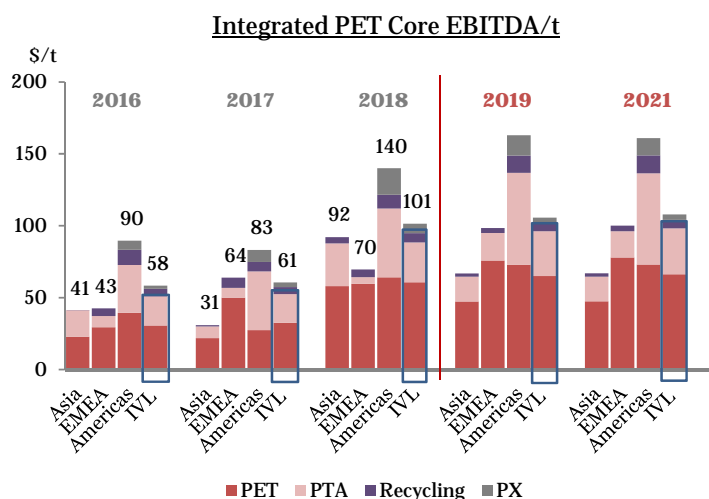
IVL foresees the ability to invest \$3 to \$4 billion of projected free cash flow over the next three years in these high-growth, high-margin areas. This amount is in addition to the investments already made or announced of \$1.50 billion in projects that are pending completion and their associated contribution 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 our manufacturing locations.

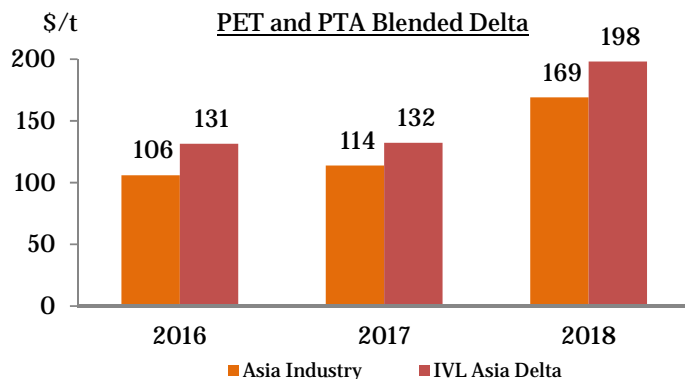


IVL's consolidation strategy; our global footprint (including strong presence in the Americas and EMEA); high level of feedstock integration (PTA to PET in key markets and PX integration in NA), all help in positioning us as the global leader in this 100% recyclable business. Investment plans to enhance the recycling volumes to 750 KMT by 2025; completing the JV project in Texas (US); 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 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 the FM/shutdown in the Netherlands and Poland. These will contribute to their full capacity

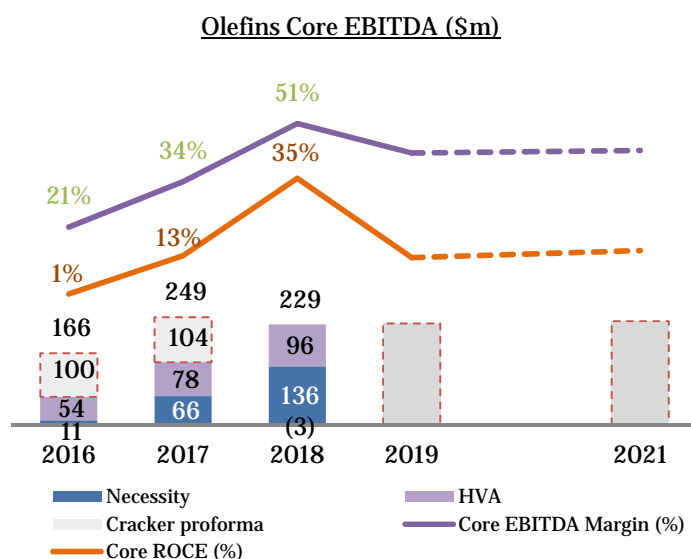
in 2019 thereby creating a positive earnings impact especially in EMEA for this segment and IVL as a whole.



Note: PET and PTA blended delta on IVL portfolio.

EBITDA margin from this segment is expected to remain firm over the next 2-3 years with higher production from premium markets.

2. Olefins



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

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

Given IVL's vast geographic footprint, our integrated business model, proven ability to benefit from local market dynamics, and further grow our recycled PET footprint by aligning with key customer goals,

IVL commenced its presence in this segment by acquiring the MEG and PEO facility in Texas in 2012. It is in the process of further improving its position by shortly commencing production from its ethylene cracker in Louisiana. This cracker will mainly support the captive EO-EG facility providing a 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 the United States.

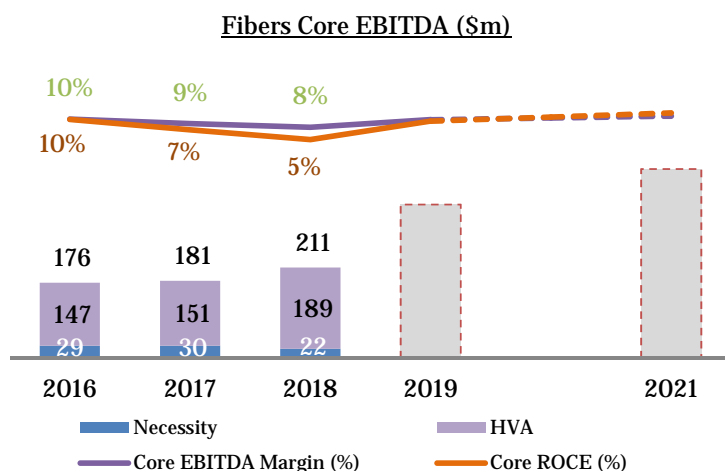
In 2018, production volume was 0.52 MMt, and earned a core EBITDA of \$232 million with a core EBITDA margin of 51%.

Traditionally, IVL has allocated its capital towards feedstock investments mainly in the aromatics value chain with a strategy of strengthening the integrated PET value chain. As we expand our polypropylene-based fibers portfolio and allocate meaningful capital toward the packaging segment, opportunities to invest in 'fit-for-purpose' olefin capacities will enable us to capture additional margins and replicate our 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 the lifestyle domain. Each of these domains continues to grow at a 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 lightweighting, use of sustainable materials, and increasing levels of consciousness for personal hygiene and change in choice of personal wear, especially 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. The lag impact of higher feedstock prices, force majeure by one of our 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.

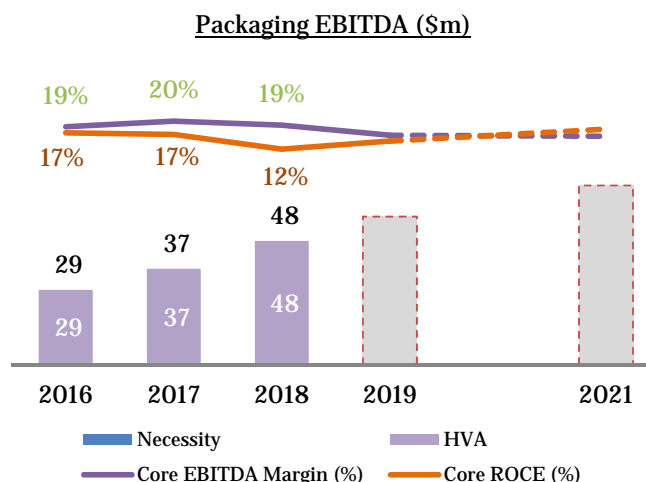


IVL will continue to invest in this segment; grow its market share and its earnings-per-ton by expanding the higher-value component of our fibers portfolio through ongoing innovation, collaborations with key customers and cost rationalization. Over the next few years, based on investments already made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

this segment is poised to be one of the highest growth areas in terms of its EBITDA contributions 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 our footprint 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.



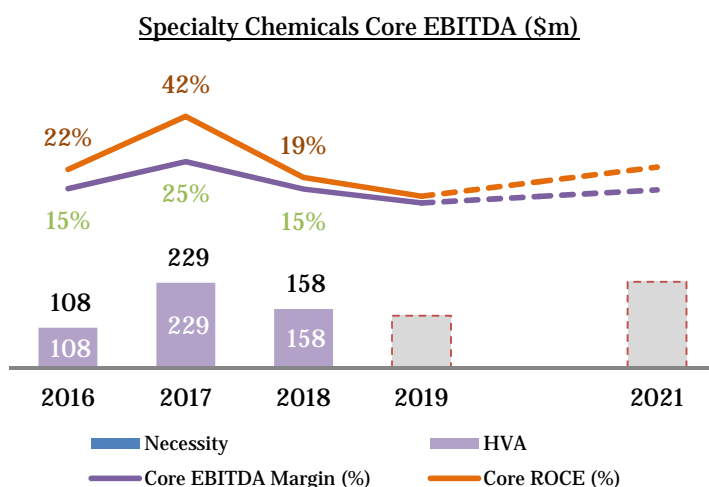
In 2018, this segment earned a core EBITDA of \$48 million with a 19% core EBITDA margin. The recent decline in YoY ROCE is due to the start-up impact from the acquisition of MEDCO in 4Q18 and is projected to improve to its historical level. The overall packaging industry is valued at around \$1 trillion, 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, for margin enhancement through segment integration in the olefins chain and an increase in earnings diversification.

5. Specialty Chemicals

IVL entered this segment in 2011 with the acquisition of Auriga Polymers in South Carolina, which owns the technology for the Crystal Clear Oxygen Barrier Resin, OxyClear® and Polyshield®. We supplemented its presence in this segment in 2016 by acquiring the world's only NDC facility in Alabama

and an IPA facility in Cadiz, Spain.

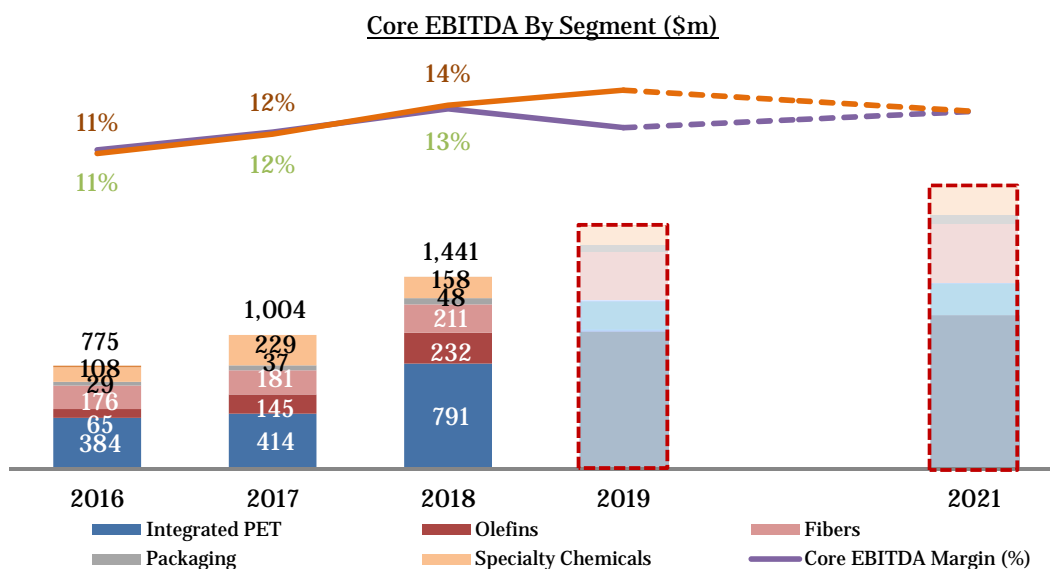


In 2018, we grew this portfolio by expanding our IPA production in Spain and additionally converted a PTA line to IPA in Alabama, thereby becoming the world's second largest producer. Also in 2018, IVL announced the acquisition of Invista's assets in Germany resulting in IVL owning the IP for Polyshield® and

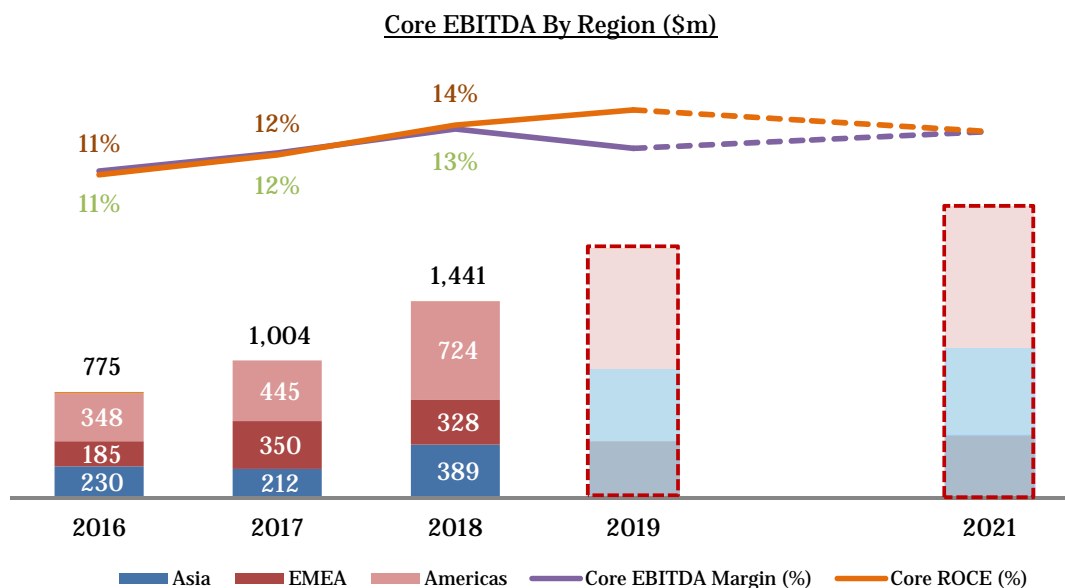
Oxyclear® resins, together with Invista's barrier technology in all markets globally.

In 2018, this segment earned a core EBITDA margin of 15% despite the normalization of IPA margin and is expected 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's core EBITDA in 2018.

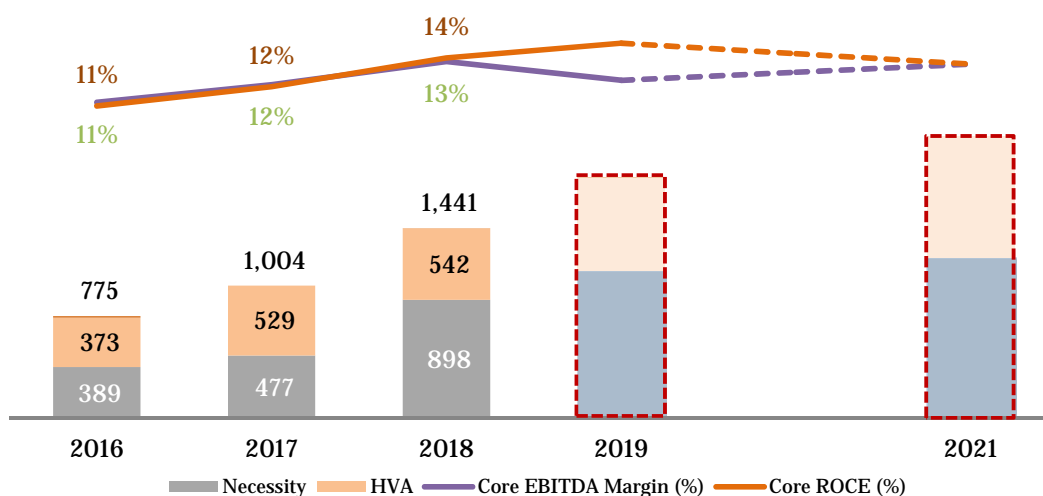
Going forward, this segment is expected to absorb significant capex growth as we leverage our knowledge in related industries and grow geographically using our IP and technology platform.

IVL – Larger-than-Sum-Of-The-Parts


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



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

Core EBITDA By HVA/Necessity (\$m)


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

Summary

Delivering on Promises

The past three years have been momentous, both in terms of earnings growth and in 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%. The strategic initiatives undertaken from 2016 to 2018 resulted in the Company achieving production of 10.4 MMt, core EBITDA of \$1.4 billion, and core ROCE of 13.7% in 2018.

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 in late 2017 and early 2018 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 overall investments of \$2.26 billion. This, and investments made in the latter part of 2017 will have a cumulative impact on our 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, and 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 we are well positioned to achieve our 2019 earnings guidance of \$1.75 billion.

As stated earlier, we foresee investing \$3 to \$4 billion of projected free cash flow over the next three years (2019 until 2021) in businesses that deliver double-digit EBITDA margins. This amount is in addition to the investments already made or committed in 2018 on various projects that are pending completion and will have associated earnings contributions 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 five segments discussed earlier, we are confident of maintaining our long-term growth trajectory and targeting to double our core EBITDA over the next five years.

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

Reporting

In order to support a 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 four quarters and will simultaneously provide deeper analysis based on the above-mentioned five segments.

Table 2: Segment Results (New segment)

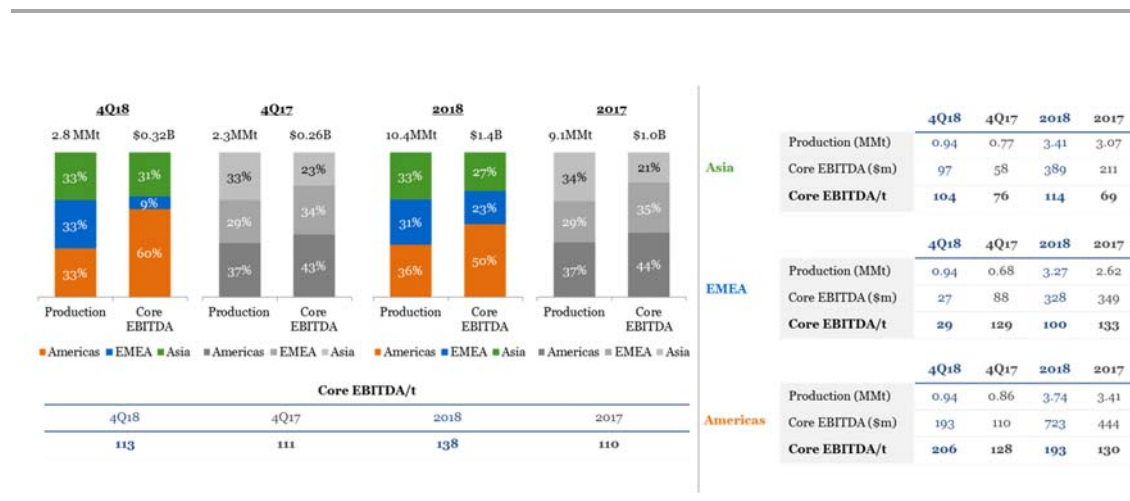
\$million (except where stated otherwise)	Full Year		
	2018	2017	2018 YoY
Production Volume (kt)	10,419	9,103	14%
Integrated PET	7,804	6,844	14%
Olefins	515	478	8%
Fibers	1,292	1,125	15%
Packaging	162	120	35%
Specialty Chemicals	646	536	20%
Operating rate (%)	88%	88%	26 bps
Integrated PET	88%	89%	-170 bps
Olefins	94%	87%	671 bps
Fibers	94%	88%	579 bps
Packaging	61%	66%	-513 bps
Specialty Chemicals	85%	74%	1,054bps
Consolidated Revenue ^{1,2}	10,741	8,438	27%
Integrated PET	6,983	5,366	30%
Olefins	452	422	7%
Fibers	2,760	2,112	31%
Packaging	249	182	37%
Specialty Chemicals	1,044	910	15%
Core EBITDA ³	1,441	1,004	44%
Integrated PET	791	414	91%
Olefins	232	145	60%
Fibers	211	181	17%
Packaging	48	37	29%
Specialty Chemicals	158	229	(31)%
Core EBITDA Margin (%)	13%	12%	152 bps
Integrated PET	11%	8%	361 bps
Olefins	51%	34%	1,705 bps
Fibers	8%	9%	-90 bps
Packaging	19%	20%	-119 bps
Specialty Chemicals	15%	25%	-1,001 bps
Core ROCE%	14%	12%	189 bps
Integrated PET	16%	9%	673 bps
Olefins	35%	13%	2,277bps
Fibers	5%	7%	-243 bps
Packaging	12%	17%	-425 bps
Specialty Chemicals	19%	42%	-2,227bps

¹Consolidated financials are based upon elimination of intra-company (or intra-business segment) transactions.

²Total of each segment may not always tally with consolidated financials due to elimination of Intra-company.

³Core 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 the Netherlands and the consolidation in Indonesia (4Q18).

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.

Olefins (Ethylene, PEO, MEG and related derivatives)

Production in 2018 increased by 8% YOY to 515,000 tons, driven by a higher utilization rate of 94% in 2018 (2017: 87%).

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

In 1Q19, the EO-EG plant was shut down for 38 days for routine maintenance and catalyst change which was due for a scheduled replacement. The US gas cracker that 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 May 2017), DuraFiber (acquired 2H17), Avgol (acquired 3Q18), Kordana (acquired 4Q18), and Scholler (acquired 4Q18). Overall production was partly offset by lower volumes at PHP (FM by raw material supplier).

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 costs and an improved vitality index which will add to the segment EBITDA margin.

Packaging

2018 production volume was 162,000 tons, up 35% YoY, driven by additional volume from Nigeria, Thailand and Egypt. This translated to a core EBITDA of \$48 million, a 29% increase YoY. Core EBITDA margin in 2018 was 19% (2017: 20%).

Specialty Chemicals (NDC, IPA and Specialty PET)

Production in 2018 was 646,000 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.

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 volumes.

In 2019, we expect higher volume contribution from this segment from the IPA plant in the US with a capacity of 220,000 tons per annum and the newly acquired asset, 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 where we are 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's 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 offerings.

Table 3: Pipeline of Ongoing Projects 2019-2020

Project	Business	Year	Total Installed Capacity (MMt)
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			

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 earnings.

Accounting Policy

The accounting policies are adopted and applied consistently to all of the periods. For more information on key accounting policies, please refer to Note numbers 2 and 3 of our full-year 2018 audited financial statements.

Emphasis of Matters in the Auditors Opinion

The auditor has drawn attention to note 4 to the consolidated financial statements that, as at the reporting date, the determination of the fair value and the allocation of the purchase price of several business acquired during 2018 was determined provisionally and is subject to potential amendment. The opinion is not modified in respect of this matter.

Performance Comparison

Revenue from the sale of goods

THB in Millions	FY 2017	FY 2018	Change (%)
Revenue from the sale of goods	286,332.3	347,170.9	21.2%
Add: Eliminations	56,091.1	81,747.5	
Adjusted revenue from the sale of goods	342,423.3	428,918.4	25.3%
PET	145,760.3	182,415.4	25.1%
Fibers	81,065.4	99,207.0	22.4%
*Feedstock	115,597.6	147,296.0	27.4%

*Excluding Feedstock price adjustment for captive sales to PET on freight savings.

Sales revenue for the year ended 2018 was THB 347,170.9 million, an increase of 21.2% from 2017, and in-line with volume growth of 14% and higher prices following the trend in crude prices in 2018.

PET Revenue

PET revenue for the year ended 2018 was THB 182,415.4 million, an increase of THB 36,655.1 million, or 25.1% from 2017, mainly driven by increased volumes, which grew by 14%. The higher PET volume contributions were from Brazil (since 2Q18), Egypt (since 3Q18), and debottlenecking in China.

Fibers Revenue

Fibers revenue for the year ended 2018 was THB 99,207.0 million, an increase of THB 18,141.6 million, or 22.4% from 2017, driven by increased volumes which grew by 13%. The higher Fibers volume contributions were from the full-year of Glanzstoff (acquired May 17), DuraFiber (acquired 2H17) and the acquisition of Avgol (acquired 3Q18), Kordana (acquired 4Q18), and Scholler (acquired 4Q18).

Feedstock Revenue

Feedstock revenue for the year ended 2018 was THB 147,296.0 million, an increase of THB 31,698.4 million or 27.4% from 2017, in-line with volume growth of 15%. The higher Feedstocks volume consisted of contributions from PTA volumes which grew with Portugal (since 3Q18), expansion in the Netherlands, the consolidation in Indonesia (since 4Q18), and improvements as a result the conversion of IPA in Spain.

Cost of Sale of Goods

THB in millions	FY 2017	FY 2018	Change (%)
Cost of sale of goods	234,483.4	281,119.7	19.9%
As a percentage of total revenues	81.9%	81.0%	
Add: Eliminations	52,510.0	77,611.2	
Adjusted cost of sale of goods	286,993.4	358,730.8	25.0%
*PET	127,290.9	154,401.2	21.3%
As a percentage of total PET revenue	87.3%	84.6%	
Fibers	68,482.6	84,565.2	23.5%
As a percentage of total Fibers revenue	84.5%	85.2%	
Feedstock	91,219.9	119,764.4	31.3%
As a percentage of total Feedstock revenue	78.9%	81.3%	

*Excluding Feedstock price adjustment for captive sales to PET on freight savings.

Our cost of sales for the year ended 2018 was THB 281,119.7 million, an increase of THB 46,636.3 million, or 19.9% from 2017 which is in-line with the increase in sales revenue.

PET Cost of Sale of Goods

For the year ended 2018, PET cost of sale of goods was THB 154,401.2 million, an increase of THB 27,110.3 million, or 21.3% from 2017, in-line with an increase in sales revenue.

Fibers Cost of Sale of Goods

For the year ended 2018, Fibers cost of sale of goods was THB 84,565.2 million, an increase of THB 16,082.6 million, or 23.5% from 2017, in-line with an increase in sales revenue.

Feedstock Cost of Sale of Goods

For the year ended 2018, Feedstock cost of sale of goods was THB 119,764.4 million, an increase of THB 28,544.5 million, or 31.3% from 2017, in-line with an increase in sales revenue.

Gross Profit

THB in millions	FY 2017	FY 2018	Change (%)
Gross Profit	51,848.9	66,051.2	27.4%
As a percentage of total revenues	18.1%	19.0%	
Add: Eliminations	(3,581.1)	(4,136.3)	
Adjusted gross profit	55,429.9	70,187.5	26.6%
PET	18,469.4	28,014.2	51.7%
As a percentage of total PET revenue	12.7%	15.4%	
Fibers	12,582.8	14,641.8	16.4%
As a percentage of total Fibers revenue	15.5%	14.8%	
Feedstock	24,377.7	27,531.6	12.9%
As a percentage of total Feedstock revenue	21.1%	18.7%	

Gross profit for the year ended 2018 was THB 66,051.2 million, an increase of THB 14,202.3 million or 27.4% from 2017. The gross profit margin of 19.0% in 2018 increased from the prior year mainly due to a change in the product mix and from hedging the value chain by increasing feedstock integration.

PET Gross Profit

For the year ended 2018, PET gross profit was THB 28,014.2 million, an increase of THB 9,544.8 million from 2017 in-line with volume growth. PET gross profit margin in 2018 was 15.4%, an increase YoY predominantly due to a structural change in margins and management actions to optimize costs in various locations.

Fibers Gross Profit

For the year ended 2018, Fibers gross profit was THB 14,641.8 million, an increase of THB 2,059.0 million from 2017 in-line with volume growth. Gross profit margin in 2018 was 14.8%, decreasing from the prior year as a result of negative raw material price lag and force majeure in the EMEA region, together with lower operating rates in the Avgol, DuraFiber and Kordarna assets.

Feedstock Gross Profit

For the year ended 2018, Feedstock gross profit was THB 27,531.6 million, an increase of THB 3,153.9 million from 2017 in-line with an increase in volumes and a recovery in Asia PTA margins. However, gross profit margin in 2018 was 18.7%, decreasing from the prior year due to normalization of IPA spreads which were compensated, to some extent, by higher volumes.

***Spread or Raw Material Margins**

Amount in US\$ per MT	FY 2017	FY 2018
Industry spread		
Asia PET	125	186
West PET (50:50- North America : Europe)	203	295
IVL spread		
Asia PET	157	240
West PET (IVL Actual Mix)	233	292
Industry spread		
Asia PTA	104	155
West PTA (50:50- North America : Europe)	223	245
IVL spread		
Asia PTA	123	178
West PTA (IVL Actual Mix)	229	230

*Selling price less raw material consumption

We normally receive a minor premium over industry margins due to our volume and vast global presence. Our actual geographic capacity mix also impacts our margin when compared with the industry.

Earnings before Interest Expenses, Income Taxes, Depreciation & Amortization (EBITDA)

THB in millions	FY 2017	FY 2018	Change (%)
EBITDA⁽¹⁾	35,348.7	47,128.5	33.3%
Add: Inventory loss/(gain) ⁽²⁾	(1,271.2)	(539.4)	
CORE EBITDA	34,077.5	46,589.1	36.7%
As a percentage of total revenues	11.9%	13.4%	
Add: Eliminations and others ⁽³⁾	58.3	(30.5)	
Adjusted CORE EBITDA	34,135.8	46,558.6	36.4%
PET	10,060.9	18,993.4	88.8%
As a percentage of total PET revenue	6.9%	10.4%	
Fibers	7,064.2	7,753.4	9.8%
As a percentage of total Fibers revenue	8.7%	7.8%	
Feedstock	17,010.6	19,811.8	16.5%
As a percentage of total Feedstock revenue	14.7%	13.5%	

(1) EBITDA is calculated from sales revenue adding net foreign exchange gain (loss) and other income, then deducting cost of sales, selling & administrative expenses (excludes depreciation & amortization), management benefits expenses, and adjusting by extraordinary items. Excluding Feedstock price adjustments for captive sales to PET on freight savings. There are no impacts on regional or consolidated EBITDA.

(2) Inventory gains (losses) are the gains or losses on the inventories that IVL carries every month, due to the movement in the prices of finished products and raw materials following market movements.

(3) Eliminations and others include the amounts attributable to intra-group transactions and the EBITDA of holding companies.

Core EBITDA for the year ended 2018 was THB 46,589.1 million, an increase of THB 12,511.6 million or 36.7%, mainly from the PET segment. Core EBITDA is defined as EBITDA less Inventory gain/(loss).

PET Core EBITDA

PET Core EBITDA for the year ended 2018 was THB 18,993.4 million, a significant increase of THB 8,932.5 million, or 88.8% from 2017, driven by a structural improvements in PET margins and the impact of higher volumes.

Fibers Core EBITDA

Fibers Core EBITDA for the year ended 2018 was THB 7,753.4 million, a slight increase of THB 689.2 million, or 9.8% from 2017. This was primarily due to higher production.

Feedstock Core EBITDA

Feedstock Core EBITDA for 2018 was THB 19,811.8 million, an increase of 16.5% from THB 17,010.6 million in 2017, driven by the impact of higher volumes and the cost advantage of US ethylene.

Other Revenues

THB in millions	FY 2017	FY 2018	Change (%)
Interest Income	102.4	247.2	141.3%
Net foreign exchange gain/(loss)	(61.9)	586.2	1,047.1%
Gain on a bargain purchase	3,672.7	1,928.5	(47.5)%
Other income	1,160.2	1,952.6	68.3%
Total	4,873.4	4,714.5	(3.8)%

Interest Income

Interest Income for the year ended 2018 was THB 247.2 million, a significant increase of THB 144.7 million, or 141.3% from 2017. This was mainly due to an increase in cash received from warrant exercised in the first half of the year. .

Net foreign exchange gain/(loss)

There was a net foreign exchange gain for 2018 of THB 586.2 million, an increase from a loss of THB 61.9 million in 2017. This was primarily due to our disciplined approach to hedging receivables and payables. Currency volatilities are also hedged in a natural way due to our global presence, for example US\$ assets are hedged naturally against US\$ liabilities.

Gains on bargain purchases

During 2018, IVL acquired several businesses where the excess of the Group's interest in the net identified assets and liabilities of the companies acquired over cost (recognized values are higher than the consideration transferred) are considered to be gains on bargain purchases, and recognized in the

consolidated statement of income in accordance with generally accepted accounting principles for business combinations. A valuation of net identified assets acquired and liabilities assumed is calculated every time to arrive at recognized values. Fair value adjustments are the difference between the carrying amount and the recognized value. In 2018, IVL had gains on bargain purchases of THB 1,928.5 million. The following details are provided:

Baht in millions	Net identified assets acquired and liabilities assumed				
	Interest acquired (%)	Recognized values	Total Consideration	Gain on a bargain purchase	Goodwill
Companies acquired during the years ended December 31, 2017					
DuraFiber Mexico, Mexico	100%	1,102.4	894.5	207.9	
Longlaville DuraFiber Technologies (DFT) SAS, France	100%	601.9	-	601.9	
The PTA assets of Artlant PTA S.A. and the utility assets of Artelia Ambienta, S.A., Portugal	100%	4,503.5	1,640.6	2,862.9	
Glanzstoff Group, Europe	100%	5,148.4	6,100.6	-	952.2
				3,672.7	952.2
Companies acquired during the years ended December 31, 2018					
Egyptian Indian Polyester Company S.A.E., Egypt	50%	1,197.2	307.1	890.1	
Sorepla Technologie S.A., France	100%	400.3	395.0	5.3	
Kordárna Plus a.s., Czech Republic	100%	2,767.0	2,124.3	642.7	
Schoeller Group, Austria, Czech Republic and Germany	100%	1,802.8	1,412.4	390.4	
M&G Polimeros Brazil S.A., Brazil	100%	12,216.5	12,246.7		30.2
Avgol Industries 1953 Ltd., Israel	66%	5,996.6	10,643.5		4,646.9
Medco Plast for Packing and Packaging Systems S.A.E., Egypt	74%	702.1	1,699.5		997.4
				1,928.5	5,674.5

A gain on bargain purchase is considered by management as an extraordinary item which does not arise from the normal operations of the business, but is included in the net profit of the Company. Additional information on each acquisition is provided in Note 4 – Acquisitions of Businesses in the Audited Financial Statements. Net identifiable assets acquired, including intangible assets, i.e. customer contracts, technology licenses and know-how, trade names and trademarks, were all recognized in the financial statements at fair value, and subject to depreciation, amortization or impairment (if any) in accordance with generally accepted accounting principles, as disclosed in Note 3 – Significant Accounting Policies in the Audited Financial Statements.

IVL's management expertise and business model allows us to buy companies most of the time at below their fair value as determined by an appraiser. We, therefore, need to record the gain on bargain purchases. These gains are recorded under property plant & equipment or intangibles or other assets, as applicable.

Other Income

Other income for the year ended 2018 was THB 1,952.6 million, an increase of THB 792.4 million, or 68.3%, from 2017. This was mainly due to insurance income THB 662.4 million received by Indorama Ventures (Oxide & Glycols) LLC, the indirect subsidiary in the US, in March 2018 relating to loss claim due to a business interruption in 2015. Please refer to Note 27 – Other Income in the Audited Financial Statements for further details.

Expenses

THB in millions	FY 2017	FY 2018	Change (%)
Distribution costs	15,778.3	18,449.4	16.9%
Administrative expenses	9,988.4	10,143.7	1.6%
Management benefit expenses	136.9	190.8	39.4%
Total	25,903.6	28,783.9	11.1%

Total expenses for the year ended December 31, 2018 was THB 28,783.9 million, an increase of THB 2,880.3 million, or 11.1%, from 2017 as a result of higher spending on selling and administrative expenses in-line with our volume growth. Please refer to Note 29 and 30 – Distribution Costs and Administrative Expenses of the Audited Financial Statements for further details on this item.

Management benefit expenses was THB 190.8 million, or an increase of 39.4% from last year, due to an increase in wages and salaries and an increase in the number of sites.

Doubtful Debt Expenses

IVL had doubtful debt expenses in the amount of THB 23.9 million in 2018 and THB 1,978.6 million in 2017, a significant decrease of THB 1,954.7 million, or 98.8%, from 2017 due to the fact they were recorded in 2017 when M&G Polymers USA, LLC, a customer of Cepsa Canada, filed for bankruptcy. We recorded a provision for doubtful debt amounting to THB 1,794.3 million against the said provision. The bankruptcy proceedings of M&G was completed in December 2018. Accordingly, the allowance for doubtful debt against receivables from M&G was written-off. However, there is no significant doubtful debt in 2018. Please refer to Note 8 – Trade Account Receivables of the Audited Financial Statements for further details on this item.

Research and Development (R&D) Expenses

IVL has a strong R&D platform with 11 centers for innovation around the world. We are strongly committed to providing innovative solutions to our customers and focusing on an agenda geared to sustainability. We have many high value-added businesses which require R&D, and as a result, we have a strongly focused approach to innovation. In 2018, IVL spent THB 401.6 million (2017: THB 401.9 million) on R&D which was booked under appropriate expenses.

Finance Costs

Finance costs for the year ended 2018 was THB 4,227.4 million, an increase of THB 362.9 million from 2017, that was in-line with an increase in overall interest-bearing liabilities.

Share of profit of jointly-controlled entities, net

IVL had a share of profit from joint ventures in the amount of THB 585.9 million and THB 28.4 million for the year ended 2018 and 2017, respectively. A significant increase in the share of profit from joint ventures was due to significantly improved performance in Dhunseri and Polyprima. Please refer to Note 12 – Investment in Joint Ventures in the Audited Financial Statements for further details.

Income Tax Expense

Tax expense for 2018 was THB 3,812.4 million compared with tax income in the amount of 1,400.2 in 2017. There was an amendment in the US corporate income tax rate reducing it from 35% to 21%. Accordingly, some deferred tax liabilities were reversed as one-time income in 2017 in the amount of THB 3,540 million. Please refer to Note 34 – Tax Expense (benefit) in the Audited Financial Statements for further details.

Net Profit

THB in millions	FY 2017	FY 2018	Change (%)
Net profit	21,078.3	26,337.6	25.0%
As a percentage of total revenues	7.4%	7.6%	
Profit attributable to:			
Owners of the Company	20,882.9	26,465.4	26.7%
Non-controlling interests	195.4	(127.8)	(165.4)%

Net Profit for the year ended December 31, 2018 was THB 26,337.6 million, an increase of THB 5,259.3 million, or 25.0%, from 2017 due to higher earnings from margins and acquisitions. Please refer to the explanation of EBITDA above for more details. Net profit for the period included extraordinary items, i.e. gains on bargain purchases, acquisition costs, and related transaction expenses incurred on completed acquisitions. These non-recurring items are not from the normal operations of the business.

Financial Position

IVL closely monitors the financial position, and any changes, of various businesses at the group level. An analysis of the financial position is presented below:

Total Assets

As of December 31, 2018 and 2017, IVL had total assets of THB 379,194.8 million and THB 282,358.4 million, respectively. The increase of 34.3% was mainly due to growth in our business from expansions and acquisitions. The major assets are as follows:

Trade Accounts Receivable

As of December 31, 2018 and 2017, IVL reported trade accounts receivable of THB 37,636.6 million, and THB 32,098.2 million respectively, representing 9.9% and 11.4% of total assets. We continued to improve and control our debt management. Each subsidiary takes responsibility to set up and monitor their allowance for doubtful accounts by focusing on amounts that are over 12 months overdue in order to ensure that the allowance is adequate. The allowance for doubtful accounts is normally in a narrow low-range due to the close follow-up and collections that are conducted on time. The aging analysis for trade accounts receivable is as follows:

THB in millions	Consolidated financial statements	
	December 31, 2017	December 31, 2018
Related parties		
Within credit terms	796.6	855.6
Overdue:		
Less than 3 months	105.3	138.6
3-6 months	9.4	0.9
6-12 months	0.2	0.2
Over 12 months	160.2	150.0
Net	1,071.7	1,145.3
Other parties		
Within credit terms	26,542.6	31,121.4
Overdue:		
Less than 3 months	4,692.7	4,687.3
3-6 months	798.4	253.8
6-12 months	854.1	51.9
Over 12 months	153.0	618.3
	33,040.8	36,732.7
Less: allowance for doubtful accounts	(2,014.3)	(241.5)
Net	31,026.5	36,491.2
Total	32,098.2	37,636.5

Inventories

As of December 31, 2018 and 2017, IVL reported inventories of THB 70,085.3 million and THB 46,036.5 million, respectively, representing 18.5% and 16.3% of total assets. The spike in inventories is the result of customers deferring their purchases and our expansion and business growth in 2018.

Investment in joint ventures

As of December 31, 2018 and 2017, IVL reported investment in jointly-controlled entities of THB 5,294.0 million and THB 6,247.1 million, respectively, representing 1.4% and 2.2% of total assets. The slight decrease is mainly the result of our investment in Polyprima JV. As a result of a change in accounting treatment, the transaction is accounted for as a business combination.

Property, plant and equipment (PPE)

As of December 31, 2018 and 2017, IVL reported property, plant and equipment of THB 205,182.4 million and THB 151,202.0 million, respectively, representing 54.1% and 53.5% of total assets. The increase is the result of various acquisitions and the ongoing gas cracker project in the US.

The PET segment saw an increase of 57.8% in its PPE in 2018 from 2017 to THB 57,602.6 million. In 2018, IVL completed the acquisition of M&G PET which is Brazil's largest PET manufacturing site. We also acquired PET Egypt and Medco which is the largest PET convertor in Egypt.

The Fibers segment saw an increase of 47.2% in its PPE in 2018 from 2017 to THB 55,633.9 million. In 2018, IVL completed the acquisition of Avgol which is the 3rd largest manufacturer of nonwovens for hygiene applications in the world. The Company also acquired Kordana which is the largest producer of tire cord fabrics in Europe and acquired Schoeller – a specialty wool yarn producer in Europe as well.

The Feedstock segment saw an increase of 19.6% in its PPE in 2018 from 2017 to THB 91,661.4 million. This was primarily due to the acquisition of PTA facility in Portugal together with the ongoing Gas Cracker project in the US.

Other Intangible Assets

As of December 31, 2018 and 2017, IVL reported intangible assets of THB 25,139.3 million and THB 18,027.2 million, respectively, representing 6.6% and 6.4% of total assets. Intangible assets increased 39.5% from last year which was mainly from customer contracts and relationships which were acquired through business combinations. Please refer to Note 17 – Other Intangible Assets in the Audited Financial Statements for further details.

Loan to related parties

IVL has given certain loans to related parties as per Note 5 – Related Parties in the Audited Financial Statements. There are various strategic reasons given and as of December 2018, these amounts are not material.

Total Liabilities

As of December 31, 2018 and 2017, IVL reported total liabilities of THB 227,339 million and THB 163,371.7 million, respectively. The increase in total liabilities resulted from an increase in loans from financial institutions, issuance of debentures, and higher trade accounts payable which were all in-line with the growth in volumes from business expansion and acquisitions.

Trade accounts payable

As of December 31, 2018 and 2017, IVL had trade accounts payable of THB 54,564.8 million and THB 39,301.4 million, respectively. This was in-line with the growth in volumes from business expansion and acquisitions. The payment days for the year ended 2018 and 2017 were 58.4 days and 57.3 days, respectively.

Interest-bearing liabilities

As of December 31, 2018 and 2017, IVL reported interest-bearing liabilities of THB 136,764.4 million and THB 95,785.1 million, respectively, representing 36.0% and 33.9% of total liabilities and shareholders' equity.

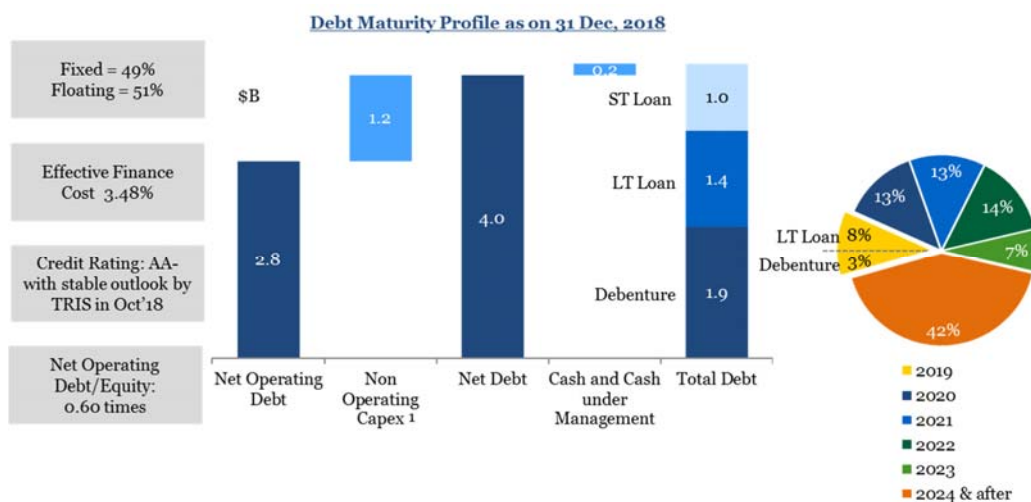
Our net operating debt-to-equity slightly increased from 0.54 times at the end of 2017 to 0.60 times at the end of 2018, after spending on capex and investments of THB 76,684.7 million in 2018. IVL's net operating debt increased from THB 64,015.0 million at the end of December 31, 2017 to THB 91,832.2 million at the end of December 31, 2018, mainly due to payments for acquisitions in 2018.

The table below describes total debt and net operating debt in THB billions:

THB billions	31-Dec-17	31-Dec-18
Total Debt	96	137
Bank overdraft and short-term loans	6	31
Long-term debt (Current portion)	6	9
Debentures (Current portion)	3	3
Long-term debt (Non-current portion)	43	35
Debentures (Non-current portion)	38	59
Cash & Cash under management	7	5
Cash and cash equivalents	7	6
Current investments and loans given	- 0	- 0
Net Debt	89	131
Non-operating Debt (Project Debt)	25	40
Net Operating Debt¹	64	92
Net debt to equity (times)	0.75	0.87
Net operating debt to equity (times)	0.54	0.60
Debts with fixed interest %	58%	49%
Credit Rating by TRIS	A+	AA-

¹ Net debt after debt for capex and investments in progress that are not generating revenue and earnings as on the date given.

The graph below provides the repayment schedule for long-term debt and debentures in US\$ billions:



¹ Includes various projects underway which are not yet completed and have not yet started contributing to the earnings.

Shareholders' equity

As of December 31, 2018 and 2017, IVL reported shareholders' equity of THB 151,855.4 million and THB 118,986.7 million, respectively. The increase in shareholders' equity was mainly due to raising capital from warrants exercised, an increase in retained earnings resulting from the profitability of the Company, net of dividends paid and translation loss of overseas investments with the baht strengthening in 2018 over 2017. Please refer to "Statement of Changes of Equity" in the Audited Financial Statements for more details.

Cash Flow

IVL generated THB 31,980.6 million in cash flow from operating activities in 2018 compared to THB 28,906.8 million in 2017 due to improvements in our performance and an outflow of net working capital on higher absolute prices following the crude oil trend.

Cash flow used in investing activities of THB 56,227.3 million in 2018 was primarily paid towards the acquisitions of M&G Brazil PET, Corpus Christi JV in the US, Avgol, Dhunseri Egypt PET, Kordana, Medco, Sorepla and Schoeller as well as the ongoing gas cracker project. Capex and investments were funded by a mix of long-term loans and cash flow from operations.

Cash flow from financing activities of THB 22,566.7 million in 2018 was principally a result of cash proceeds from the issuance of ordinary shares due to the warrants exercised, the issuance of debentures, and short and long-term loans-net of repayment that were used to support business growth. In contrast, there was cash outflow for interest and dividend payments in 2018.

Liquidity

Strong cash flow from operations and a longer average loan maturity led to a high liquidity position for the Company. As at December 2018, IVL had liquidity of THB 80,540.3 million, in the form of cash and cash under management, plus un-utilized banking credit lines. The high liquidity provides us greater flexibility in business operations and allows us to finance accretive growth opportunities.

Key Financial Ratios

Current Ratio

Our current ratio is calculated by dividing total current assets by total current liabilities. The current ratio stood at 1.1 times at the end of 2018, decreasing from 1.4 times in 2017 partly from an increasing of bank overdrafts and short-term loans. This ratio above 1 illustrated the strong financial position and liquidity of the Company as well as assurance of IVL's ability to pay-off our short-term liabilities.

Return on Equity Ratio (ROE)

Our ROE ratio is calculated by dividing our profit attributable to owners of the Company for the period by the average of the total equity attributable to equity holders of the Company. IVL maintained a return on equity (ROE) of 20.2% and 20.3% in 2018 and 2017, respectively. In addition, IVL achieved core ROE of 21.1% in 2018 compared to 16.5% in 2017, a significant increase of 4.6%. ROE increased in-line with core net profit growth.

Note: For the Core ROE% calculation, we use the formula as follows: Core profit attributable to owners of the Company after interest on perp/average of the equity attributable to shareholders of the Company.

Return on Assets Ratio (ROA)

Our ROA ratio is calculated by dividing profit before finance costs and income tax expenses by the average total assets. For the year ended 2018 and 2017, our ROA ratio was 10.4% and 8.7%, respectively. IVL also achieved core ROA of 9.9% in 2018 compared to 8.1% in 2017, representing a 22.3% increase which was in-line with core net profit growth.

Net Debt-to-Equity Ratio (D/E)

Our Net Interest Bearing Debt-to-Equity Ratio is calculated by dividing our interest-bearing liabilities-less cash and cash equivalents by total shareholders' equity. As of December 31, 2018 and 2017, our net interest bearing debt-to-equity stood at 0.87 times and 0.75 times, respectively. The Company raised cash through the issuance of debentures and additional loans from financial institutions, which was used in acquisitions, ongoing expansions and working capital needs. However, the debt covenant for most of the debts is net debt to equity of at least two times.

Debt Servicing Coverage Ratio (DSCR)

Our DSCR is calculated by dividing core EBITDA by annual interest and principal payments on debt. As of December 31, 2018 and 2017, our DSCR was at 3.5 times and 3.7 times, respectively. The slight decrease comes from an increase in debt used in acquisitions. However, our DSCR is still in a good range which indicates that operations-generated income is sufficient to cover outstanding debt payments during the year. However, the debt covenant for most of the debts is at 1.1 times DSCR.