EDISON

Thrace Plastics

Improving returns to drive re-rating

Initiation of coverage

General industrials

Thrace Plastics is an established international producer of technical fabrics and packaging that is moving into a 7.9% EPS CAGR phase to FY21 following recent capex programmes. The current valuation overlooks these prospects in our view, presenting investors with an opportunity to participate in a re-rating that we would expect to result from the conversion of investment into the delivery of improving returns, profits and cash generation.

Year end	Revenue (€m)	PBT* (€m)	EPS* (c)	DPS (c)	P/E (x)	Yield (%)
12/17	318.5	13.8	24.1	4.0	9.1	1.8
12/18	322.7	11.5	21.0	4.0	10.4	1.8
12/19e	335.4	13.3	21.4	4.0	10.2	1.8
12/20e	346.0	14.4	23.7	4.0	9.2	1.8
12/21e	357.1	15.8	26.4	4.0	8.3	1.8

Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments.

Volume growth from diverse international markets

Thrace has built and invested in an international manufacturing footprint. It is well positioned to meet the needs of established markets and sectors in western Europe and the US, as well as faster growing eastern/southern European markets. FY18 end-product polymer tonnage sold was c 120,000 and we see this growing to above 140,000 tonnes over the next three years. New capacity, higher value-added materials and product development all contribute to this growth scenario. FY18 results were themselves temporarily affected by the process of upgrading manufacturing capability and the lag effect of rising input prices, we believe.

Converting investment into rising profitability

In the last four years management has executed two significant investment programmes (totalling in excess of €110m). After the first, Thrace delivered a good increase in profit margins and earnings and, having concluded the second at the beginning of FY19, is now positioned to do the same again commencing in FY19. During the second capex execution phase, profitability dipped and this is perhaps having an undue influence on investor sentiment and the share price. Evidence of rising profitability, improving returns and cash generation/net debt reduction from the enhanced capital base would all represent positive markers and potential triggers for a re-rating.

Valuation: Rating understates profit potential

The current year ratings (P/E of 10.2x and EV/EBITDA adjusted for pensions cash 5.4x) are more usually associated with low-growth companies. Moreover, Thrace stands on a 32% discount to the end FY18 NAV. The company offers strong earnings recovery initially and then growth with a three-year earnings CAGR of 7.9%. Our DCF analysis suggests that the share price is factoring in medium-term/steady-state EBITDA prospects below our FY19e level, whereas attaining and sustaining our expected FY21 EBITDA indicates a fair value of €3.27 per share.

14 June 2019

Price	**€2.19**
Market cap	**€96m**
	€1.13/£
Net debt (€m) at end December 2018	78.4
Shares in issue	43.7m
Free float	36%
Code	PLAT
Primary exchange	Athens
Secondary exchange	N/A

Share price performance

%	1m	3m	12m
Abs	13.0	(8.4)	0.0
Rel (local)	(3.8)	(23.5)	(9.5)
52-week high/low		€2.54	€1.81

Business description

Thrace Plastics is an established international producer of Technical Fabrics (73% of FY18 gross revenues) and Packaging (23%). Each division uses a number of manufacturing processes and produces a wide range of products from polymer materials, serving a diverse range of end-markets.

Next events

AGM	18 June 2019
FY18 DPS 4.0c ex dividend	20 June 2019
Q119 results	20 June 2019
FY18 DPS to be paid	26 June 2019

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Edison profile page

Thrace Plastics is a research client of Edison Investment Research Limited

Investment summary

Company description: A technical polymer specialist

Thrace Plastics was established in northern Greece in 1977 and listed on the Athens Stock Exchange in 1995. The company operates a two-division structure – in Technical Fabrics and Packaging – using a number of manufacturing processes to produce a wide range of products from polymer materials in each case. In recent years the company has undertaken a c €113m capex programme to enhance its capability to serve its international customer base (over 80% of sales are outside Greece) and now stands to generate the benefits of that investment.

Valuation: Growth prospects not reflected in rating

Thrace has a visible track record of profit generation, though its current valuation is perhaps more focused on the lower profitability reported in the last couple of years rather than the earnings that we expect the company to generate in the next three and beyond:

- It has a **current PEG** ratio of 1.3x and a **P/E multiple** reducing to 8.3x by FY21.
- On an **EV/EBITDA** basis, the trailing 6.0x becomes 4.4x by FY21.
- The current share price represents a **32% NAV discount** (end FY18 balance sheet).
- Our **DCF** calculations indicate that the current share price is equivalent to stable c €30m EBITDA generation and at c €34m (our FY21 estimate), the equivalent would be €3.27 per share.

Thrace is an international business that may not be well known to investors outside Greece. Against selected quoted European and US peers with which there is a degree of product overlap, the company valuation sits towards the bottom end of the range on a number of metrics.

Financials: Expected earnings growth and cash generation

The company reports detailed quarterly financial information at divisional level and group results have been presented consistently on an equity accounted basis from 2013. After a dip in profitability in 2017–18, our estimates show Thrace generating a 2018–21 earnings CAGR of 7.9% driven by operational gearing effects from investment-driven higher volumes on comparatively stable gross margin assumptions. These increasing returns flow through to improving cash generation resulting in an expected three-year reduction in group net debt from €78m in December FY18 to €53m by the end of FY21 (equivalent to 1.5x EBITDA in that year).

Sensitivities: Volume, input prices and exchange rates

Thrace has an international manufacturing footprint and an end-market sales profile with a diverse spread of subsectors, ranging from construction and agriculture to food and paint containers. **Capacity utilisation** is a critical profit driver and, having made significant investment in its productive asset base, volume growth is a necessary requirement for Thrace's future profit growth. The spread between **input price movements** and selling prices can be affected in the short term by lags in passing through polymer price changes. Over time, widening this spread by growing volumes in higher value-added products is one of management's objectives. Thrace manufactures in six countries and sells into around 80, so does have exposure to **exchange rate fluctuations**; the euro–US dollar rate is the most important from a translation perspective, while the pound–euro rate has an influence on export activity from the UK. Group **cash flow management** could be affected by defined benefit deficit recovery payments or external transfer controls from Greece, though neither element is thought to be impinging on trading in any way currently.

Company description: A technical polymer specialist

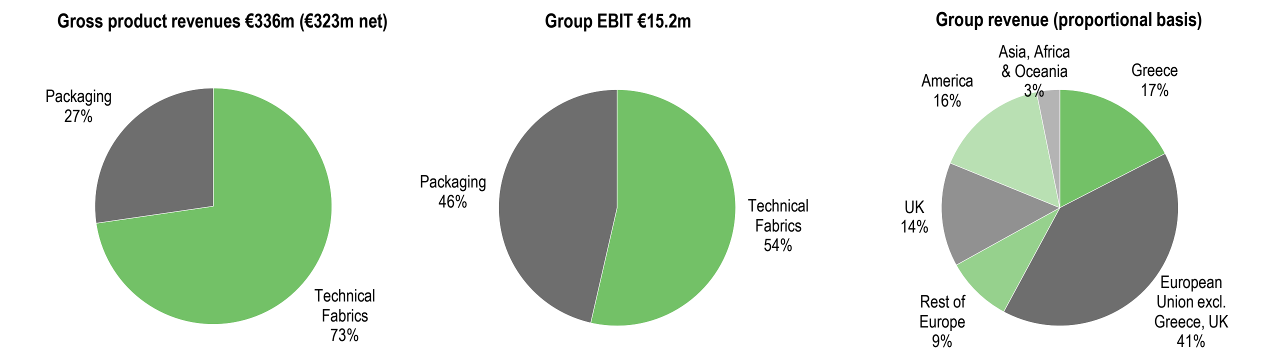
Thrace is a large, Greece-based, international producer and distributor of polymer-based technical fabrics and packaging products and materials. The business is diversified geographically, by end-market sector and manufacturing process. The investment programme of recent years leaves the company well-placed to deliver increased volumes and grow profitability.

Diversified, international polymer converters

The front end of all processes involves the blending of polymer grades and additive materials, which are heated and extruded, formed or processed into finished products (such as fabrics, containers) or intermediate ones (eg fibres, yarns, filaments). Formulations (mainly polypropylene and also polyethylene) are application-specific and products are valued for their functional performance characteristics such as strength, weight or barrier properties and their compatibility with customers' own usage. Thrace operates production facilities in Greece, the UK, the Republic of Ireland, US, Bulgaria and Romania, with a sales or trading presence in a further five countries (four in Europe plus Australia) and a distribution network into 80 countries in total.

The company operates as two divisions serving established market segments: **Technical Fabrics** (including geosynthetics, membranes/fabrics used in construction and agri/horticulture, floor covering backing materials) and **Packaging** (including rigid containers and flexible films). A fuller list of markets served is shown in Exhibits 5 and 6 respectively. Exhibit 1 shows the relative importance of these activities and the split of group revenue by geographic destination.

Exhibit 1: FY18 revenue and EBIT splits



Source: Thrace Plastics. Note: Gross product revenue is before intercompany effects. Group EBIT is adjusted for €1.5m exceptional items. Group revenue (proportional) includes share of associates.

Thrace also has significant ownership positions in two associate companies active in technical fabrics, one in packaging and a standalone agricultural sector, hydroponic greenhouse operator in that uses geothermal energy near its primary manufacturing base in Xanthi, northern Greece.

Investing in divisions for growth

Thrace largely operates in its clearly defined divisions; minor restructuring has taken place in the last five years and both have received significant investment. The latest, more international, phase is coming on stream and is expected to be a key driver of future volume and profit growth.

Broad, stable and experienced management team

The Thrace board comprises 11 members: three executives (including chairman, CEO and leading shareholder Konstantinos Chalioris) and eight non-executives (NEDs). This includes four new NEDs in the last three years, joining a stable core board team characterised by a range of industry, banking, finance and international experience.

Evolution into distinct two-division structure

When Thrace listed on the Athens Stock Exchange in 1995, the then 18-year-old business was exclusively focused on technical fabrics. At this time, it operated from a number of factory units in Xanthi in the Thrace region of northern Greece, attracted to the region by government investment and employment incentives. Thrace established a newbuild rigid packaging plant in Ioannina in 1997 and made its first international acquisition – the Don & Low technical fabrics operations in Forfar, Scotland – two years later. In the following decade, Thrace invested in expanding capabilities in Xanthi and further developed its international footprint in various south-eastern European countries and in the US (in 2007).

Group financial performance was affected by the global economic crisis beginning in 2008 and year-end net debt peaked at c €86m (or 3.5x EBITDA generated) in that year. Despite pressures on profitability over the following two years (with EBITDA and PBT troughing at €18.5m and c €4m, respectively, in 2010), a €30m+ reduction in net debt was achieved under the stewardship of Konstantinos Chalioris, CEO since 1999, and he also assumed the role of chairman in 2009, succeeding his father, the company founder.

2010–12: 2010–12 was a period of business reorganisation, including the consolidation and reorganising of Technical Fabrics activities in Greece into a new divisional structure. New holding company structures were also established for operations in the US. In Packaging, the first investment into flexible film production was made, as was a small non-core disposal. No exceptional costs were separately identified during this period; we assume that they were taken above the line and/or offset by disposal proceeds but are unable to quantify these effects. Revenue and profit growth resumed in 2011 and continued in 2012.

2013–2018[1]: There was a dip in profitability in 2013 (caused by lower Technical Fabrics volumes and input cost pressures) but the foundations for refreshed strategic objectives were put in place, essentially targeting profitable growth from investment including international expansion to drive growth organically through innovation and higher value-added products.

Visible corporate actions taken during this time include:

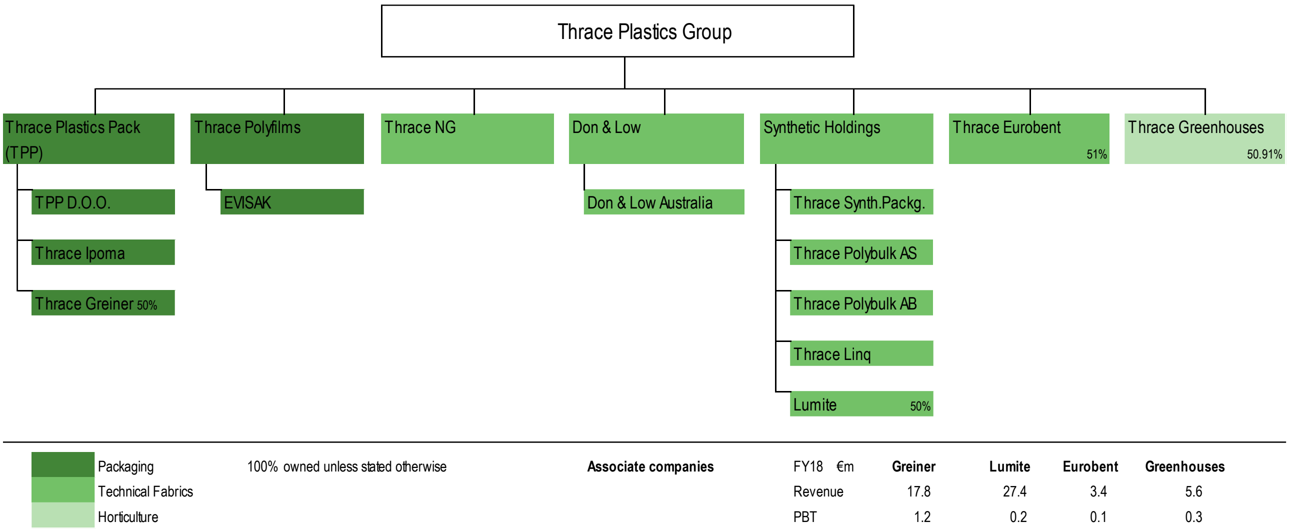
- **Technical Fabrics** – a new JV was established in Xanthi in 2014 to manufacture geosynthetic clay liner membranes (51% owned, 49% Eurobent) to expand the product portfolio offering. Trading operations in Ireland (Thrace Synthetic Packaging) and Scandinavia (Polybulk companies) were transferred from the Packaging division in 2016, reflecting the functional properties of the product portfolios concerned.
- **Packaging** – during 2017, Thrace acquired the minority shareholding from its JV partner in what was then known as Thrace Sarantis (established in 2010) to take full control this flexible packaging producer. The renamed Thrace Polyfilms then acquired EVISAK, a refuse sack producer, at the end of that year (at a cost of €2.49m, adding c €3.1m sales).
- **Other** – following government regulatory and incentive initiatives, Thrace opportunistically established Thrace Greenhouses (hydroponic vegetable cultivation using geothermal energy) in northern Greece. In 2017, these facilities were combined with those of Elastron in a new JV arrangement.

In our view, 2013–18 represents a comparable track record period from a group financial reporting perspective. In subsequent sections, we look at two distinct investment phases during this period and assess how the latest programme can be a key driver of expected future performance.

Thrace has operated in each of its segments and in international markets for 20 years or more, and Exhibit 2 shows a simplified group structure and its constituent operating companies.

1 From 2014 (with 2013 restated), following IFRS guidelines Thrace adopted the equity accounting consolidation method (having previously done so on a proportional basis up to this point).

Exhibit 2: Thrace Plastics simplified organisational structure

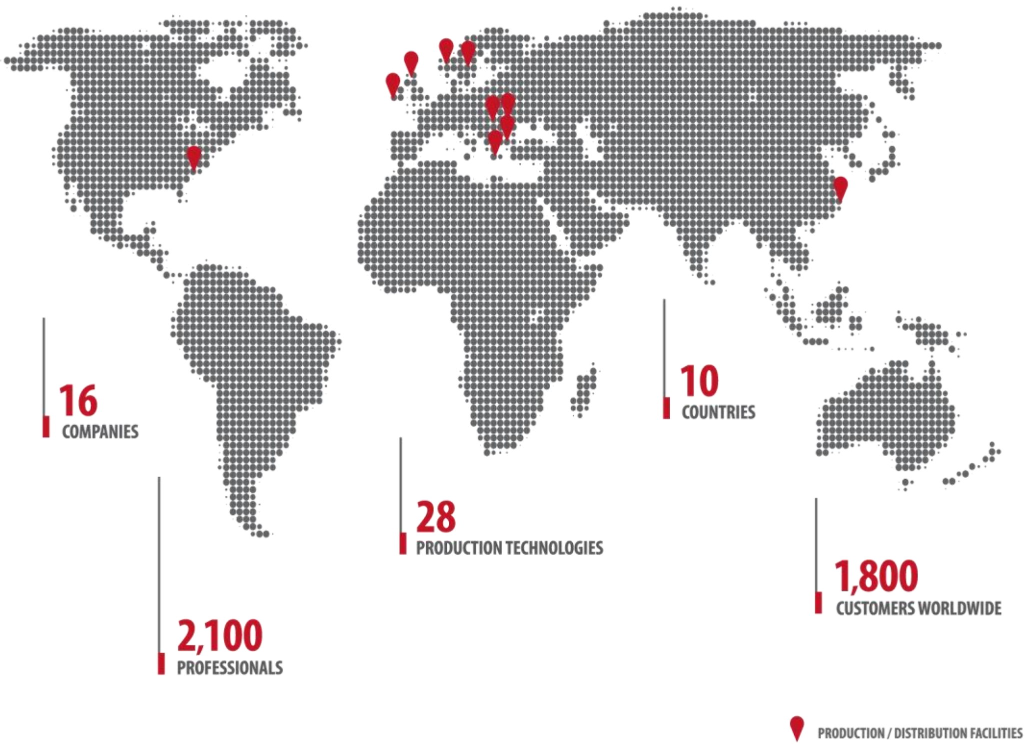


Associate companies		Greiner	Lumite	Eurobent	Greenhouses
	FY18 €m				
	Revenue	17.8	27.4	3.4	5.6
	PBT	1.2	0.2	0.1	0.3

Source: Thrace Plastics

The geographic spread of these companies is shown in Exhibit 3; manufacturing facilities are located in Europe and the US, and the other operations depicted are direct local sales and distribution organisations.

Exhibit 3: Thrace Plastics – international operations



Source: Thrace Plastics

Strategic investment key to value creation

The Thrace board's high-level financial objective is to 'pursue profitable growth through investment in capacity and innovation' using two primary levers:

- **Increase capacity** – investment to achieve organic, geographic expansion; and
- **Value capture** – driving EBITDA margin improvements through internal and external actions.

Long-term planning, phased capital spending

Board policy sets annual budgets within a rolling five-year strategy framework, backed by detailed financial planning. In the last five years we note two distinct investment phases consistent with the strategy outlined above. In **2015–16**, the primary focus was on operations in Greece, while in **2017–18**, Thrace directed more capex into international operations, especially the UK and US.

Exhibit 4: Thrace Plastics 2015–18 capex profile I – group

	2015	2016	2017	2018	% FY18 revenues
Total capex	**25.2**	**29.9**	**21.6**	**35.5**	**By origin/by destination***
Greece	17.3	22.5	8.8	9.1	58%/17%
Non-Greece	7.9	7.4	12.7	26.4	42%/83%
Depreciation	**9.9**	**12.3**	**13.0**	**13.8**	

Source: Company. Note: Figures are before modest asset disposal proceeds *Edison estimates.

Exhibit 4 shows that annual capex has been in the €20–36m range in each of the last four years, well ahead of depreciation (being €10m in FY15, rising to €14m in FY18). Of this, c €4–5m pa was business continuation capex, indicating that significant resource has been spent on growth investment. Note that the figures shown may not correspond to published cash flow figures owing to the use of some lease finance, most notably in FY16. In addition, commissioning and payment phasing means that capex and new capacity availability may not necessarily be fully aligned in the same financial year. As discussed below, both divisions benefited during each phase.

Technical Fabrics (TF): Capex has mainly been concentrated on upgrading capabilities in non-woven fabrics. Higher-volume TF production lines typically have larger-scale front-end extrusion equipment with higher, lumpier capital machine costs.

Exhibit 5: Thrace Plastics 2015-2018 capex profile II – Technical Fabrics

Technical Fabrics	2015	2016	2017	2018	Markets served
Gross capex (€m)	18.2	22.5	18.9	30.0	Geosynthetics
Depreciation (€m)	5.1	7.1	7.8	8.4	Construction
					Agri/Horticulture
Volumes k tonne	80.7	85.9	96.3	93.5	Landscape
Revenue (€m)	228.5	225.3	247.8	244.0	Sport & Leisure
Gross Profit (€m)	45.5	48.3	49.0	44.3	Medical/hygiene
EBITDA (€m)	19.7	22.6	18.9	16.7	Filtration
EBIT (€m)	14.6	15.5	11.1	8.2	Furniture/bedding
					Automotive
Margins					FIBC packaging
Revenue/tonne	2,833	2,624	2,573	2,784	Advanced composites
Gross	19.9%	21.5%	19.8%	18.2%	Floor covering
EBITDA	8.6%	10.0%	7.6%	6.8%	Industrial fabrics
EBIT	6.4%	6.9%	4.5%	3.4%	Webbing/straps
					Ind. yarns & fibres

Source: Thrace Plastics Note: Non-woven a) Spunbond = extruded fibres produced continuously, which are then formed into a web for bonding, b) Meltblown = spunbond process where high velocity air is applied to produce thinner fibres prior to bonding process, c) Needle-punch = formation of sheet materials formed from entangled fibres (usually thermally bonded) & woven = interlaced flat tapes (produced from extruded film).

Thrace also continues to spend on upgrading its TF woven process capabilities – including secondary processes such as coatings, lamination and printing – although not through large individual capital items.

Exhibit 5 shows both the benefits and challenges of material investment programmes. In each year capex spend has significantly exceeded the divisional depreciation charge, which has translated into a large volume uplift over the four-year period. The overall gross margin pattern shows an initial increase with some dilution in the two latest years. Management states categorically that investment has led directly to margin improvement in those companies benefiting from these capex programmes. It is also the case that the initial ramp-up phase means that the gains are typically not realised immediately. So, the margin progression shown in Exhibit 5 reflects i) the positive effects of investment; ii) some ramp-up lag; and iii) dilution during commissioning phases. In other words, benefits from the 2015/16 programme started to show in 2016 and have continued subsequently, but have been partly obscured by the larger 2017/18 programme (in the UK and US) where the returns are substantially still to come through. It should also be noted that 2016 had a more favourable polymer price environment (being relatively stable after increases early in the year), which supplemented underlying gains from investment. Once the 2017/18 effects come through more fully, management believes that EBITDA margins at or around 10% are sustainable in this division.

Packaging: Capex has been on both rigid container production and flexible films lines. In contrast, with TF, Packaging typically has a larger number of smaller lines, which bring greater production flexibility and allow smaller incremental spend to grow capacity gradually.

Exhibit 6: Thrace Plastics 2015-2018 capex profile II – Packaging

Packaging	2015	2016	2017	2018	Markets served
Gross capex (€m)	7.0	7.4	7.4	5.8	Bags/FFS films
Depreciation (€m)	4.6	4.1	4.6	5.2	Pallet covers/wrap
					Liners/cargo protection
Volumes k tonne	25.6	28.1	30.6	34.4	Fabrics
Revenue (€m)	70.4	76.0	83.7	91.6	IM containers
Gross Profit (€m)	12.9	17.0	17.2	18.2	Thermo cups
EBITDA (€m)	9.0	12.3	11.5	12.3	EPS containers/trays
EBIT (€m)	4.4	8.2	6.9	7.1	Crates
					Bag in box
Margins					Garbage bags
Rev / tonne	2755	2707	2732	2552	Ropes & Twines
Gross	18.3%	22.4%	20.6%	19.9%	
EBITDA	12.8%	16.2%	13.8%	13.4%	
EBIT	6.2%	10.7%	8.2%	7.8%	

Source: Thrace Plastics. A) Packaging: rigid containers i) injection moulding (IM) = heated resin is injected under pressure into pre-formed cavity moulds, ii) thermoforming = heated sheet materials formed over mould shape under pressure & B) flexible films; blown film = heated resin formed into a continuous thin film bubble/tube.

This division has also invested at above its depreciation rate in each of the last four years and seen a c 35% uplift in sales volumes across this period. In contrast with Technical Fabrics, adding new lines and expanding capacity in this division is achievable in smaller volume increments. This is particularly the case in injection moulding processes. While there are still commissioning and ramp-up phases, the scope for a wider dilution of performance arising from this is diminished. That said, the scale of volume increase delivered is significant, suggesting a well-planned and executed expansion programme. Gross margins have clearly improved from 2015 levels – with a positive polymer price effect in 2016 visible here also – and the relative stability at both gross and EBITDA levels is notable. Higher capex in the latest two years is a precursor to further volume uplifts, we believe.

Note that the discussion above relates only to subsidiary companies; associate companies Thrace Greiner (Packaging, in 2015–16) and Thrace Greenhouses (established in 2016) have also expanded their fixed asset bases. Corporate investment in Thrace Polyfilms (Packaging, buying in minorities and acquiring EVISAK, both in 2017) is also excluded from the capex analysis.

Looking ahead, we model c €14m annual group capex in FY19 and then €10m in each of the following two estimate years. As well as ongoing process improvement initiatives, we expect this to include development to facilitate an increasing use of recycled material (having given a commitment to displace c 8,500 of virgin polymer usage by 2025).

Value capture: Aiming to boost profitability

Aligned with capacity increases, investment spending is tasked with delivering a number of other group benefits, internally and externally. Firstly, more modern equipment typically has faster run speeds, which also **reduce unit production costs** as well as lifting volumes for given material types. Additionally, leveraging existing market positions and through new product development, new, more advanced equipment can be used to produce **higher specification/higher value-added** products (eg lighter, stronger), which generate better margins. This can also serve to **extend/broaden the product range**, which helps to pull through other line items. Ultimately, the objective is to increase the value per tonne of polymer material processed. Taking a dynamic view, migrating the product portfolio over time towards higher-value materials should also serve to enhance group margins.

At the end of the first investment phase, margins improved at all levels in FY16. The same effect is still to be observed as the second phase concludes but this represents an opportunity for investors. Our estimates contain an 80bp uplift in operating margins from FY18 to FY21; this is mainly a gearing effect from rising volumes, with little gross margin accretion behind this. Consequently, if Thrace is able to generate faster sales growth in higher value-added areas, this may enhance gross margin also with positive drop-through effects. As an illustration, a 100bp gross margin increase on our expected FY21 revenues adds c €3.6m to profit at this level (and compares to our EBITDA and EBIT projections of c €34m and c €20m, respectively, for that year), other things being equal.

A question of returns: Notwithstanding the investment in the last couple of years, absolute profitability (and profit per tonne processed) has been below FY16 levels and we estimate that ROCE was 6% in FY18. In the first instance, this needs to be raised above the company's WACC (6.4%). Attaining and sustaining returns above this level would be reflected in improved profitability, cash generation and a controlled reduction in gearing (to below 2x net debt:EBITDA consistent with management targets). For the record, our estimates see group pre-tax ROCE rising to 7.7% by FY21. In the valuation section, our DCF analysis is set in the context of group ROCE scenarios.

Sensitivities

Thrace is an international manufacturer of a wide range of products that are used in a variety of sectors, ranging from construction/infrastructure to horticulture and food packaging. Hence, there is diversity across its production base and the end-markets that it serves.

Capital efficiency and growth: As with all capital-intensive industries, equipment utilisation is a significant driver of profitability. Thrace has a number of primary extrusion processes and downstream secondary and conversion processes, which may or may not be directly integrated. The company has to balance these lines, aiming to achieve high levels of utilisation in extrusion especially (where capital costs are significant), ideally including long runs, limited changeovers and focus on higher value-added markets. New capacity can have short-term impacts on profitability (eg in utilisation rates and/or mix), but obviously contributes to business growth in the medium term. That said, some sectors (eg food packaging using injection moulding) are able to add capacity in smaller increments. Favourable GDP growth in its markets and the ability to introduce new products and/or win market share supported by investment in capacity and capability are Thrace's macro drivers. The nature of competition varies by market; the packaging sector is typically relatively localised, and while technical fabrics can be required to meet local specifications there may be a number of international suppliers who are able to do this.

Importance of input costs and operational gearing: Most obviously, higher (lower) revenue per tonne sold – through pricing strategy or mix evolution – can have a significant positive (adverse) operational gearing impact on profit. As a simple example, a €100/tonne increase to FY18 volume using the reported 19.8% gross margin would add a €2.4m contribution, other things being equal. Underlying polymer costs are a key driver. Selling prices that recover input cost increases maintain the profit per tonne spread though dilute margins. There is typically a lag of about three months before prices fully adjust, which can provide a short-term boost/dampening effect on profit. According to the latest annual report, Thrace used c 116k t of materials (chiefly polymer feedstock in virgin, secondary and packaging forms) in FY18 and together with inventory, these costs accounted for c 60% of COGS in the year. At the margin, the re-use of process waste can help to lower input costs for some applications. Typically, Thrace uses one main supplier for its primary polymer requirements in each region. Switching is possible, though process qualification is usually needed even across common grades.

US dollar cross-rate sensitivity Thrace has manufacturing operations in six countries and a direct presence in 11 overall, selling to a total of 80 different countries. The company uses local borrowings as a natural hedge and estimates that a 5% move in the €/U$ rate would have a c €0.7m translational impact on PBT, with no other cross rates material for a change of this extent. We believe that US production is substantially locally consumed, around 40% of UK output is exported (predominantly to the EU but to the US also), while Greece exports to the US, EU and other non-EU European countries also.

Financial considerations: At the end of FY18, Thrace recorded a defined benefit (DB) pension scheme liability of c €15m on its balance sheet (11% of the fair value of liabilities at that time). The company makes c €0.8m annual cash recovery payments. Under Greek banking system capital controls, the external transfer of capital is restricted. Management monitors the position and considers that any negative developments would not be expected to materially affect operations. Group capital structure should be considered in this context. As covered in the FY18 Annual report (page 139), the audit procedure for Greek companies is such that tax liability exposure arising from unaudited fiscal years may or may not occur in subsequent group financial years.

Founding family interests account for c 64% of the outstanding equity. We understand that this has been a stable unchanged position for a number of years and have no reason to believe that this is likely to change.

Valuation

Based on reported FY18 results, Thrace's share price is currently at a 33% discount to its end FY18 NAV. Profitability still has to regain FY16 levels, but on our estimates it achieves this by FY20 and further improves earnings in FY21. Nevertheless, with our projected FY21 P/E and adjusted EV/EBITDA of 8.2x and 4.4x, the market appears to be giving little credit to the prospect of regaining momentum. Our DCF analysis suggests that the current valuation is equivalent to a steady-state EBITDA of c €30m, which is below our FY19 estimate and compares to the c €34m we expect in FY21. Using the later input generates a value of €3.27 per share.

Low valuation on conventional metrics

As an established business with a track record of revenue and profit generation, earnings-based metrics are a sensible starting point for Thrace's valuation. We note that FY18 profitability was below that reported in the preceding two years and, therefore, may not be a completely appropriate base year for such analysis. Partly reflecting earnings recovery and partly due to growth, our EPS CAGR to FY21 is 7.9%, giving rise to a PEG of 1.3x using the base 10.3x FY18 P/E. With the indicated earnings growth, by FY21 the company's P/E compresses to 8.2x. Looking at cash multiples, EV/EBITDA multiples (adjusted for pension recovery cash payments) move from 6.0x historical to 4.4x by FY21, which by convention represent attractive levels. Dividends are subject to general meeting approval; we expect that the payout will be stable at the FY18 level (ie 4.0c per share), which equates to a 1.8% yield.

Thrace has a significant fixed capital asset base, which underpins the end FY18 net asset value of c €142m; the company's share price currently sits at a 33% discount to the €3.24 NAV per share.

DCF analysis: Driving ROCE to boost fair value

In our DCF model, with a WACC of 6.1% the current share price is effectively factoring in medium-term/steady-state EBITDA of c €30m (ie below our expected FY19 level of c €32m). Using the same methodology and a stable EBITDA input of €34.4m (our FY21 estimate) generates a value per Thrace share of €3.27.

Exhibit 7: Thrace Plastics DCF illustration

Value per share €		EBITDA €m				
		30	35	40	45	50
WACC %	6%	2.36	3.48	4.61	5.73	6.85
	7%	1.76	2.69	3.62	4.56	5.49
	8%	1.31	2.10	2.89	3.68	4.47

Source: Edison Investment Research. Note: This DCF incorporates FY19–21 estimates contained in this note and, from year four onwards, factors in a flat EBIT/EBITDA profile (representing 'steady-state', mid-cycle earnings), neutral working capital flows, capex equal to depreciation and a terminal growth rate of zero. For the purpose of our DCF calculations, we have assumed that cash flows relating to minority positions net out to zero in each year. (In FY18 there was minority dividend income of €485k and a P&L minority deduction of €305k.)

WACC derivation: The 6.1% WACC used above is generated from:

- Risk-free rate 2.72% (10-year, Greek government bond yield), market risk-premium 6.5% (Bloomberg), stock Beta of 1x.
- Average cost of debt c 3.25% (Euribor +3.25%).

Exhibit 7 shows a range of WACC inputs; the valuation is more sensitive to WACC changes at lower profit levels. One could argue that, with over 80% of Thrace's FY18 revenues generated outside Greece, lower risk premia may be more appropriate. Obviously, generating profits and cash over time naturally reduces net debt and raises the WACC, other things being equal.

EBITDA range in a ROCE context

Adding some context to the c €34m EBITDA scenario used above, we have applied illustrative return on capital employed (ROCE) rates to our projected end FY21 capital base and the results are shown in Exhibit 8.

Exhibit 8: Thrace Plastics – ROCE/implied profitability

ROCE	9%	10%	11%	12%
Implied EBIT (€m)	23.3	25.9	28.5	31.0
Implied EBITDA (€m)	37.9	40.5	43.1	45.7

Source: Edison Investment Research. Note: Assumes a) FY21e average capital employed of c €259m, b) depreciation = €14.6m pa.

This 9–12% ROCE range broadly corresponds to the middle columns in our earlier DCF table (Exhibit 7) above). In context, in a subdued earnings year, Thrace generated an FY18 ROCE of c 6%, while, following an earlier investment phase, it approached 10% in FY16. Enhancing group returns in the wake of the latest capex programme is a critical management focus. If ROCE can be pushed and sustained beyond FY16 levels, the clear message is that significantly higher valuation levels can be achieved. For example, the values per share rise to c €4.60 at 10% ROCE or c €5.75 at 12%. ROCE is a key performance indicator for management, who can improve this metric through the generation of higher profitability and/or more efficient capital management (such as working capital) and essentially tasks the leadership team with converting the benefits of recent investment into shareholder returns. Reduced perceptions of market risk in Greece can also contribute to higher equity fair value for the company.

Valued at the lower end of a peer group range

Thrace operates in well-established industries that function on local and global bases. The selection of an appropriate valuation peer group is, however, compromised by a significant number of private/family-owned players and the diversified nature of many of the listed ones. With this in mind, Exhibit 9 shows some quoted companies active in at least one of Thrace's market areas (but also other such as personal care/hygiene):

Exhibit 9: Thrace Plastics – selected listed peer group companies

	Currency	Year end	Price	Mcap (m)	P/E (x)		EV/EBITDA (x)		EV/Revenues (x)	
					FY1e	FY2e	FY1e	FY2e	FY1e	FY2e
Thrace Group	**EUR**	**Dec**	2.19	95	**10.2**	**9.2**	**5.4**	**4.9**	**0.5**	**0.5**
Berry Global	USD	Sep	49.9	6566	14.1	12.5	8.0	7.3	1.4	1.3
DuPont	USD	Dec	73.5	55007	18.4	16.0	11.6	10.5	3.0	2.9
RPC Group*	GBP	Mar	792.0	3223	10.8	9.9	7.0	6.5	1.1	1.1
Low & Bonar	GBP	Nov	9.3	64	9.3	4.9	5.2	4.0	0.4	0.4
Schouw & Co	DKK	Dec	504.5	12865	14.5	12.4	8.3	7.2	0.8	0.7
Pegas	CZK	Dec	750.0	6573	10.7	10.0	4.9	1.8	1.0	0.4
Huhtamaki	EUR	Dec	34.3	3697	17.7	16.0	10.4	9.5	1.4	1.3
			Ex Thrace average		**13.6**	**11.7**	**7.9**	**6.7**	**1.3**	**1.1**

Source: Refinitiv, Edison for Thrace metrics. Note: *RPC is currently the subject of a takeover bid by Berry Global.

None of these companies are true peers in the sense that they have similar business profiles, although we acknowledge some process and market overlap. The large US peers (Berry Global, Dupont) are the most diversified and largely trade on a premium to the other companies. Against the European companies shown in Exhibit 9, Thrace currently sits at the bottom end of the range on most metrics with multiples slightly ahead of those of the lowest rated. Against peer group averages, Thrace is on discounts of 20–25% in P/E terms and c 25–30% on an EV/EBITDA basis.

Two years of relatively subdued profitability and a historically low profile among international investors are probably significant factors behind current valuation levels. As stated elsewhere, the prospect of Thrace converting its most recent capex programme into higher profitability and group returns represents the key proposition to attract investors and enhance the company's rating.

FY18 results overview

A marginal increase in group revenue and a c 12% EBIT decline were the FY18 trading headlines. The latter movement was largely due to a lower Technical Fabrics contribution in the year including small adverse FX translation effects (on UK and US operations). Following another significant investment phase, group net debt stood at €78m at the end of the year. We expect positive free cash flow development and a reduction in gearing over our estimate horizon.

Exhibit 10: Thrace Plastics divisional and interim splits

Year end 31 December, €m	H1	H2	2017	H1	H2	2018	% change y-o-y	
							H118	FY18
Group Revenue	**161.1**	**157.4**	**318.5**	**165.2**	**157.5**	**322.7**	**2.6%**	**1.3%**
Technical Fabrics	124.6	123.2	**247.8**	125.1	118.9	**244.0**	0.4%	**-1.5%**
Packaging	42.6	41.1	**83.7**	47.3	44.3	**91.6**	11.0%	**9.5%**
Other[2]	2.6	(2.6)	**0.0**	2.5	2.4	**4.9**		
Eliminations	(8.8)	(4.2)	**(13.0)**	(9.7)	(8.1)	**(17.8)**		
Group Operating Profit	**8.7**	**8.5**	**17.2**	**9.6**	**5.6**	**15.2**	**9.6%**	**-11.7%**
Technical Fabrics	5.0	6.1	**11.1**	6.0	2.2	**8.2**	19.6%	**-25.9%**
Packaging	4.3	2.6	**6.9**	3.9	3.3	**7.1**	-9.5%	**3.1%**
Other	(0.5)	1.5	**0.9**	(0.2)	0.1	**(0.1)**		
Eliminations	0.0	(1.7)	**(1.8)**	(0.1)	0.0	**(0.1)**		

Source: Thrace Plastics. Note: FY18 EBIT figures have been adjusted for c €0.7m a DB scheme equalisation charge (TF only) and €0.8m restructuring costs (across both divisions), which we consider to be exceptional.

Technical Fabrics

The division is an international developer, manufacturer and distributor of technical fabrics, industrial yarns, fibres and composite materials used in a wide range of applications (including construction, infrastructure, landscaping, floorcoverings and agri/horticulture) produced mainly from polypropylene (PP) using a wide variety of different processes.

Divisional revenue declined modestly in FY18, with some improvement in selling prices partially offsetting a 2.9% reduction in sales volumes. There was upward pressure on PP input prices throughout the year, more noticeably so in H2, and they ended FY18 10%+ higher year-on-year. This would have supported higher end selling prices to some extent but also contributed to manufacturing contribution margin pressures we believe. Gross margin shed 160bp to 18.2% for the year, comprised of 16.8% in H2, after 19.5% seen in H1. This suggests that input price increases were not fully recovered. It may also have been the case that plant utilisation was below optimal levels in some cases – possibly also due to additions to capacity, also nudging up depreciation costs – where end-market demand was soft. More positively, a year-on-year reduction in operating costs meant that the underlying operating margin reduced by less than the gross margin, being down 110bp to 3.4% (again weaker in H2). This infers that management actions were taken to bring about opex cost control though not sufficient to prevent a c €1m overall operating loss in Q4 (including some year-end stock impairments).

Regionally, we believe that euro-bloc demand outside of Greece was good but US and UK sales were lower year-on-year. The latter effect may have been partly due to production disruption to accommodate the arrival of new equipment. Among Technical Fabrics' JV/ associate companies (which are equity accounted and not included in the table of fully consolidated operations above) both Lumite Inc (US, 50% owned – producer of agricultural fabrics, c €27m revenue) and the smaller Thrace Eurobent (Greece, 51% owned – producer of geosynthetic clay liners) generated lower PAT in FY18, though the reduction was not material in the context of overall group profitability.

2 Other: In H217, Thrace Greenhouses moved from wholly owned to a c 51% owned JV and no longer reported in the divisional split from that year end onwards. On an ongoing basis, this line represents management charges from the parent company to subsidiary operations and is eliminated on consolidation.

Packaging

This division is a European manufacturer of containers and packaging in both rigid and flexible form mainly using polypropylene and polyethylene feedstock; applications include bags, liners, fabrics, with injection moulding (including in mould labelling), blown film extrusion and thermoforming being the primary production processes used.

The Packaging division generated a c 12% increase in sales volume. As headline revenue growth was below this – but still approaching 10% – this infers lower average pricing. Upward pressure on polymer costs was also present here (though less so in polyethylene than PP) so we assume that this price effect was largely related to sales product mix. This may have been partly due to the inclusion of EVISAK (a polythene film bag producer, acquired at the end of FY17), which brought in annualised revenues of c €3m. Gross margins were relatively resilient in this division at 19.9% (-70bp) with input costs and mix both likely to have had a bearing on the small reduction seen, though we are not able to quantify their relative importance. As seen in Technical Fabrics, a narrower difference at the operating margin level (-40bp to 7.8%) indicates good control of opex cost increases and, in this case, some operational gearing benefit from higher volumes. We also note that the H2 margin (at 7.3%) was better than that achieved in the corresponding period in FY17 (6.4%). Integration costs of c €0.3m relating to EVISAK were incurred during the year, which we have excluded from Exhibit 1 and record as exceptional costs in our model.

We consider it likely that some underlying growth was achieved in the core Greek market, enhanced by EVISAK's maiden contribution. Other southern European markets therefore are likely to have grown more quickly and this may partly explain the lower average pricing effect described above. The division's Thrace Greiner JV (Romania, c 46.5% owned producer of plastic food and paint containers, c €18m revenue) delivered comparable PBT to FY17 but a lower after tax result, contributing to the equity consolidated/associate line in the group P&L.

Higher debt from growth investment

Thrace ended FY18 with c €78m net debt, a c €20m increase over the year (and up c €6m from the H118 level). This was the product of management's ongoing strategic investment to improve the group's capacity and capability in a number of areas and a subdued end to the trading year.

Lower EBIT generation and cash outflow relating to non-recurring items[3] explained the lower cash conversion in 2018 (at 80% versus 93% in 2018, operating cash flow as a percentage of EBITDA). Working capital absorption of c €4m was comparable to the prior year; its composition – being higher inventory build, strong year end receivables collection and a payables outflow – is consistent with a comparatively subdued Q4 trading period in our view, in both divisions. In the context of full year group revenues and cost of sales, year-end net working capital days (inventory plus receivables less payables) was stable at c 98 with the inventory increase broadly offset by a debtor decrease (to 98 and 61 days, respectively, calculated on an annual basis). The absolute level of debtor provisioning has been stable for the last few years and stands at c 11% of the total trade debtor book.

Net financial cash outflows were comparable to the prior year at €4.2m (with both interest costs and minority dividends slightly higher year-on-year) while we note that cash tax was well above the P&L charge (at €4.3m and €2m, respectively) in this year. The standout cash flow line item in FY18 was capex, which reached a record €32m in the year, equivalent to 2.3x depreciation. This level of capital investment may have partly contributed to the higher year end finished/semi-finished goods inventory position. After taking €2m cash dividend payments into account, free cash flow was a

[3] £0.7m DB pension equalisation in the UK and €0.8m relating to restructuring costs relating to EVISAK integration and other Technical Fabrics actions.

negative c €19m for the year overall. In context, this is effectively the margin of capex over depreciation.

GDP growth expected in major markets served

As a background guide to likely revenue growth rates, we looked at expected GDP growth in Thrace's leading geographic markets, as shown in Exhibit 11. The weighted average growth projections for FY19 and FY20 are 3.6% and 3.4%, respectively.

Exhibit 11: Nominal GDP growth rates

	% group sales	2018e	2019e	2020e
Euro area	**41%**	3.4	3.6	3.5
Greece	**17%**	2.7	3.0	3.1
US	**16%**	5.2	5.0	4.6
UK	**14%**	3.2	3.2	2.9
Other Europe	**9%**			
C&E Europe		4.3	3.6	3.2
Western Balkans		3.8	3.5	3.8

Source: OECD (shaded countries), World Bank (unshaded). Note: % group sales = proportional basis. RoW = 3%.

Although, their respective geographic sales mixes differ (Packaging is more southern Europe-centric), the above weighted averages are reasonable benchmarks for both divisions. With additional capacity coming onstream and potential for price increases based on input cost levels, Thrace would appear to be well-placed to participate in this growth.

The divisional growth expectations (ie **2018–21 revenue CAGRs**) built into our group earnings model are as follows:

- **Technical Fabrics +3.0%:** Greece is not a leading market for this division (less than 5% of revenue). The rest of the euro-bloc is more significant, followed by the US and UK. As previously noted, the latter two countries have recently increased capacity that can support above-market growth rates.
- **Packaging +4.2%:** Primary exposure to Greece (just over half of end-market revenues) and south-eastern Europe including EU countries (Croatia, Bulgaria, Slovenia, Romania) and the Balkan states.

Financials

Thrace listed on the Athens Stock Exchange in 1995. It reports in accordance with IFRS (in both English and Greek) and has done so on an equity accounted basis from 2014 onwards (with 2013 restated). Notwithstanding small portfolio changes during the subsequent period, we consider these financial statements to represent a comparable group track record. In our experience, Thrace provides very good levels of financial disclosure concerning its trading performance including quarterly reporting in detail at divisional level. Thrace is concluding its second significant investment phase currently and our expectation is for profitability to resume growth as this beds in.

Higher volumes to drive earnings recovery

After recording a dip in profitability in the 2017–18 period, our estimates show Thrace moving back towards FY16 PBT levels by FY21. This is primarily driven by rising volumes following investment and we have assumed a modest recovery in gross margin reflecting the recovery of higher input costs seen in 2018:

- **Volumes:** 3.5% CAGR (2018–21) chiefly but not exclusively driven by Technical Fabrics to in excess of 140k tonnes sold in total in FY21.

- **Gross margin**: +60bp to 20.2% at group level in FY19, with stable underlying divisional gross margins (and average prices) in the following two years.
- **Operating margin**: incremental progress from 4.7% in FY18 to 5.5% in FY21 from operational gearing effect of higher volumes. (Below this line, we have assumed a flat contribution from associate companies.) Note that the FY16 reported EBIT margin was 7.8%.
- **EPS**: 7.9% CAGR (2018–21).
- **DPS** we expect that the dividend payout will be stable and sustained at the FY18 level.

Converting investment into cash generation

Having completed a significant, multi-year investment phase, Thrace is now in a position to drive improved group profitability, generate cash and reduce borrowings. Over the last five years, annual operating cash conversion has been 80–100% of EBITDA (being at the lower end of this in FY18) and we model in the 85–90% range. The annual net outflow for interest, minority dividends and tax in aggregate increases modestly over our estimate horizon and we currently expect capex to step down to c €14.5m in FY19 and €10m in the following two years. Factoring all of these items in generates:

- **Free cash flow rising** from c €6m in FY19 to c €12m in FY20 and c €13m in FY21.

With the above dividend profile, this results in net debt declining to c €53m by the end of FY21 and net debt:EBITDA reducing from 2.7x in FY18 to 1.5x three years later on our estimates.

Well invested, strong asset backing at €3.24 per share

Thrace is an asset-intensive manufacturing business and this is reflected in its balance sheet with the book value of **tangible fixed assets** at €136m at the end of FY18, compared to group net assets of €142m (€3.24 per share). The largest components of other fixed assets, totalling c €31m, are investments in related companies (c €13m, Lumite Inc being around half of this) and goodwill (c €10m, chiefly attributable to Don & Low).

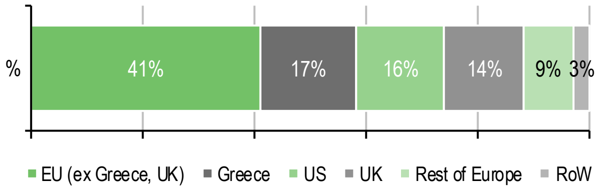
As previously noted, **net trade working capital** days stood at 98 based on the year-end balance sheet, a value equivalent of €80m. We do not have a regional breakdown of this, but Thrace utilises local banking facilities for its operations and we note that **short-term loans net of cash on hand** (€63m and €23m, respectively) effectively funds half of the working capital position. The provisions carried for inventory (2.3%) and trade receivables (11.1%) have nudged down and been broadly stable, respectively, over the last four years and the receivables provision mirrors overdue receivables above 91 days.

Longer-term borrowings have increased in absolute terms and as a proportion of total borrowings to fund significant capital equipment expenditure since 2014. This includes the use of finance leases, which represented around two-fifths of the end FY18 long-term debt held. Thrace also recorded a DB pension scheme deficit of c €15m at the end of FY18 (11% of the fair value of liabilities), which we believe substantially relates to Don & Low and to a lesser extent the Scandinavian subsidiaries (Polybulk).

Exhibit 12: Financial summary

€'000s	2013	2014	2015	2016	2017	2018	2019e	2020e	2021e
December	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS									
Revenue	251.2	278.2	289.4	291.9	318.5	322.7	335.4	346.0	357.1
Cost of Sales	(207.2)	(226.9)	(230.0)	(225.5)	(251.6)	(259.5)	(267.6)	(276.1)	(285.1)
Gross Profit	44.0	51.3	59.4	66.4	66.9	63.2	67.8	69.9	72.0
EBITDA	17.7	23.5	29.0	35.2	30.1	29.0	32.4	33.4	34.4
Operating Profit (before GW and except.)	8.8	14.7	19.1	22.9	17.2	15.2	17.8	18.7	19.8
Intangible Amortisation	0	0	0	0	0	0	0	0	0
Exceptionals	0	0	0	0	0	(1)	0	0	0
Other	0	0	0	0	0	(1)	0	0	0
Operating Profit	8.8	14.7	19.1	22.9	17.2	12.2	17.8	18.7	19.8
Net Interest	(4.3)	(5.2)	(6.5)	(5.2)	(4.5)	(3.8)	(4.7)	(4.5)	(4.2)
Pension Net Finance Cost	(0.6)	(0.6)	(0.9)	(0.6)	(0.9)	(0.7)	(0.7)	(0.7)	(0.7)
Other / Associates	2.1	1.2	1.5	1.3	2.1	0.9	0.9	0.9	0.9
Profit Before Tax (norm)	6.0	10.1	13.3	18.3	13.8	11.5	13.3	14.4	15.8
Profit Before Tax (IFRS)	6.0	10.1	13.3	18.3	13.8	10.0	13.3	14.4	15.8
Tax	(3)	(3)	(3)	(5)	(3)	(2)	(4)	(4)	(4)
Profit After Tax (norm)	3	7	10	14	11	9	10	11	12
Profit After Tax (IFRS)	3	7	10	14	11	8	10	11	12
Average Number of Shares Outstanding (m)	45.0	45.0	44.4	44.0	43.7	43.7	43.7	43.7	43.7
EPS - normalised (p)	5.5	14.4	22.0	30.4	24.1	21.0	21.4	23.7	26.4
EPS - IFRS (p)	5.5	14.4	22.0	30.4	24.1	17.7	21.4	23.7	26.4
Dividend per share (p)	3.5	7.5	0.0	0.0	4.0	4.0	4.0	4.0	4.0
Gross Margin (%)	17.5	18.4	20.5	22.7	21.0	19.6	20.2	20.2	20.2
EBITDA Margin (%)	7.1	8.5	10.0	12.0	9.5	9.0	9.7	9.6	9.6
Operating Margin (before GW and except.) (%)	3.5	5.3	6.6	7.8	5.4	4.7	5.3	5.4	5.5
BALANCE SHEET									
Fixed Assets	87.4	100.6	122.7	140.5	147.8	167.0	167.3	163.1	158.9
Intangible Assets	10.7	10.8	11.5	11.6	11.4	11.6	11.6	11.6	11.6
Tangible Assets	68.8	74.7	92.3	107.4	114.4	136.0	135.8	131.2	126.6
Investments	7.9	15.1	18.9	21.5	22.0	19.5	19.9	20.3	20.7
Current Assets	159.2	146.4	141.9	149.0	156.9	153.2	155.4	159.3	163.4
Stocks	53.4	48.9	53.0	57.7	59.6	66.9	67.0	69.1	71.4
Debtors	48.1	53.0	52.6	50.6	57.3	53.6	55.7	57.5	59.3
Cash	41.6	32.9	26.4	31.1	30.6	22.8	22.8	22.8	22.8
Current Liabilities	(108.0)	(102.9)	(109.2)	(118.0)	(130.5)	(131.1)	(127.3)	(119.7)	(111.3)
Creditors	(45.5)	(46.7)	(50.2)	(50.9)	(57.9)	(59.0)	(59.6)	(62.2)	(64.8)
Short term borrowings	(62.5)	(56.2)	(59.0)	(67.1)	(72.7)	(72.1)	(67.7)	(57.6)	(46.4)
Long Term Liabilities	(24.8)	(31.5)	(26.1)	(48.7)	(36.7)	(47.6)	(46.8)	(46.0)	(45.2)
Long term borrowings	(10.6)	(9.5)	(9.8)	(18.7)	(15.7)	(29.1)	(29.1)	(29.1)	(29.1)
Other long term liabilities	(14.3)	(22.1)	(16.3)	(30.0)	(21.0)	(18.4)	(17.6)	(16.8)	(16.0)
Net Assets	113.7	112.5	129.2	122.8	137.5	141.6	148.7	156.7	165.9
CASH FLOW									
Operating Cash Flow	17.4	19.8	28.3	29.2	28.2	23.2	28.7	29.9	30.8
Net Interest	(4.8)	(4.5)	(4.0)	(5.3)	(4.6)	(4.7)	(4.7)	(4.5)	(4.2)
Minority Dividends	0.0	0.5	0.4	0.5	0.3	0.5	0.5	0.5	0.5
Tax	(2.3)	(2.7)	(4.8)	(4.7)	(4.3)	(4.3)	(3.6)	(3.8)	(4.0)
Capex	(6.3)	(11.7)	(25.1)	(17.7)	(21.4)	(32.1)	(14.5)	(10.0)	(10.0)
Acquisitions/disposals	0.5	1.1	(0.1)	(0.3)	(1.7)	(0.0)	0.0	0.0	0.0
Financing	0.0	0.0	(0.9)	(0.8)	(0.0)	0.0	0.0	0.0	0.0
Dividends	(1.6)	(2.2)	(2.0)	0.0	(0.0)	(2.0)	(2.0)	(2.0)	(2.0)
Net Cash Flow	2.9	0.3	(8.2)	0.9	(3.5)	(19.5)	4.3	10.1	11.1
Opening net debt/(cash)	31.4	31.4	32.8	42.4	54.7	57.8	78.4	74.0	63.9
Finance leases initiated	0.0	(0.0)	1.5	1.6	(4.2)	(3.2)	0.0	0.0	0.0
Other	(3.0)	(1.7)	(2.9)	(14.9)	4.6	2.1	(0.0)	0.0	0.0
Closing net debt/(cash)	31.4	32.8	42.4	54.7	57.8	78.4	74.0	63.9	52.7

Source: Company accounts, Edison Investment Research

Contact details	Revenue by geography (by destination FY18)
20 Marinou Antypa Str., 17455 Alimos Athens Greece +30 210 98 75000 www.thracegroup.com	

Management team	
Chairman & CEO: Konstantinos Chalioris	**CFO: Dimitris Malamos**
Konstantinos Chalioris was appointed CEO in 1999 and became chairman also in 2009, succeeding his father, the company founder. He has extensive industry experience.	Dimitris Malamos has been group CFO since 2010. He has previous experience at PwC as a management consultant and in National Bank's accounting & finance division.
COO: George Braimis	
George Braimis has been with the company since 2011. Prior to joining Thrace, he gained relevant industry experience from management positions in the packaging and food industries, and he has an engineering background.	

Principal shareholders (as at 31 March 2019)	(%)
Chalioris family	64.14

Companies named in this report
Berry Global, Dow Inc, Low & Bonar, RPC Group, Huhtamaki, Pegas, Schouw & Co

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