

# HENKEL AG & Co. KGAA

INDUSTRIALS & CONSUMER GOODS

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# COMPANY REPORT

23 MAY 2018

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## Limited upside at ambitious valuation levels

### Initiation of coverage

- Henkel derives **50%** of its **profits** from its **industrial business** (Adhesive Technologies) and **50%** from **consumer business** (home & personal care) including the segments Beauty Care and Laundry & Home Care. Henkel is the clear **market leader in Adhesives with some 14% global market share**, whereas in Home & Personal care, Henkel has leading positions in some markets only, being #1 in Beauty Care Retail Germany and #3 in Global Professional Hair Care.

- Due to the significant activity in industrial adhesives (47% of total revenues), we see Henkel having strong exposure to **macro factors**. Considering Home and Personal Care, we believe Henkel moves in a competitive environment as price growth remains low vs. Adhesives (0.1% vs. 0.4% in 2017). Especially **Beauty Care** appears to struggle with **market share decline** from 6.7% in 2013 to 6.4% in 2017 due to lack of global power brands.

- In terms of top-line growth, **we expect Henkel to grow by 4.3% slightly above the sector with 4.0%**. The strong growth in Adhesives is especially counteracted by slow growth in Beauty Care.

- We initiate coverage with a **HOLD** recommendation and a **target price of EUR 111** as we see limited upside to our investment case. However, the **expected return over the next twelve months would be 3.1%** excl. the dividend 2019E of EUR 1.50. The total return for shareholders is 4.5%.

### Company description

Henkel, based in Düsseldorf, Germany, operates worldwide through its three segments Adhesive Technologies, Laundry & Home Care and Beauty care in the industrial and the consumer goods sector.

**Recommendation: HOLD**

*Vs Previous Recommendation* HOLD

**Price Target FY17: 111.00 €**

*Vs Previous Price Target* n.a.

**Price (as of 23-May-18) 107.70 €**

Reuters: HNKG.DE, Bloomberg: HEN3 GY Equity

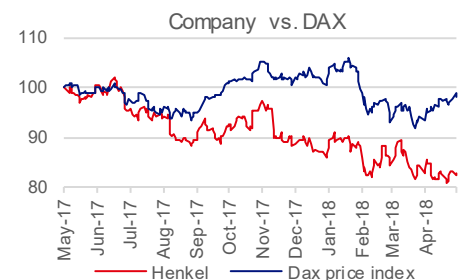
52-week range (€) 100.80-129.78

Market cap (€m) 44,916

Outstanding shares (m) 259.80

Free float 38.98%

Source: Bloomberg



Source: Bloomberg

(Values in € millions)	2017	2018E	2019E
Revenues	20,029	20,901	21,835
EBITDA	3,727	3,748	3,957
EBIT	3,055	2,981	3,131
Net income	2,541	1,953	2,116
EPS	5.80	4.46	4.83
P/E	17.3x	22.7x	21.0x
EV/Sales	2.5x	2.2x	2.2x
EV/EBITDA	13.6x	12.5x	11.9x
Net debt/EV	11.3%	10.4%	9.9%
ROIC (incl. intangibles)	13.4%	11.2%	11.3%

Source: Analyst estimates, company data

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(PLEASE REFER TO THE DISCLOSURES AND DISCLAIMERS AT END OF THE DOCUMENT)

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## Investment case

Our initiation of coverage of adhesives and consumer products manufacturer Henkel concludes with a **HOLD recommendation** based on a DCF model yielding a target price of EUR 111.

*Stable business model with attractive returns and famous brands*

We believe Henkel has an overall **solid and stable business model** with **healthy returns** (ROIC 2018E of 11.2%) and **sound cash flow generation** (Cash return on invested capital 2018E at 8.2%). Being the market leader in Adhesives with 25% global market share according to Allied Research, Henkel shows superior margins against competitors and thus has a comfortable market share situation. Henkel Adhesives shows a 2018E **EBIT margin of 18.8%** while its peer group averages at 14.1%. The consumer business brands have a strong position in the market, particularly in Europe, where Henkel's brands have market leading positions (**Schwarzkopf** #3 in Beauty Care Retail Europe and **Persil** #1 in Detergents Europe).

*... especially in the industrial segment*

**LOCTITE**  
**TEROSON**  
**TECHNOMELT**

The adhesive market environment continues to be benign with healthy growth rates of 4.5% p.a. between 2017 and 2022. Especially the **industrial adhesives** for packaging, automotive, transport and metal show favourable development. However, the nature of the industrial business always is the exposure to economic deterioration in terms of industrial production in the case of recessions due to business volatility. We do not see this case to be probable and believe Henkel will grow with the market slightly gaining market share.

*Consumer products to struggle with retaining its market share*

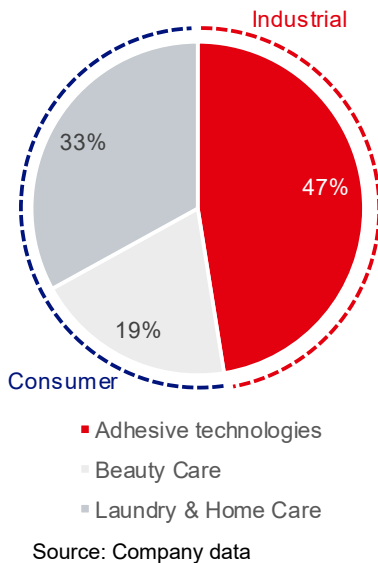
Schwarzkopf  
**SYOSS**   
**Persil**  
**Purex** 

The consumer business will also develop positively. We see a growing market with less momentum than the adhesive market, but also less volatility in case of economic downturns. Henkel recently dealt with problems **retaining its market share** with a thin portfolio of power brands against very strong and bigger competitors such as Unilever and Procter & Gamble. In our forecast, we model Henkel to further lose a small portion of market share that then stabilizes.

Our DCF valuation derives an intrinsic fair value of Henkel of EUR 111. Given an upside of 3.1%, we initiate coverage of the shares with a HOLD rating with a target price of EUR 111.

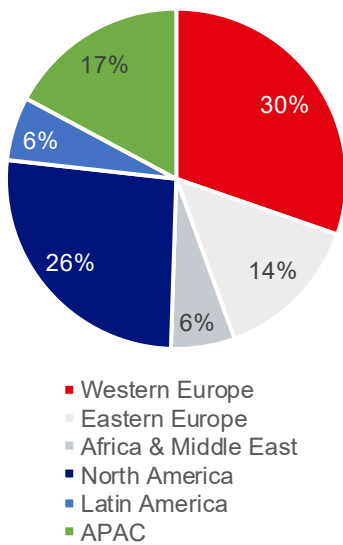
To back our DCF valuation, we conducted multiples analysis and a sum of the parts valuation. Henkel's **19E P/E ratio of 21.0x** using our forecasted earnings figures appears quite expensive comparing to the peer group value of 18.8x. Our SotP valuation based on 19E EBITDA yields a share price of EUR 104.75 reflecting the range of our DCF model.

**Graph 1 – Revenues per reported segment 2017A**



Source: Company data

**Graph 2 – Geographical revenues 2017A**



Source: Company data

## Company snapshot

Henkel AG & Co. KGaA (hereafter Henkel), headquartered in Düsseldorf, Germany and founded in 1876, is a manufacturer of chemical adhesives & sealants and consumer goods, that employs approx. 53,000 people in 120 locations around the world. The business activities are divided in the three business units: 1) Adhesive Technologies, 2) Beauty Care and 3) Laundry & Home Care. The company operates globally and offers a well-balanced product portfolio. Both in the industrial (#1 worldwide) with 25% global market share according to Allied Research) as well as in the consumer businesses (#3 in Beauty Care Retail Europe and #1 in Detergents Europe), Henkel holds leading positions due to strong brands and strong orientation on innovation. Henkel's preferred shares are listed in the DAX30, the biggest German stock index and in the MSCI World.

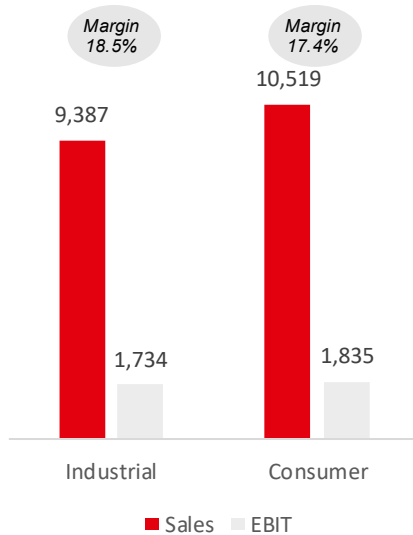
Henkel is geographically well diversified. Emerging markets comprising Eastern Europe, Africa, Middle East, Latin America and Asia (excl. Japan) is the biggest region with 40% of sales in 2017. In terms of organic sales growth, this region contributes most with 5.3% in 2017 while total company organic sales growth was at 3.1%. EBIT margin shows significant differences between regions. While Western Europe has by far the highest margin with 24.3% in 2017, APAC and North America are already meaningfully below these levels with 15.9% and 14.2% respectively. Eastern Europe shows an EBIT margin of 9.7% while Africa & Middle East shows an EBIT margin of 4.5%.

### Industrial business

In its industrial business, Henkel is the leading solution provider for adhesives, sealants and functional coatings. Generating approx. EUR 9.4bn in sales (47% of total sales), it is the largest business unit and the key value driver for future growth. With an adjusted EBIT margin of 18.5%, Adhesive technologies contribute EUR 1.7bn to overall EBIT. The main brands Loctite, Teroson and Technomelt generate approx. EUR 5.7bn of revenues alone while the top 10 brands have sales share of more than 80% of the segment sales. Henkel has an excellent innovation and technology position with 12 major R&D facilities and 40 different adhesive technologies. The biggest key target markets are the non-cyclical fast moving consumer goods and packaging industries which contribute 32% of Adhesives sales and the Transport & Metal market that mainly includes automotive and aerospace clients contributing 23% of Adhesives sales. The main competitors of Henkel in this business unit are Sika, RPM, 3M and H.B. Fuller.

## Consumer business

**Graph 3 – Balanced sales and EBIT mix between Industrial and Consumer business**

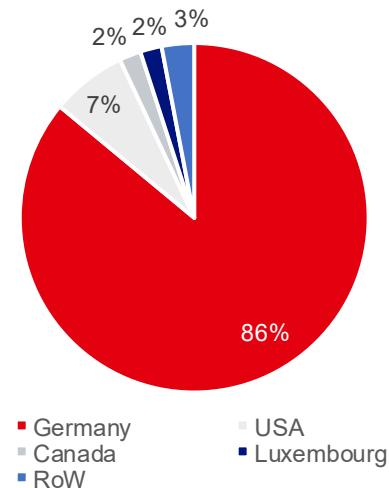


Source: Company data

The consumer business of Henkel comprises Beauty Care and Laundry & Home Care. Beauty Care generates approx. EUR 3.9bn in sales (19% of total sales) at an 17.2% adjusted EBIT margin. The product portfolio of Beauty Care includes Hair Care, Body Care, Skin Care and Oral Care with Schwarzkopf, Syoss and Dial being the most known brands. The business can also be separated into branded consumer goods and the professional hair salon business (B2B). Schwarzkopf Professional is among the three worldwide leading suppliers of hair salon business. The top 10 brands contribute 90% of segment sales. The segment Laundry & Home Care generates approx. EUR 6.7bn (33% of total sales) at a 17.6% adjusted EBIT margin. Henkel appears to have particularly strong brands such as Persil, Perwoll, Dixan and Xtra in the Laundry and detergent market generating 75% of the segment sales while Home Care brands such as Somat, Pril, Bref and Purex add 25% of the segment sales. Across the whole segment, 52% of sales are generated by the top 10 brands. Main competitors in Henkel's consumer business include L'Oréal, Procter & Gamble, Unilever, Reckitt Benckiser and Beiersdorf.

## Shareholder structure

**Graph 4 – Ownership of voting shares across regions**



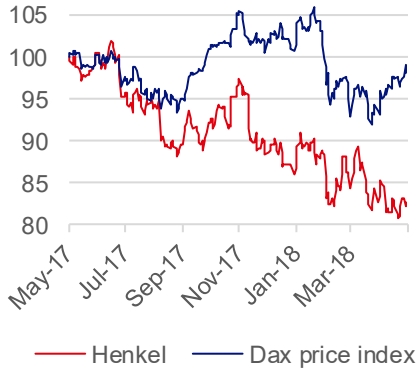
Source: Bloomberg

Henkel has 259.8m ordinary shares outstanding that entitle to vote on the annual shareholder general meeting and 178.2 m preferred shares that do not have voting rights.<sup>1</sup> The major shareholders of the Henkel ordinary shares with 159 million shares (approx. 61%) are members of the Henkel family having the voting majority in the company. Other big shareholders include the Vanguard Group, Blackrock and the Tweedy Brown Company each owning around 1% of the ordinary shares. Geographically, Germany naturally the most represented company followed by the USA, Canada and Luxembourg. The preferred shares are geographically more diversified. 29% of preferred shares are held by US institutional investors and 23% by UK-based ones. Germany on the other side only has a share of 9% of the institutional holdings in preferred shares. Apart from treasury shares, the preferred shares are all held in free float. Henkel is keen to return cash to the shareholders, not only via dividends but also through share buybacks, currently being part of the Henkel 2020 plan. Only in the month of March 2018, Henkel bought back preferred shares with a volume of EUR 33.4m.

<sup>1</sup> Typically, the ordinary shares trade at a discount to the preferred shares. The preferred share offers a EUR 0.02 higher dividend at a share price of EUR 105.4, comparing to the ordinary share trading at EUR 98.75 with 6.3% gap.

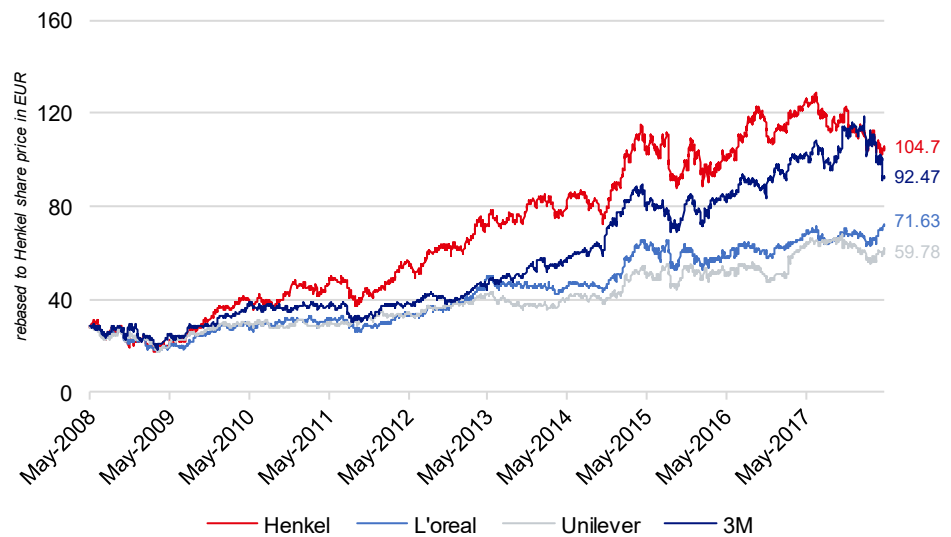
### Share price performance

**Graph 5 – LTM share price against DAX30**



Source: Bloomberg

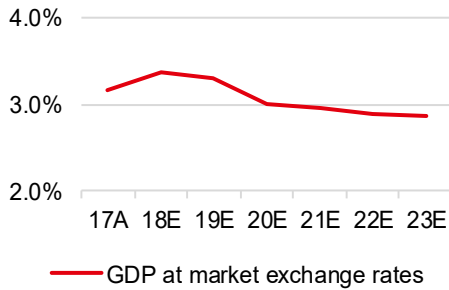
Henkel preferred shares have been publicly listed since 1985 while the ordinary shares have been listed since 1996. Since the issue of Henkel’s preferred share in 1985, investors who re-invested their dividends in further share purchases would, by the end of 2017, have achieved an average annual yield of 11.8%, while the DAX provided a return of 7.8% p.a. When comparing the DAX price index to Henkel over the last twelve months, we see a different picture. Henkel lost around 17.3% while the DAX lost only 1.8%. Henkel shares had a weak performance mainly because of the decelerating growth in the consumer business. We are showing the performance of the last ten years against major competitors from each segment. L’Oréal as the biggest Beauty Care competitor, Unilever is the biggest Laundry & Home Care competitor and 3M as biggest Adhesives competitor. Over a ten-year time span, we can see that Henkel systematically outperformed every competitor consistently. However, as the outperformance was clear until YE2016, Henkel shares show weakness against competitors.



*Graph 6 – 10yr share price development of Henkel compared to selected competitors across segments (Source: Bloomberg)*

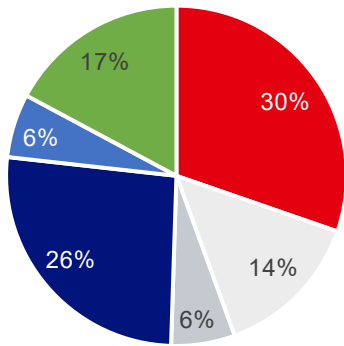
## Macroeconomic indications

**Graph 7 – IMF global GDP growth projection**



Source: IMF, Bloomberg

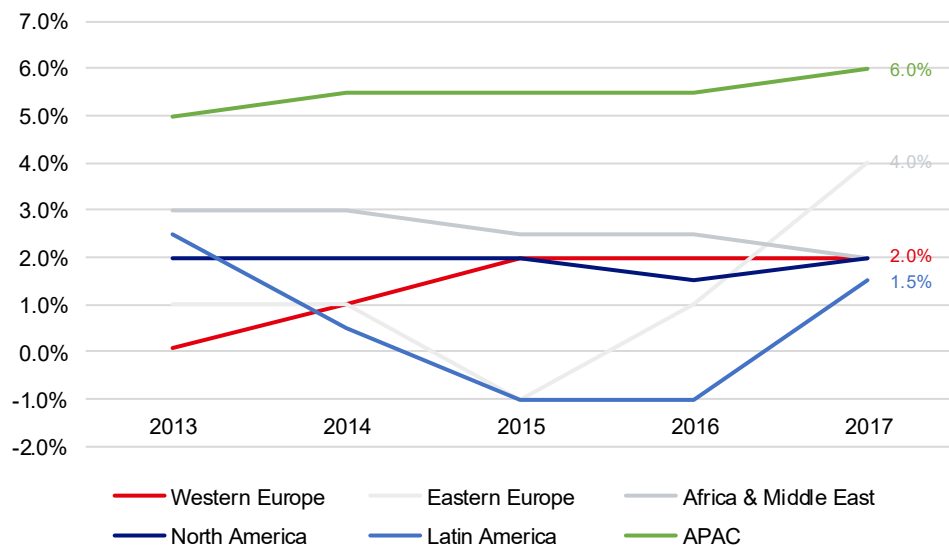
**Graph 8 – Geographical revenues 2017A**



- Western Europe
- Eastern Europe
- Africa & Middle East
- North America
- Latin America
- APAC

Source: Company data

Especially Henkel's industrial segment is highly dependent on macroeconomic developments. However, also the consumer segment faces exposure to macroeconomic developments. While 2017 has been a year of much better than previously expected global economic growth of approx. 3.2%, the IMF expects **global GDP to grow 3.4% in 2018** which generally signalizes similar favourable business environment conditions as 2017. Graph 8 and 9 illustrate Henkel's sales contribution per key region and the growth rates of these economies in the last five years.

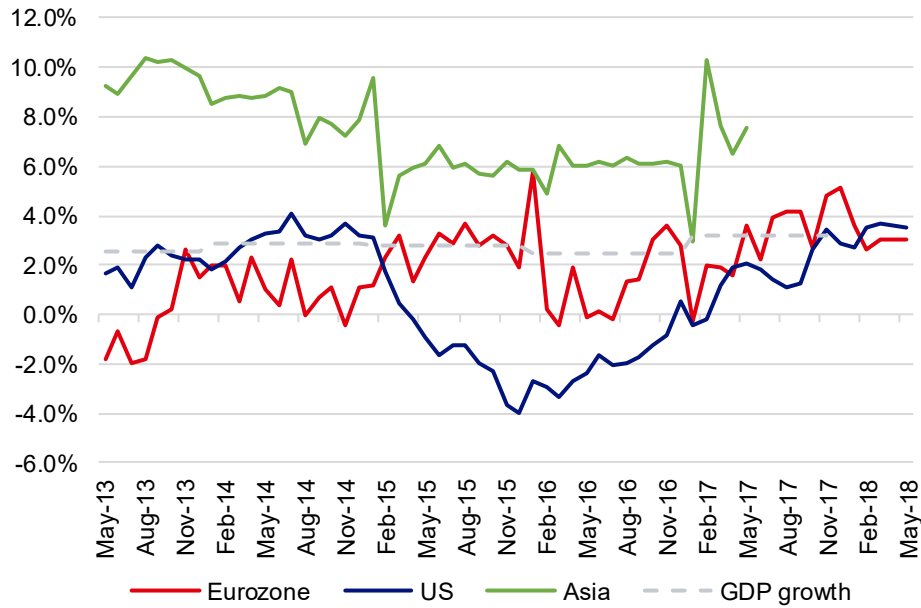


*Graph 9 – Historical economic growth rates of the key regions in which Henkel operates (Source: Bloomberg)*

Evidently, **APAC shows the highest economic growth** while generating an important 17% of Henkel's sales. The other emerging markets Africa & Middle East did not grow significantly stronger than the developed world. Latin America even went through a recession in 2015 and 2016. However, with 40% sales share in emerging markets in 2017, Henkel is **highly dependent** on the future development of **emerging markets**. In 2017, emerging markets generated 5% of Henkel's growth, whereas developed markets only showed growth of 2%.

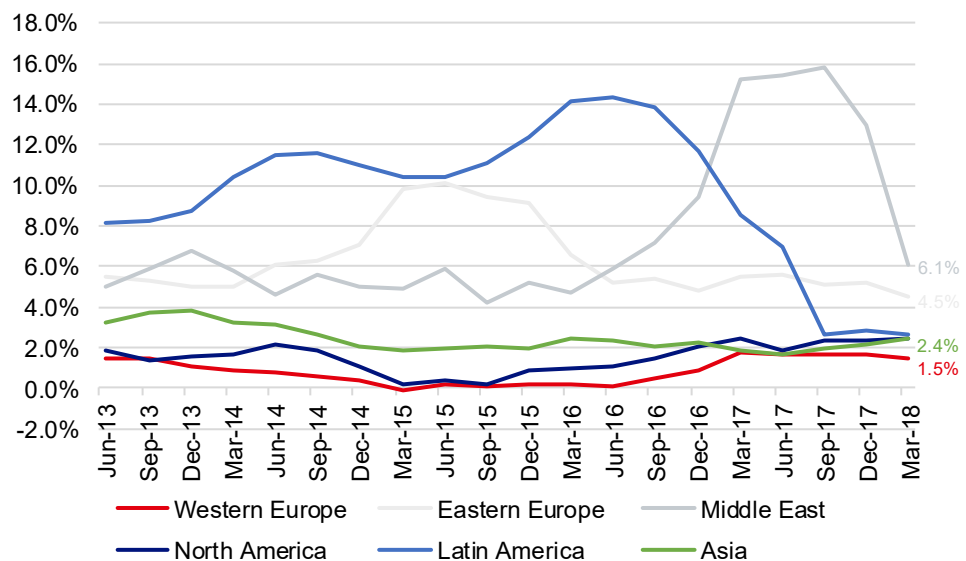
We believe that **industrial production** is a good approximator for Henkel's business activity in its Adhesives business. By combining global GDP growth with industrial production growth in Henkel's key geographies, we see high volatility levels of industrial production. For instance, the sharp drop in US industrial production starting in February 2015 to 1.8% from 3.1% the month before did not heavily impact GDP growth. This is because **industrial production composes**

only 30.5% of global GDP, the by far highest percentage of 63.6% comes from the tertiary sector, services.<sup>2</sup>



Graph 10 – Industrial production in the Eurozone, the USA and Asia, compared to global GDP growth (Source: Bloomberg)

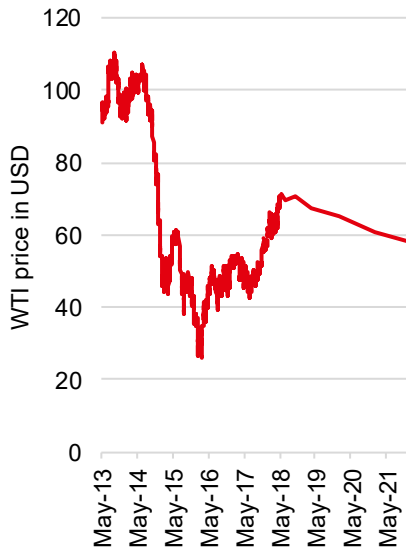
Considering inflation, the developed markets showed only small price increases of some 0 - 2% p.a. In 2015, both North America and Western Europe had inflation of 0%, but by employing quantitative easing, inflation normalized to arrive at 1.5% in Western Europe and at 2.5% in North America in March 2018. After having very high levels of inflation in Latin America from 2014 to 2016, the rate came down to 2.7% in March 2018.



Graph 11 – Inflation rates across Henkel's key regions (Source: Bloomberg)

<sup>2</sup> According to the World Factbook, published by the Central Intelligence Agency in September 2017.

**Graph 12 - Oil price impact  
Henkel's industrial segment...**



Source: Bloomberg historical data, median analyst forecast

**Graph 13 - ... while the palm oil price is decisive for the consumer segment**



Source: Bloomberg historical data, median analyst forecast

Special attention should be drawn to raw materials such as **oil** for the industrial business as it is the basis for **petrochemicals such as propylene and ethylene** being the main element of adhesives. In terms of crude oil, there has been a rally recently with prices rising from USD 45 in June 2017 to USD 71 in May 2018. Throughout 2017 and the start of 2018, oil prices rose, and OPEC and Russia agreed to extend production limits for 2018. This is confirmed by Henkel, stating that prices for petrochemicals were significantly higher year on year. Continuing growth in non-OPEC oil might also limit oil price from growing substantially. Other factors such as the slower growing economy of China, the winding down of quantitative easing and loose monetary policy in the US, but also in Europe support the thesis, that upside potential for the oil price is limited. Until **YE 2021**, we expect the **WTI price to drop to USD 57.8**, resulting in lower production costs for Henkel. The probable further appreciation of the USD, due to the monetary policy gap between USA and Europe might also act as a constraint to a rise in commodity prices. In this environment, we see geopolitical risks and other imponderables as key source of raw material upside pressure.

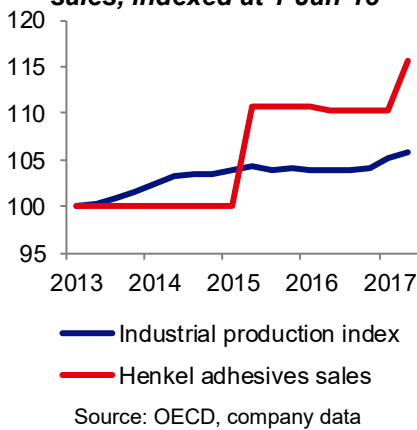
The consumer business of Henkel is much more dependent on raw materials such as **palm oil, corrugated paper and cardboard**. Palm oil is element of many eatable and non-eatable everyday products such as chocolate, soap, shampoo and detergents while corrugated paper and cardboard are used mainly in the production of boxes, cartons, bags and laminations for packaging. We believe Henkel's corporate social responsibility approach is particularly rewarding with regards to palm oil. The company aims at using 100% palm oil that is certified by the Roundtable on Sustainable Palm Oil (RSPO), which is an internationally accepted NGO for environmental protection of palm oil. In 2017, the price for palm oil was **very volatile**, with prices slightly decreasing compared to 2016. We expect the palm oil price to grow in **2018E to MYR 2,500 from currently MYR 2,445** per ton and prospectively to grow further due to higher demand from emerging countries. In **YE 2021**, the palm oil price will be at **MYR 2,700** which we reflect in our cost of goods sold. In corrugated paper and cardboard, we saw the trend of continuously increasing prices in the course of 2017. We believe this upward trend will also continue leading to higher costs of goods sold.

# Key markets & competitive quality

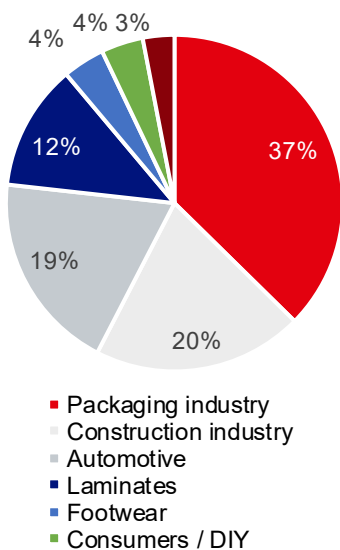
## Adhesives market

Henkel is the global market leader in the adhesives market with a **current size of approx. EUR 65bn**. Henkel generated EUR 9.4bn of sales in 2017, leading us to a **market share of 14.5%**. Other competitors such as Sika, HB, Fuller, 3M and RPM cannot reach similar levels with each competitor having market shares of less than 7% (see graph 16). Henkel primarily addresses industrial customers from the packaging industry, the transport and metal industry and electronics. Adhesives for end consumers make approx. 24% of adhesives revenues. Henkel achieved to outperform the IPX, an index published by OECD with its Adhesives sales growth (see graph 14). In terms of geography, the market is distributed across EMEA, APAC and Americas with each region representing approx. 1/3 of total market demand, however we see a trend that demand growth is significantly higher in APAC than in EMEA and Americas, leading to a shift in the market distribution with **APAC gradually getting a higher demand share** than before. We expect the global adhesives market to grow by 4.5% p.a. until 2023 in accordance with the latest Global Adhesives Market Forecast of RESEARCHANDMARKETS published in October 2017, mainly driven by the following factors:

**Graph 14 – IPX and Adhesives sales, indexed at 1-Jan-13**



**Graph 15 – Global adhesives demand by industry**

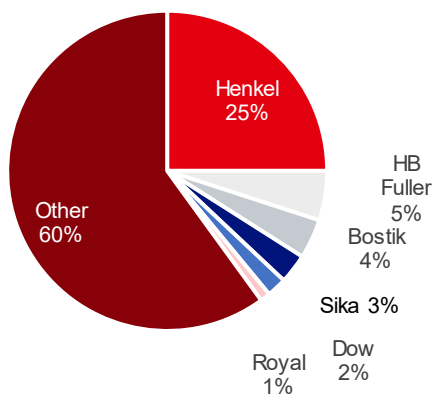


- In many industrial applications, adhesives have been replacing conventional methods such as mechanical fastening, welding and other joining methods. The main benefit for manufacturers lies in the high product performance, reliability and better operating life. Especially the APAC region expands rapidly in the industrial manufacturing segment. The main sectors generating growth in the adhesive market are construction, packaging and automotive.
- Growing urbanization and respective construction activity: Especially in the APAC region, we see rapid growth due to the fast-paced economic progress and infrastructure development triggering construction adhesives demand for applications such as flooring, wall covering, thermal insulation and tiling. In the developed markets, we see the trend of rising demand for green buildings (f.e. India shows rapid expected growth from 1.7bn square feet in 2017 to 3bn square feet by 2020), in which new adhesive technologies find application. The UN examined that in 1950, 30% of the world's population was urban, in 2014, 54% was urban and by 2050, 66% is expected to live urban. The worldwide market for the construction adhesives, including residential, non-residential and infrastructure demand, is expected to grow at a CAGR of 5.0% from 2017-2022 to a value of USD 11.6bn.

- Improving lifestyle especially of the growing middle class in the APAC region and specifically China propel growth primarily in Henkel's packaging business, but also in the electronics, transportation and automotive business areas within the Adhesives sector. The new way of consuming goods in western countries includes buying packages of goods in big supermarkets and online which already is normality there. I. e. 61% of millennials in the US buy consumer packaged goods in the US, according to the Food Marketing Institute (FMI) and Nielsen. This trend is just about to develop in the emerging markets. Henkel can disproportionately benefit due to its strong position in food packaging. For example, in the packaging industry, the fastest growing segment is flexible packaging which needs innovative sealing solutions. This trend responds to the request of people to have easy-to-open packages. The global food packaging market is forecasted to grow at a CAGR of 5.4% during the period 2018-2022.
- The automotive industry tries to meet demands in terms of light vehicles and low carbon emissions. Therefore, heavy metal car components gradually get replaced by composites that can be bonded with adhesives. Strict CO<sub>2</sub> emission regulation causes car manufacturers to keep their eyes on sustainability to lower the emissions of combustion engines. Moreover, consumers see the high fuel prices and prefer to buy cars that have a low fuel consumption or even shift to electric cars. Growth in electric car market is expected to rise firmly. According to BIS Research, the volume CAGR of the electric vehicles market will be 28.3% p.a. until 2026. Henkel benefits from both trends because weight reduction plays a vital role in both combustion cars and electric cars.

We believe that continuous product development and innovation are the keys to broaden the customer base and increase revenues. Henkel has been very successful at implementing its market penetration strategy. New product launches and incessant product enhancements are key to keep the competitive edge in the global adhesive market. Henkel has an approach to offer customer-driven and transformative solutions with a unique technology portfolio. Moreover, in a highly fragmented industry, Henkel uses its size to conduct **M&A** to further gain market share. The adhesives market landscape is dominated by global adhesive companies such as Henkel and divisions of global chemical companies such as Dow on the one hand, and mid-sized or small-sized regional companies focused on specific chemistry or market segment or geography on the other hand. **60% of the market share belongs to companies with adhesives sales < EUR 600m and thus, potentially could be a target for big players such as Henkel.**

**Graph 16 – Henkel global market leader in Adhesives**



Source: Allied Market Research

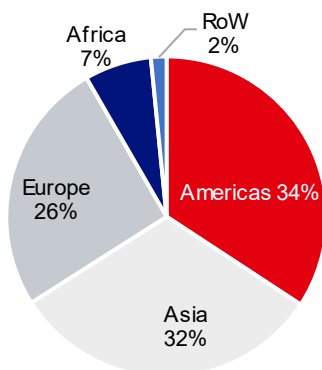
## Beauty Care market

**Graph 17 - Beauty & Personal Care market by category 2016**



Source: Euromonitor

**Graph 18 - Beauty & Personal Care market by region 2016**

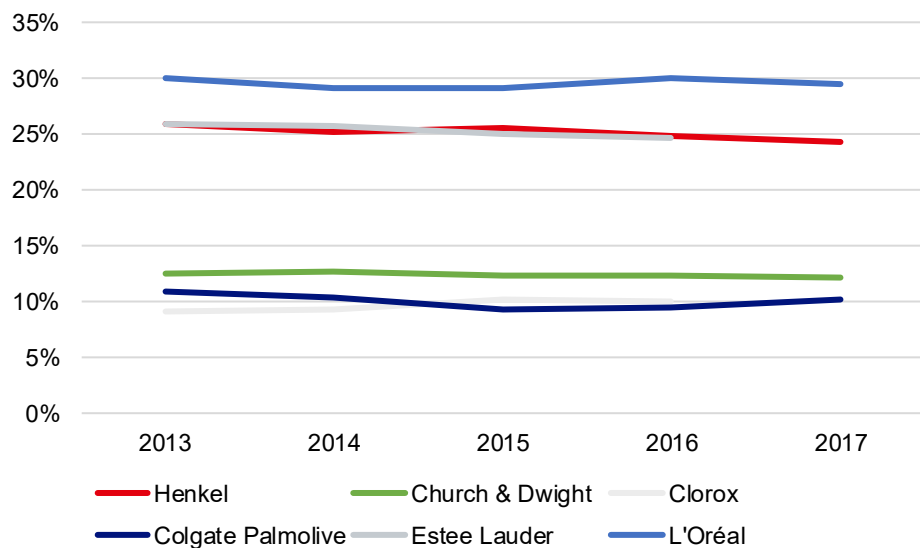


Source: Euromonitor

In contrast to Henkel's Adhesive Technologies segment, the Beauty Care segment is not the global market leader in its business. Beauty Care is subdivided into Hair Care, Skin Care, Colour Cosmetics, Fragrances, Bath & Shower, Men's grooming and deodorants and has an overall **market size of USD 444bn** in 2016, according to Euromonitor. Skin care (incl. Bath & Shower) makes up 26%, while Hair Care takes up 16% and colour cosmetics consumes 14% of the global market demand. Henkel is not participating in all of these categories. According to our calculations based on Euromonitor market data, we estimate the market share of **Henkel** in the relevant categories Hair Care, Bath & Shower and Deodorants to be **6.4%** in 2016. The global market leader, **L'Oréal** reaches a market share of **26.6%** with its Hair Care business. **Unilever** as the market leader in Bath & Shower and Deodorants dominates the markets with **42.6% and 47.5%** respectively. Since the focus of Henkel is not lying on the Beauty Care sector, competitors that are highly specialized such as L'Oréal and Estée Lauder have a better competitive position and a broader brand portfolio. Henkel only appears to have one global power brand "Schwarzkopf" for Hair Care. This makes the competitive position of Henkel in the Beauty market challenging. In terms of geography, North America with USD 93bn market volume and Latin America with USD 59bn market volume combined represent the biggest region followed by APAC with USD 141bn and Europe with USD 114bn volume. The regions Africa and Latin America are the fastest growing ones with growth rates of approx. 9%. The developed markets range around 4% growth p.a. The following factors will contribute to the growth of the Beauty market:

- Beauty Care happens to be a constantly developing market that grows progressively, although not at high rates. Especially Hair Care stands out as Henkel's EUR 3.7bn sales in Beauty Care resort with 70% to this category. Hair Care globally is expected to grow at a CAGR of 3.1% until 2025 according to Grand View Research.
- E-commerce is a relevant topic in nearly every sector, inter alia the beauty care market. Customers start to buy products in the internet and online shops instead of offline shopping. The trend towards improving the descriptions of the products to make the customer more confident buying products. Henkel's products mostly are distributed over retailers such as dm or big supermarket chains. In the internet, Henkel cooperates with Amazon and big online retailers to distribute their products. In 2015, Henkel successfully launched a new cooperation with Alibaba, selling Schwarzkopf hair care products in

China being responsible for a 100% sales surge for Henkel in e-commerce in China vs. e-commerce sales in 2014. In general, customers tend to buy beauty products that have a high rate of satisfaction. According to Pew Research Center, 40% of American customers always or almost always read online customer ratings before first time purchases. Especially young women show a tendency to buy products in the internet, inspired by influencing people in social media, which leads us to the next point. Graph 19 shows the marketing expenditures of Henkel compared to competitors. Even though selling and distribution expenses are included in Henkel's figures, we believe that Henkel invests a healthy share of sales in marketing and digital communication investments to fuel innovation-led volume growth.



Graph 19 – Marketing expenditures as % of sales of Henkel and its competitors

**72% of people trust social media to guide them to purchasing decisions**

- The next important trend is the “social beauty revolution”. The major cosmetic brands’ target group, young women, happen to be the largest group of social media users in apps like Facebook, Youtube and Instagram, i.e. 68% of Instagram users are women. 72% of Instagram users report making purchase decisions based on something that they saw while browsing the application. Social beauty enhances the importance of personal grooming and leads to a higher consumer interaction and usage of beauty products worldwide resulting in higher profits for beauty companies. Henkel introduced an app for its most important brand Schwarzkopf to increase brand awareness, in which customers can use a “live mirror” to virtually test new Schwarzkopf products.
- The middle & upper classes will get bigger with the need to invest a higher share of disposable income into beauty products. According to the World Data Lab, the middle & upper classes will grow by 75% from 3.2bn people in

2015 to 5.6bn people in 2030 while the upper-class spending will double between 2015 and 2030. As more and more people can afford mass beauty products but also premium beauty products, companies such as Henkel can participate in this trend.

- McKinsey conducted a global consumer sentiment survey in which they measure the percentage of people who change buying behaviour upward or downward in terms of premiumization or simpler products. The result is that Beauty Care has the highest propensity to trade up in terms of premiumization with 20% upward rate and 10% downward rate. Other segments of consumer business such as wine and fresh products also have not as strong, but also positive sentiment while bottled water and household cleaning supplies have more probability to trade down.
- Between 2015 and 2030, the number of seniors in our global society will almost double from 0.6bn people to 1.0bn people, according to Euromonitor. Beauty Care companies have the opportunity to provide products that are closely aligned to the needs of the elderly generation such as products that have anti-ageing benefits.
- In general, the cosmetics industry is a rather urban-driven industry. Beauty Care is dependent on the level of urbanization in a specific area and the disposable income of the people. People not living in cities tend to not use as much beauty care products as people living in urban regions that have around 3x the disposable income of people from rural areas. We see the trend towards urban living to continue and thus being a driver for the global beauty care market.

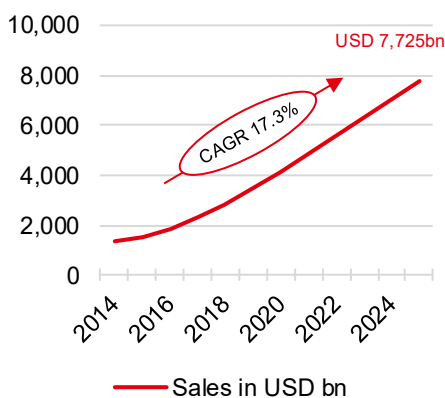
## Laundry & Home care market

The global home care market has a **total market value** of some **EUR 135bn** according to Euromonitor. **Detergents compose EUR 71.4bn** or 53% and **cleaning products have a share of EUR 45.2bn** or 33%. The other two categories **air fresheners and insecticides have a combined value of EUR 18.4bn** or 14%. Henkel shows relevant market share positions in laundry care, dishwashing, surface care, toilet care, air care and insecticides. The categories polishes and bleach are not operated by the company. However, it is evident that Henkel serves more categories of the home market than in the beauty market with a broad portfolio of brands and products. Henkel's most important segment, **Laundry Care, generates 75%** of segment revenues. Globally, Henkel is third in terms of laundry care market share with 15.4% behind Procter & Gamble with 36.4% and Unilever with 24.0%. Especially in developed countries, Henkel shows a comfortable position being #1 in Germany, #1 in Europe and #2 in North

America.<sup>3</sup> In the most recent years, especially APAC developed to emerge as the key volume driver. Some trends that apply to the beauty care market also apply to the home care market besides others.

- As the global middle class will grow from 1.8bn people in 2009 to 4.9bn people in 2030, we believe that this development is the biggest trigger of further growth in the home care market. A big group of people will receive higher income which they will use to buy washing machines, dishwashers etc. and most likely also trade up in terms of premium cleaning products.
- The importance of omnichannel strategies grows gradually especially in developed markets, but also in emerging markets. Taking all available channels, i.e. the online channel, to distribute products is key to successfully secure market share. The number of consumers that use digital devices to go shopping, is increasing dramatically. According to Statista, the e-commerce share of global retail sales increases from 10.2% in 2017 to 17.5% in 2021. Grand View Research estimates the B2C e-commerce market to reach USD 7,725bn by 2025. From 2014 as starting point, the CAGR amounts to 17.3%. Henkel uses e-commerce partnerships with Amazon and Alibaba for both B2C and B2B applications. After successfully launching the consumer-focused flagship store on Alibaba's B2C platform, Henkel started expanded its online strategy to the industrial business offering Adhesives products on 1688, the Alibaba B2B platform.
- The laundry and dishwashing detergent market is also driven by the evolution of customer preferences. Nowadays, consumers are driven by hectic lifestyles with increasing awareness of hygiene and maintaining cleanliness that drives demand for these products. As well they do not want to do the laundry and dishes manually due to this hectic lifestyle. The demand goes more in the direction of products that can help them to save time, clean efficiently and effectively delivering satisfactory results. Consumers are picky when it comes to choosing the detergents and have different tastes. They are looking for various fragrances, colour protection features, removal of stains and lower prices. Offering a broad range of products under power brands is the way to go for Henkel. The hectic lifestyle is also triggered by the fact that more women are working these days. Traditionally, they were the ones doing the chores, doing the laundry. To save time, the modern society needs dishwashers and washing machines increasing the demand for these products.

**Graph 20 – Global e-commerce sales until 2025**



Source: Statista, Grand View Research

<sup>3</sup> according to a company presentation from 10-Apr-18

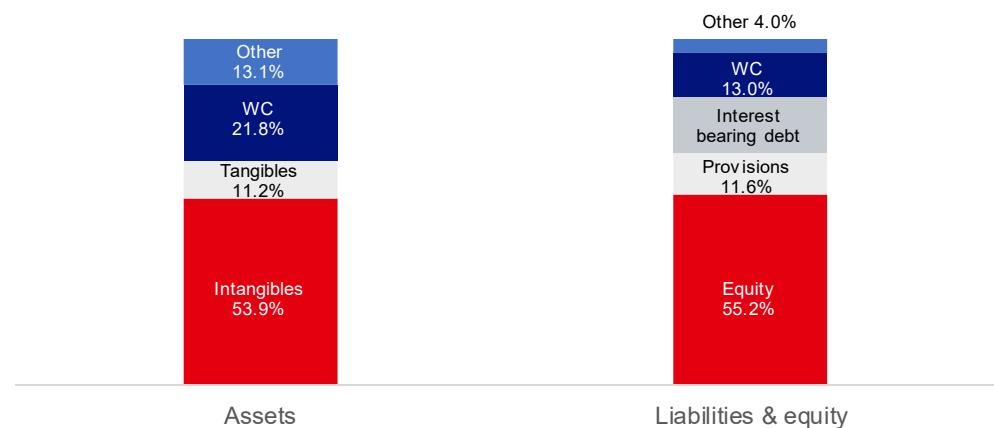
## Returns

Henkel offers a strong balance sheet with a high share of net liquidity. We see slightly lower returns in the future mainly resulting from slow overall sales growth not wholly being compensated by bottom-line cost reductions.

### Invested capital

With an **equity ratio of 55.2%** in 2018E based on book values, Henkel generally offers a healthy balance sheet. PP&E takes up only 11.2% of all assets and thus plays a rather small role, because the added value lies specifically in the **intangible assets** (i.e. knowledge resources) that consume **53.9%** of the balance sheet. Notably, the largest value driver on the balance sheet are intangible values which also incorporate the biggest risk of potential valuation allowances. The major part of intangible assets is goodwill with EUR 12.4bn, 39.8% of total assets respectively, representing the future economic benefit of assets that are acquired in M&A activities. Henkel has recently been involved in M&A with the last two big deals being the acquisition of US-based detergent manufacturer Sun Products, adding approx. EUR 2.1bn to goodwill in 2016 and the acquisition of US based adhesive and sealant producer Darex Packaging Technologies, adding EUR 686m to goodwill in 2017.

**High portion of goodwill backed by high levels of equity**

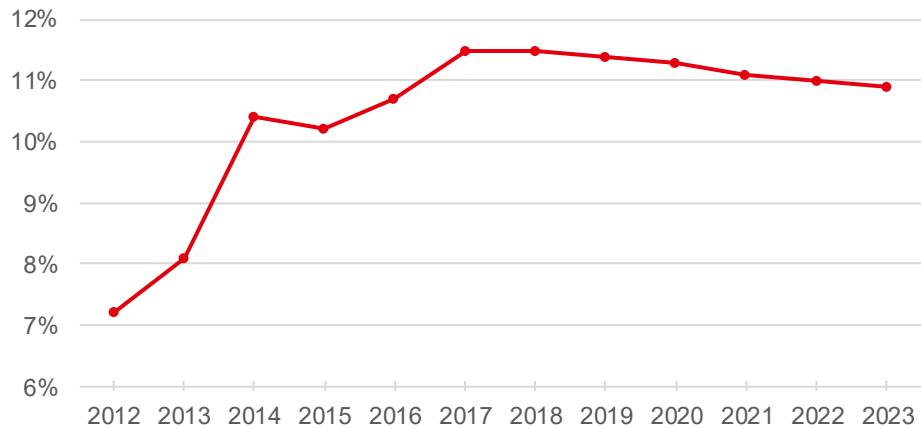


Graph 21 – 2018E balance sheet is strong (Source: Analyst estimates)

The last years were coined by **steady increase in working capital**. The sharp increase in NWC / Sales in 2014 can be explained by acquired working capital via acquisitions throughout all business units of Henkel with a total volume of EUR 1.8bn and newly acquired sales of approx. EUR 365bn as well as negative foreign exchange effects. At the same time, sales only increased by 1% in 2014 vs. 2013. In 2016 and 2017, new working capital was acquired through the Sun Products acquisition with a price of EUR 3.2bn and approx. EUR 1.5bn new sales and through the Darex Packaging acquisition with a price of EUR 938m and

**Acquisitions affect working capital**

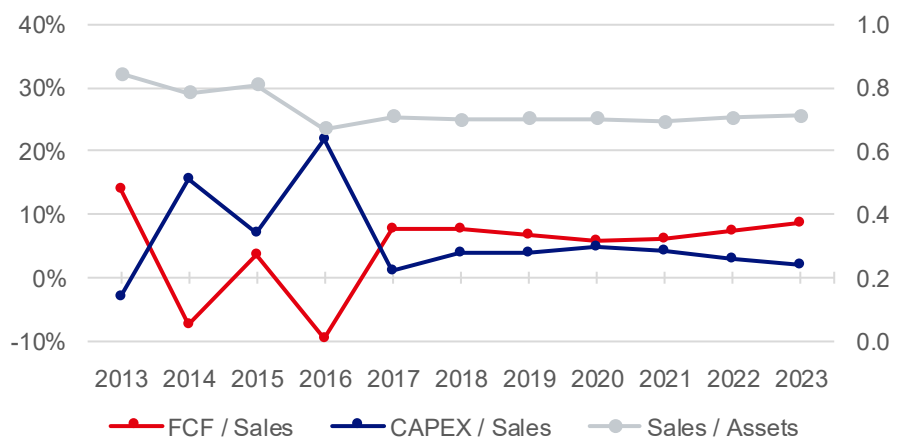
EUR 260m new sales, respectively. For the detailed forecasting period we estimate the NWC to decrease slightly from 11.5% in 2017 to 10.7% in 2023 which unlocks free cash flow potential.



Graph 22 – NWC / Sales development (Source: Analyst estimates)

**Financing of acquisitions by free cash flow**

In Graph 23, it gets evident that the major acquisitions in 2014 and 2016 pushed CAPEX / Sales while FCF / Sales deteriorated due to the acquisitions financed from FCF. The acquisitions in 2013-2017 made asset turnover decrease from 0.85 in 2013 to 0.71 in 2017. This mainly resorts to the associated **balance sheet extension through M&A**. Since we do not forecast immense acquisitions for the future, we assume rather constant asset turnover with 0.71 in 2023. The aforementioned NWC improvement is reflected in the FCF development that improves from 7.6% in 2017 to 8.5% in 2023E as percentage of sales.

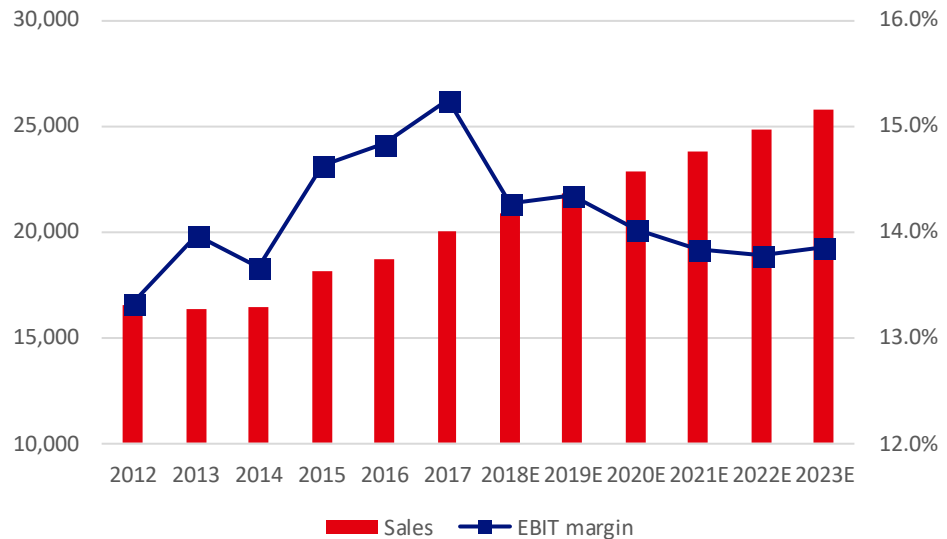


Graph 23 – Cash flows & investments / to sales and asset turnover (Source: Analyst estimates)

**Operating profitability**

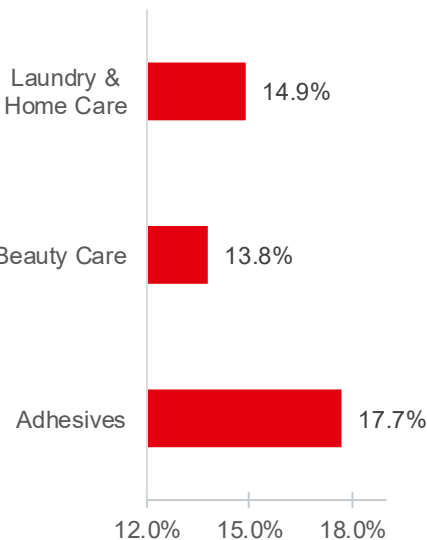
In terms of operating profitability, Henkel experienced very successful years from 2012 to 2017 achieving all financially set target with EBIT margin reaching its historical peak with 15.3% in 2017. For the years to come, we are sceptical, if the

momentum can be maintained. The fragile consumer demand environment and the increasing competitive activity especially in the Home & Personal Care market are likely to have a negative impact on 2018E EBIT. **We see sustainable EBIT margins on group level at approx. 14%.**



Graph 24 – Sales and EBIT margin evolution (Source: Analyst estimates)

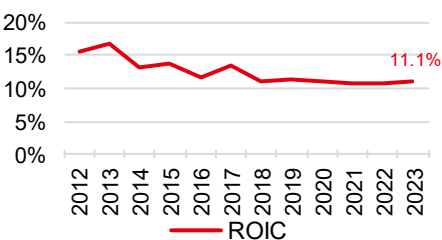
Graph 25 – Profitability across segments: EBIT margin



Source: Company data

Taking a closer look at the business unit profitability, there is some discrepancy between the segments. While Adhesives is the most profitable segment with 17.7% EBIT margin in 2017, Beauty Care only generates 13.8% EBIT margin. Henkel’s challenge in Beauty Care is the slowing growth of the cosmetics market and the fierce competitive environment. Henkel makes big efforts to meet the difficult market conditions by restructuring the business that impacts the EBIT margin. Laundry & Home Care margin is at all time high with steady volume growth in the last years. In the years to come, we expect **Adhesives to be the main value driving segment** with the highest margin and also the highest growth perspective. However, we see the most relevant downward risk in this segment in the case that the global economy could go into recession. In this case, the business performance of the Adhesives segment might deteriorate disproportionately while the Home & Personal Care segments could be more stable due to the lower cyclicity of the HPC business.

Graph 26 – ROIC evolution



Source: Analyst estimates, company data

We measure the business profitability against invested capital with ROIC. Explicitly, we use the ROIC incl. intangible assets as they have a very high weight in the balance sheet, both in terms of book value and in terms of market value. **ROIC** has a slight **downward trend** between 2012 and 2017, moving from 15.5% to 13.4%. In our projections, we expect that Henkel will continue this trend of decelerating **ROIC to 11.1% in 2023E**. The graph 17 displays Henkel’s ROIC over time. Decomposing ROIC into Operations (EBIT / Revenues), Investments

(Revenues / Invested Capital) and Fiscal (1 – Tax rate), we see that especially the **Operations stays constant, investments cannot reach 2012-2015 levels** while **fiscal contributed a one-off in 2017** (American tax reform), that had a positive impact on ROIC. Over the forecasting period, the growth rate calculated by ROIC \* Investment rate is gradually decreasing to 2.0% in 2023, which corresponds to the global GDP growth for the long term.

EURm	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
NOPLAT	1,663	1,710	1,699	2,000	2,118	2,584	2,235	2,348	2,406	2,467	2,568	2,675
Invested capital	10,734	10,140	13,048	14,366	18,267	19,335	19,944	20,810	21,887	22,888	23,642	24,124
ROIC	15.5%	16.9%	13.0%	13.9%	11.6%	13.4%	11.2%	11.3%	11.0%	10.8%	10.9%	11.1%
EBIT / Revenues	13.3%	14.0%	13.7%	14.6%	14.8%	15.3%	14.3%	14.3%	14.0%	13.8%	13.8%	13.9%
Revenues / Invested Capital	153.8%	161.3%	125.9%	125.9%	102.4%	103.6%	104.8%	104.9%	104.5%	104.0%	105.1%	106.7%
Fiscal *(1-t)	75.6%	74.8%	75.7%	75.6%	76.3%	84.6%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
ROIC Sanity check	15.5%	16.9%	13.0%	13.9%	11.6%	13.4%	11.2%	11.3%	11.0%	10.8%	10.9%	11.1%
ROIC (excl. Intangibles)	79.6%	87.6%	69.1%	74.5%	77.8%	70.2%	58.5%	56.3%	50.7%	47.7%	47.0%	47.6%
Investment rate		-34.7%	171.1%	65.9%	184.2%	41.3%	27.3%	36.9%	44.8%	40.6%	29.4%	18.0%
Growth rate		-5.9%	22.3%	9.2%	21.4%	5.5%	3.1%	4.2%	4.9%	4.4%	3.2%	2.0%

Table 1 – ROIC development between 2012 and 2023 (Source: Analyst estimates)

## Inorganic value creation

Henkel has spent USD 5.9bn on M&A since 2010, with the majority of these deals completed since 2014. Since M&A has always been a crucial part of Henkel's growth, we assess the two latest major acquisitions being The Sun Products Corporation in the Laundry & Home Care segment for the markets in the USA and Canada and Darex Packaging Technologies, the world's leading maker of sealants for beverage, food and aerosol cans aiming at finding out to what extent these acquisitions created value for the company. Acquisitions in Beauty Care and Laundry & Home Care are done to elevate categories to improve market positioning step by step. However, we believe that plenty of rivals (i.e. L'Oréal & Unilever)<sup>4</sup> seek similar targets and have strong balance sheets just as Henkel. Therefore, potential targets in Home & Personal Care could be limited, looking forward. In contrast, M&A activity in Adhesives is more conducted to manifest quality and technology leadership. Here, we are likely to see add-ons as Henkel already dominates the market.

Sun Products was acquired in the 3<sup>rd</sup> quarter 2016 for EUR 3,197m from the private equity fund Vestar. Henkel reaches #2 in North America in detergents by conducting this acquisition behind Procter & Gamble. For our value creation analysis, we use conservative revenue growth estimates of 3% p.a. and EBIT margin improvements of 0.5% until 2019 and 0.2% thereafter until 2023 which are results from synergy effects. Furthermore, we believe that both depreciation

<sup>4</sup> I.e. L'oreal bought Valeant's skin care brands for USD 1.3bn in 2017, while Unilever's very recent step to go dutch in terms of legal entity is considered preparation for further M&A deals, according to Bloomberg.

and investment will grow at the same rate as revenues. As WACC, we used the same rate that applies for Henkel as a whole of 5.8%. We calculated an EV of EURm 3,599 resulting in a **NPV of EUR 402m**. This is backed by the **strong share price reaction** of Henkel at the day of announcement. The DAX went down 7,1% due to the BREXIT decision while Henkel fell only 0.6%.

EURm	2017	2018	2019	2020	2021	2022	2023	TV
Revenues	1,450	1,494	1,538	1,584	1,632	1,681	1,731	
EBIT	174	187	200	209	219	229	239	
Margin	12.0%	12.5%	13.0%	13.2%	13.4%	13.6%	13.8%	
Depreciation	-26	-29	-34	-40	-45	-50	-53	
% of Henkel's depreciation	6.0%	6.2%	6.4%	6.6%	6.8%	7.0%	7.2%	
NOPLAT	148	157	166	169	173	179	186	
Total investment	-64	-38	-55	-71	-68	-52	-35	
% of Henkel's investment	6.0%	6.2%	6.4%	6.6%	6.8%	7.0%	7.2%	
FCF	84	119	111	99	106	126	151	4,103
PV of FCF	84	113	100	83	84	95	108	2,931

Table 2 – Value creation of Sun Products acquisition in 2016 (Source: Analyst estimates)

Henkel announced to submit a binding offer for Darex Packaging Technologies in March 2017 of EUR 995m on a cash and debt free basis. The company aimed at strengthening its metal packaging and sealants exposure. The market seems attractive, as the business is rather non-cyclical and specification-driven. For our value creation analysis, we expect revenue growth of 5% and a EBIT multiple of 14x at the time of the acquisition for 2018. Similar to Sun Products, we believe that Henkel will be able to increase EBIT margin due to synergy effects and incremental scale opportunities. Henkel's share price reaction to the purchase of Darex Packaging Technologies was more restrained than the one with Sun Products as the **share price of Henkel increased by 0.3%** while the DAX stayed constant on announcement day. This does not clearly reflect our value creation analysis, that yields an EV of EURm 1,255 while the purchase price was at EURm 995 resulting in a healthy **NPV of EUR 260m**.

EURm	2018	2019	2020	2021	2022	2023	TV
Revenues	285	298	312	326	341	356	
EBIT	71	76	81	85	90	94	
Margin	24.9%	25.4%	25.9%	26.1%	26.3%	26.5%	
Depreciation	-14	-16	-19	-22	-24	-26	
% of Henkel's depreciation	3.0%	3.1%	3.2%	3.3%	3.4%	3.5%	
NOPLAT	57	60	61	63	65	69	
Total investment	-18	-27	-34	-33	-25	-17	
% of Henkel's investment	3.0%	3.1%	3.2%	3.3%	3.4%	3.5%	
FCF	38	33	27	30	40	52	1,408
PV of FCF	38	31	24	26	32	39	1,064

Table 3 – Value creation of Darex Packaging Technologies acquisition in 2017 (Source: Analyst estimates)

# Valuation

To derive a price target on Henkel for the next twelve months, we mainly use the DCF method. To validate our result, we also conduct a multiples analysis and a SotP valuation.

## DCF valuation

Our discounted cash flow model uses as detailed forecast period the next five years starting from 2019 to 2023 and applies for the following years until eternity a terminal value using as variables the FCF for 2024, the WACC and the long-term growth rate. Particular emphasis is laid on revenue forecast and the cost of capital because these inputs are decisive for Henkel's share price potential.

- Forecasting of revenues

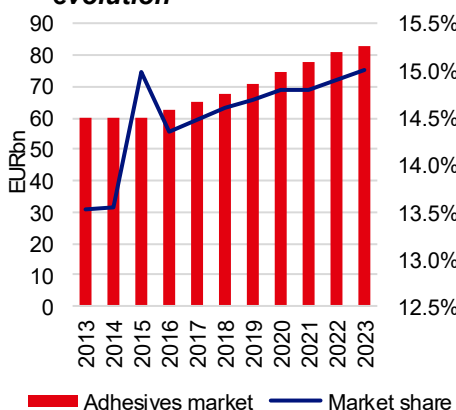
Since Henkel is operating in a **mature market** that is coined by saturation and rather low and constant growth rates, we chose a **top-down** approach to estimate the company's revenues and the resulting FCF on the basis on the expected overall **global market growth** of each business unit Henkel is involved in. After estimating the market size for the segments, we evaluated the development of the **Henkel market share** in each segment. By multiplying these figures, we obtain the revenues per year per segment for the detailed forecast period. Table 4 shows the relevant value drivers for Henkel's revenues and their development.

**Top-down approach to estimate Henkel's revenues**

2017A	Adhesives	Beauty Care	Laundry & Home Care
Overall market size	EUR 64.8bn	EUR 60.4bn	EUR 80bn
Henkel market share	14.5%	6.4%	8.3%
2023E	Adhesives	Beauty Care	Laundry & Home Care
Overall market size	EUR 83.0bn	EUR 71.4bn	EUR 104.1bn
Henkel market share	15.0%	6.3%	8.3%

Table 4 – Henkel's core market developments (Source: Analyst estimates)

**Graph 27 – Adhesives market size & Henkel market share evolution**



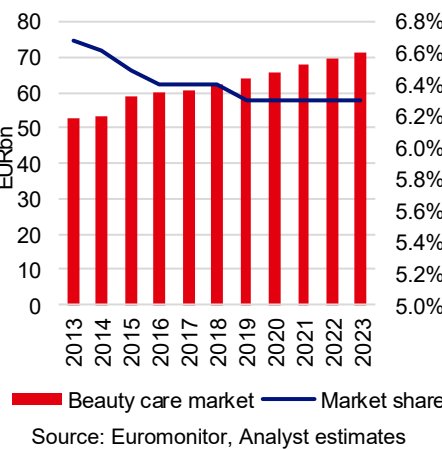
Source: Euromonitor, Analyst estimates

**Adhesives** – We estimate that Henkel could increase the market share by 100 basis points to 14.5% between 2013 and 2017 in a flat overall market that only grew by a CAGR of 1.9%. Henkel has a strong market position and the resources that help to capture the main market trends pointed out in the Key markets chapter. In accordance with the RESEARCHANDMARKETS study about the Global Adhesives Market, we see a CAGR of 4.5% between 2017 and 2023. In the stimulating environment of higher industry growth than in the past years, we assume that Henkel will also enlarge its market share slightly from 14.6% in 2018 to 15.0% in 2023. In terms of geography, we see **emerging markets and APAC**

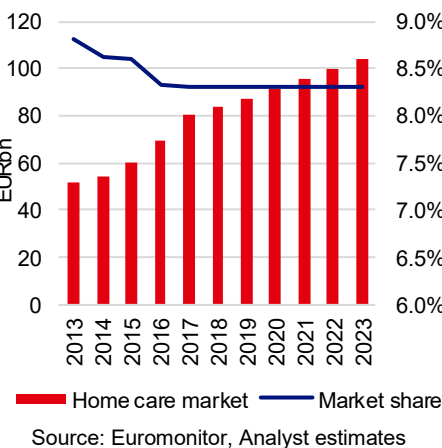
specifically to be the dominant region to drive demand growth due to increasing consumption and industrialization while demand in Europe might show underproportionate growth. Considering applications, the highest growth rates in our detailed forecast period can be attributed to the Packaging and consumer goods and the Transport and metal business. The application with the least growth is assumed to be the consumer, craftsmen and building business, as Henkel does not lay the strategic emphasis on this area. Adhesives sales will grow from EUR 9.4bn in 2017 to EUR 12.5bn in 2023.

**Beauty Care** –For the Beauty Care Market, we are less optimistic in terms of sales development. Our top-down approach here resorts to using historical market size according to Euromonitor for the segments, in which Henkel has a significant share, which are Hair Care, Bath and Shower and Deodorants. Historically, there was a stagnation in Henkel’s market share in all of these areas between 2012 and 2016 with Hair Care being the strongest business nearly able to hold the market share constant. **Henkel cannot resort to many different power brands** in the Beauty Care market. Schwarzkopf is particularly strong (sales of EUR 2bn), supported by Syoss (sales of EUR 0.3bn). In a highly competitive market, this does not seem to be sufficient to retain market share. According to Inkwood, the global beauty and personal care market will grow by 2.8% p.a. between 2018 and 2026. Our estimates reflect the market growth to be around this size. Regarding the market share, we see market share to remain constant. Shrinking from 6.7% in 2013 to 6.4% in 2017, we assume it to deteriorate very slightly to 6.3% in 2023 (see graph 28).

**Graph 28 – Beauty market size & Henkel market share evolution**



**Graph 29 – Laundry & Home market size & Henkel market share evolution**



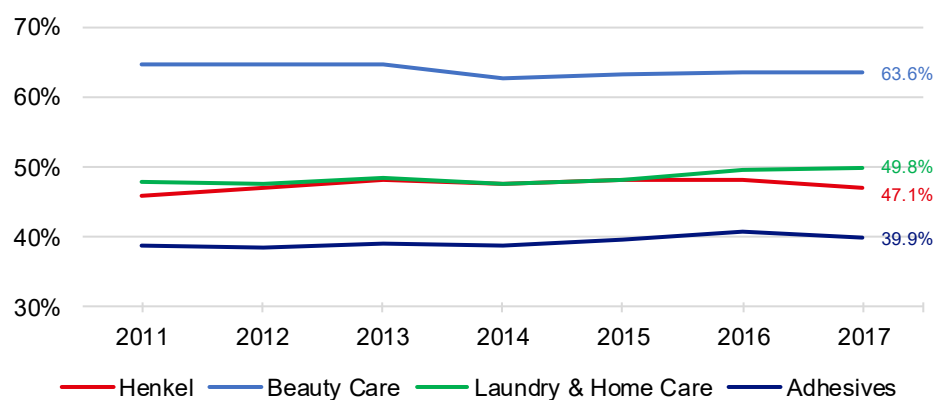
**Laundry & Home Care** – The Laundry & Home Care market presents similar conditions to the Beauty Care market. According to our analysis based on Euromonitor market figures, we detect market share losses in Laundry Care, Dishwashing, Surface Care and Insecticides. Only in the subsegment Toilet Care, Henkel could gain market share in the last years. Due to better market positioning, we are slightly more optimistic than with Beauty Care regarding market share development. As market share of Henkel is at 8.3% in 2017, we assume that it will **stay constant** throughout our forecast period (see graph 29). The overall market is expected to grow at 4.5% p.a., backed by a market study by RESEARCHANDMARKETS about the Laundry and Dishwashing detergent market.

▪ **Gross margin**

Looking at Henkel’s historical gross margin, it ranges between 49.0% and 50.6%. Overall, a big change in gross margin is not expected because the factors influencing gross margin, production costs and material costs have an adverse

### Slight improvement of gross margin

development. Material costs are especially a factor in the Adhesives business which has a high dependence on the price of petrochemicals, i.e. ethylene or propylene that in turn are produced using oil as a basis. From Sep-14 until Jan-16, the oil price slumped from USD 115 to USD 27. Ever since, we see a stabilizing oil price with a steady upward trend that in our scenario will not continue. As stated in our Macroeconomic indications chapter, **we believe the oil price will decrease to USD 57.8** in 2021 and thus lower the costs of goods sold and hence **improve the gross margin slightly**. A sharp spike in oil price is a key risk to Henkel's gross margin, which is not very probable according to our understanding. The global inventories and supplies of oil still are on record levels. The Beauty Care and Laundry & Home Care segment as well show dependencies on raw materials. The main resource for detergents and cosmetic products is **palm oil**. Long-term, **we see rising prices negatively impacting the gross margin**, as the major producing countries, Malaysia and Indonesia, do not increase their palm oil production, no matter what it takes, anymore (see Macroeconomic indication section). Sustainability thoughts are present and will lead to lower volume and higher prices of palm oil. In terms of efficiency, we model **incremental cost improvements** in the detailed forecast period with COGS decrease from 50.0% in 2017 to 49.5% in 2023. Efficiency plays a vital role in Henkel's 2020+ strategy that aims at creating most efficient structures with one global supply chain. We see the efficiency effect slightly outweighing the increase in material costs. Taking a closer look at competitors, we observe the highest average gross margin among the Beauty Care peers with some 64% in 2017. Adhesives has the lowest gross margin of 43.7% on average. The Laundry & Home Care peers appear to operate at very similar gross margin levels as Henkel. However, Henkel slightly deteriorated in 2015-2017. We expect Henkel to close this gap in the detailed forecast period until 2023.

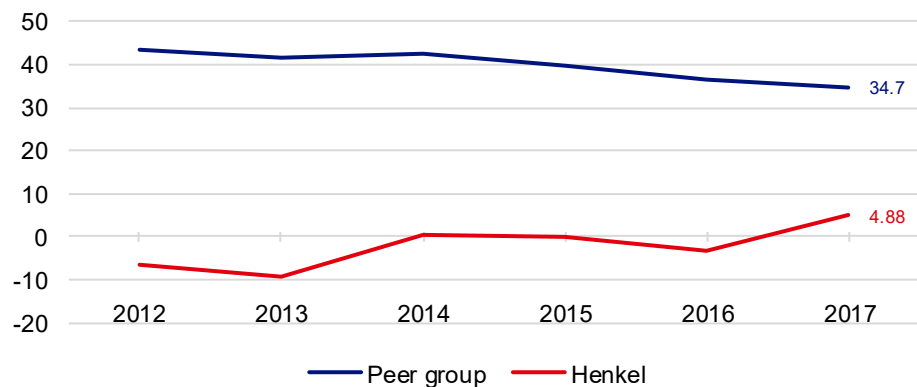


Graph 30 – Gross margin of Henkel and competitors (Company data)

### ▪ Cash conversion cycle

One important factor of forecasting is working capital including the accounts receivables, inventories and accounts payables. To better visualize working capital, we conducted an analysis of days sales outstanding, days inventories outstanding and days payables outstanding leading to the cash conversion cycle measuring the time span between a firm's disbursement and collection of cash. Graph 31 shows the cash conversion cycle for Henkel and its peer group consisting of competitors from all three segments. Evidently, Henkel has an already optimized cash conversion cycle that was negative throughout the years except for 2017, in which it climbed to 4.9 days in comparison to its peers that show a steadily improving cash conversion cycle from 43.4 days in 2012 to 34.7 days. The low cash conversion rate of Henkel resorts to high levels of negotiating power of the company. We forecast the elements of working capital on the basis of the days outstanding and assume that **Henkel can further improve its cash conversion in the turn of the 2020+ strategy plan**. Days receivables outstanding (time span that customers borrow money from Henkel) decreases from 64.6 days in 2017 to 63.1 days in 2023E, days inventories outstanding (time span that supplier borrow money from Henkel) decreases from 75.9 days in 2017 to 74.4 days in 2023E while days payables outstanding (time span that Henkel borrows money from customers) increases from 135.6 days in 2017 to 137.3 days in 2023E.

**Henkel top-in-class in terms of cash conversion**



Graph 31 – Cash conversion cycle of Henkel and peer group (Source: Bloomberg)

### ▪ CAPEX

In this report, we define CAPEX to be all capital expenses spent to buy, maintain or improve fixed assets, namely PP&E such as buildings, equipment, and also intangible assets, such as goodwill. The years 2014, 2016 and 2017 were coined by exceptionally high CAPEX due to acquisitional spending of EUR 1.7bn EUR, 3.6bn and EUR 1.6b respectively in intangible assets. Clearly, acquisitions are the main position in Henkel's CAPEX. For 2018, the company guides CAPEX

**After strong M&A activity recently, we see CAPEX between EUR 0.5 and 1.1bn**

investments between EUR 750m to EUR 850m. Thus, our CAPEX for 2018E is EUR 800m. To estimate the following years of the detailed forecast period, we use the **ROIC to estimate the net capital expenditures required**. Since EBIT is growing at 3.7% p.a. between 2018E and 2023E and the expected ROIC is 11%, we believe the net capital expenditures (incl. change in WC) should be around 33% (EBIT growth / ROIC) of the NOPLAT in the time from 2018E to 2023E.

EURm	2013A	2014A	2015A	2016A	2017A	2018E	2019E	2020E	2021E	2022E	2023E
NOPLAT	1,710	1,699	2,000	2,118	2,584	2,235	2,348	2,406	2,467	2,568	2,675
Total CAPEX	-594	2,907	1,318	3,902	1,067	610	866	1,077	1,001	754	482
CAPEX / NOPLAT	-34.7%	171.1%	65.9%	184.2%	41.3%	27.3%	36.9%	44.8%	40.6%	29.4%	18.0%
<b>Average 2018-2023</b>											<b>33%</b>

Table 5 – Net CAPEX requirement related to NOPLAT or EBIT growth / ROIC

In the forecast period, we estimate CAPEX to be EUR 800m in 2018 and range between some EUR 500m and EUR 1.1bn from 2018-2023 corresponding to an average of 3.6% of CAPEX in relation to sales. Main investments to be undertaken besides acquisitions are new technologically superior plants, enhancing brand awareness and launching of new products, innovation, infrastructure and IT, as well as step up investments in digitalization. Henkel states that investment will be balanced between the business units and between the geographies, having proportional expenditures in the developing and the developed countries. In 2023, we estimate the maintenance capex lies at EUR 500m for Henkel growing at the pace of the world economy, which we estimate to be 2.0%.

#### ▪ Cost of capital

Table 6 – WACC calculation details

Risk-free rate	0.6%
Beta	0.82
Market risk premium	7.0%
<b>Cost of equity</b>	<b>6.4%</b>
Risk-free rate	0.6%
Probability of default	0.15%
Loss in case of default	15.5%
YTM of loan	1.5%
Cost of debt pre tax	1.5%
Tax rate	25.0%
<b>Cost of debt after tax</b>	<b>1.1%</b>
Target equity ratio	88.6%
Target debt ratio	11.4%
<b>WACC</b>	<b>5.8%</b>

To derive Henkel's overall WACC, we used the CAPM to arrive at the cost of equity and the YTD of the Henkel bond with the longest duration to arrive at the cost of debt. The **risk-free rate of 0.6%** is assumed to be the interest rate of a German 10-year government bond. The calculation of the beta was conducted upon a benchmarking of the respective competitors of Henkel in each segment, Adhesives, Beauty Care and Laundry & Home Care. We calculated the volatility (covariance of the competitor with the S&P500 / variance of the S&P500) and unlevered the respective beta per peer with the effective reported tax rate. In line with our findings on macroeconomic indications (page 7), that the **industrial production and thus the Adhesives segment moves in a very volatile way** around GDP growth, we can confirm this looking at the beta of the segments. Adhesives has an unlevered beta of 1.00 while Laundry & Home Care and Beauty Care show betas of 0.55 and 0.57 respectively. To distribute the weights of the Henkel unlevered beta, we used revenues of the competitors. Each segment beta is relevered by applying Henkel's D/E-ratio of 0.1 and tax rate of 25%. Segment betas are 1.1 for Adhesive Technologies and 0.6 for both Beauty

Source: Company data, Bloomberg, Moody's

Care and Laundry & Home Care. As market risk premium, we used KPMG's cost of capital update as of 31-Mar-18 to determine the **market risk premium to be 7%**. By applying the revenue split of Henkel, we arrive at a cost of equity of 6.4% for the whole company. To derive the cost of debt, we used the yield to maturity of 1.5% (YTM of the outstanding bond with the longest maturity, 2022), and adjusted it with the Bloomberg 5-year default probability of 0.15% and Moody's 5-year recovery rate of 85.5% for companies with the same rating. The calculation yields a cost of debt of 1.5% pre-tax. Ultimately, the WACC formula generates a WACC of 5.8% under consideration of an assumed tax rate of 25%.

#### ▪ Final DCF considerations

Under consideration of all the above-mentioned assumptions, we derive a share price of EUR 111 for Henkel and arrive at a HOLD recommendation. To see the sensitivity of this result in relation to the WACC employed and the terminal growth rate, we provide a sensitivity analysis. The WACC of 5.8% and the applied terminal growth rate of 2.0% yield our target price.

		Terminal growth						
		1.7%	1.8%	1.9%	2.0%	2.1%	2.2%	2.3%
WACC	5.5%	111.85	114.77	117.86	121.12	124.57	128.24	132.13
	5.6%	108.66	111.42	114.33	117.40	120.65	124.09	127.74
	5.7%	105.62	108.23	110.98	113.88	116.94	120.18	123.61
	5.8%	102.73	105.21	107.81	110.55	113.44	116.49	119.71
	5.9%	99.99	102.33	104.80	107.39	110.12	113.00	116.04
	6.0%	97.37	99.60	101.94	104.39	106.97	109.69	112.56
	6.1%	94.87	96.99	99.21	101.54	103.99	106.56	109.27

Table 7 – Sensitivity analysis in dependence of the WACC and the terminal growth rate (Source: Analyst estimates)

## Comparables & Multiples

For the comparable analysis, we use peer groups for each Henkel segment, Adhesive technologies, Beauty Care and Laundry & Home Care.

In table 8, we compare sales, EBIT and EBIT margin among the most important competitors. In Adhesives, it is conspicuous that Henkel is the market leader with Arkema and 3M having segments different from Adhesives, that are included in the analysis. In terms of EBIT margin, **pure play adhesives companies such as HB Fuller and Sika are significantly behind Henkel** which points to the market dominance of Henkel. The exact opposite can be recognized comparing Henkel to the Beauty Care peer group. Henkel is the smallest player in terms of sales and EBIT 18E. The same goes for the EBIT margin, in which Henkel significantly lags behind the key competitor L'Oréal that has an EBIT margin 18E of 18.3%

**Mixed picture of margin levels of Henkel's segments against competitors**

while Henkel can generate 15.1%. This finding confirms Henkel's current problems in this business unit. Henkel appears to lack enough power brands and thus cannot maintain the current market share in a very competitive environment. As German Beiersdorf has about 1/3 of its business in Beauty Care as well, we observe a similar margin involvement as in Henkel, however Beiersdorf performing slightly better. Comparing Henkel to the Laundry & Home Care peer group, we see a similar picture. Considering sales and EBIT, Henkel cannot keep up with Procter & Gamble, Unilever and Colgate-Palmolive, however performs better than Clorox, especially in terms of sales and EBIT growth rates. Henkel's EBT margin seems to be structurally inferior to the peer group.

Considering multiple valuation, we chose to consider **P/E, EV/Sales, EV/EBITDA and EV/EBIT** for the same peer groups as before for the years 18E-20E. For Henkel's values, we choose current market capitalization and our estimates for net income, EBITDA and EBIT. We are below consensus with our earnings estimates, thus leading us to higher multiples than consensus. For 18E, our P/E ratio for Henkel is 22.8x which is above the median of all competitors of 18.8x. We weighted the median per peer group in each segment by the earnings share of total. Hence, the Adhesives peer group contributes 52% to the comparable, the Laundry & Home Care peer group 31% and the Beauty Care peer group 17%. If Henkel is valued according to the peer group, this would imply a downside of Henkel's current share price of 17.8%. However, as mentioned earlier, we believe Henkel is systematically superior in its most important segment, Adhesives which is visible in the EBITDA and EBIT margin against competitors. On the contrary, the Laundry & Home Care margin levels of Henkel are below the strongest peers, which has an adverse effect. Interestingly, the discrepancy between our total peer group and Henkel is less evident considering EV/Sales, EV/EBITDA and EV/EBIT which all show downside potential for Henkel of only 1.9% for 18E. We conduct a SotP valuation on the basis of this possible undervaluation of Henkel's Beauty Care segment.

***Multiple valuation suggests rather high valuation based on 18E and 19E figures***

Name	LC	MC in LCm	EV in LCm	Sales in EURm			EBIT in EURm			EBIT margin		
				17A	18E	19E	17A	18E	19E	17A	18E	19E
<b>Adhesives peer group</b>												
HB Fuller Co	USD	2,508	4,817	2,064	2,541	2,644	211	255	302	10.2%	10.0%	11.4%
Sika AG	CHF	18,593	18,281	5,627	5,915	6,350	730	876	986	13.0%	14.8%	15.5%
RPM International Inc	USD	6,470	8,392	4,551	4,332	4,526	504	496	550	11.1%	11.5%	12.2%
3M Co	USD	115,980	127,545	28,080	27,747	28,810	6,417	6,772	7,198	22.9%	24.4%	25.0%
Arkema SA	EUR	8,390	9,487	8,326	8,554	8,880	949	968	1,018	11.4%	11.3%	11.5%
Huntsman Corp	USD	7,037	8,918	7,414	7,397	7,708	811	916	970	10.9%	12.4%	12.6%
Henkel Adhesive technologies				9,387	9,851	10,424	1,657	1,854	1,973	17.7%	18.8%	18.9%
							52.1%	52.1%	52.1%			
<b>Laundry &amp; Home Care peer group</b>												
Procter & Gamble Co/The	USD	180,951	202,319	59,712	55,247	56,759	13,175	11,729	12,394	22.1%	21.2%	21.8%
Clorox Co/The	USD	15,117	16,911	5,482	5,080	5,332	1,056	936	983	19.3%	18.4%	18.4%
Unilever NV	EUR	136,410	157,682	53,715	52,177	53,028	9,413	9,697	10,092	17.5%	18.6%	19.0%
Colgate-Palmolive Co	USD	56,701	62,858	13,708	13,330	13,739	3,479	3,429	3,608	25.4%	25.7%	26.3%
Henkel Laundry & Home Care				6,651	6,948	7,257	989	1,107	1,178	14.9%	15.9%	16.2%
							31.1%	31.1%	31.1%			
<b>Beauty Care peer group</b>												
L'Oreal SA	EUR	111,040	109,147	26,024	26,410	27,727	4,798	4,842	5,153	18.4%	18.3%	18.6%
Beiersdorf AG	EUR	23,678	19,434	7,056	7,191	7,516	1,096	1,140	1,226	15.5%	15.9%	16.3%
Coty Inc	USD	12,673	20,352	7,022	7,747	7,889	457	841	1,071	6.5%	10.9%	13.6%
Henkel Beauty Care				3,868	3,977	4,025	535	599	637	13.8%	15.1%	15.8%
							16.8%	16.8%	16.8%			
<b>Henkel AG &amp; Co KGaA</b>	<b>EUR</b>	<b>44,326</b>	<b>47,019</b>	<b>20,029</b>	<b>20,334</b>	<b>21,059</b>	<b>3,445</b>	<b>3,560</b>	<b>3,789</b>	<b>17.2%</b>	<b>17.5%</b>	<b>18.0%</b>

Table 8 – Comparable analysis (Source: Analyst estimates)

Name	P/E			EV/Sales			EV/EBITDA			EV/EBIT		
	18E	19E	20E	18E	19E	20E	18E	19E	20E	18E	19E	20E
<b>Adhesives</b>												
HB Fuller Co	15.4x	12.4x	10.7x	1.5x	1.5x	1.4x	10.5x	9.3x	8.7x	15.0x	13.3x	11.9x
Sika AG	24.0x	21.2x	19.1x	2.6x	2.4x	2.3x	14.7x	13.2x	12.0x	17.5x	15.5x	14.0x
RPM International Inc	15.8x	14.5x	13.2x	1.6x	1.5x	1.4x	11.3x	10.4x	9.6x	13.8x	12.5x	11.1x
3M Co	18.8x	17.2x	15.9x	3.8x	3.7x	3.5x	13.2x	12.4x	11.9x	15.6x	14.7x	13.5x
Arkema SA	13.1x	12.6x	11.8x	1.1x	1.1x	1.0x	6.6x	6.3x	6.1x	9.6x	9.2x	8.5x
Huntsman Corp	9.6x	9.0x	8.5x	1.0x	1.0x	1.0x	6.3x	6.0x	5.8x	8.3x	7.9x	7.4x
<b>Average</b>	<b>16.1x</b>	<b>14.5x</b>	<b>13.2x</b>	<b>1.9x</b>	<b>1.8x</b>	<b>1.8x</b>	<b>10.4x</b>	<b>9.6x</b>	<b>9.0x</b>	<b>13.3x</b>	<b>12.2x</b>	<b>11.1x</b>
<b>Median</b>	<b>15.6x</b>	<b>13.5x</b>	<b>12.5x</b>	<b>1.6x</b>	<b>1.5x</b>	<b>1.4x</b>	<b>10.9x</b>	<b>9.9x</b>	<b>9.1x</b>	<b>14.4x</b>	<b>12.9x</b>	<b>11.5x</b>
<b>Laundry &amp; Home Care</b>												
Procter & Gamble Co/The	17.2x	16.1x	15.0x	3.0x	2.9x	2.9x	11.7x	11.2x	10.9x	13.9x	13.3x	12.6x
Clorox Co/The	18.9x	18.1x	17.0x	2.8x	2.6x	2.6x	13.0x	12.2x	11.7x	14.9x	14.1x	13.4x
Unilever NV	19.9x	18.4x	16.6x	3.0x	3.0x	2.8x	14.5x	13.8x	12.5x	16.9x	16.1x	14.6x
Colgate-Palmolive Co	20.5x	19.0x	18.0x	3.9x	3.8x	3.7x	13.5x	12.9x	12.4x	15.1x	14.3x	13.6x
<b>Average</b>	<b>19.1x</b>	<b>17.9x</b>	<b>16.6x</b>	<b>3.2x</b>	<b>3.1x</b>	<b>3.0x</b>	<b>13.1x</b>	<b>12.5x</b>	<b>11.9x</b>	<b>15.2x</b>	<b>14.4x</b>	<b>13.6x</b>
<b>Median</b>	<b>19.4x</b>	<b>18.2x</b>	<b>16.8x</b>	<b>3.0x</b>	<b>3.0x</b>	<b>2.8x</b>	<b>13.2x</b>	<b>12.5x</b>	<b>12.0x</b>	<b>15.0x</b>	<b>14.2x</b>	<b>13.5x</b>
<b>Beauty Care</b>												
L'Oreal SA	28.5x	26.8x	25.2x	4.1x	3.9x	3.8x	18.3x	17.3x	16.3x	22.6x	21.2x	20.0x
Beiersdorf AG	27.3x	25.5x	23.7x	2.7x	2.6x	2.5x	15.1x	14.1x	13.1x	17.2x	16.0x	14.9x
Coty Inc	23.9x	17.9x	14.7x	2.2x	2.1x	2.1x	14.4x	12.1x	10.8x	19.6x	16.0x	13.6x
<b>Average</b>	<b>26.6x</b>	<b>23.4x</b>	<b>21.2x</b>	<b>3.0x</b>	<b>2.9x</b>	<b>2.8x</b>	<b>15.9x</b>	<b>14.5x</b>	<b>13.4x</b>	<b>19.8x</b>	<b>17.7x</b>	<b>16.2x</b>
<b>Median</b>	<b>27.3x</b>	<b>25.5x</b>	<b>23.7x</b>	<b>2.7x</b>	<b>2.6x</b>	<b>2.5x</b>	<b>15.1x</b>	<b>14.1x</b>	<b>13.1x</b>	<b>19.6x</b>	<b>16.0x</b>	<b>14.9x</b>
<b>Average</b>	<b>18.8x</b>	<b>17.1x</b>	<b>15.6x</b>	<b>2.5x</b>	<b>2.4x</b>	<b>2.3x</b>	<b>12.2x</b>	<b>11.3x</b>	<b>10.6x</b>	<b>15.0x</b>	<b>13.8x</b>	<b>12.7x</b>
<b>Median</b>	<b>18.8x</b>	<b>17.0x</b>	<b>15.7x</b>	<b>2.2x</b>	<b>2.1x</b>	<b>2.0x</b>	<b>12.3x</b>	<b>11.4x</b>	<b>10.7x</b>	<b>15.5x</b>	<b>13.8x</b>	<b>12.7x</b>
<b>Henkel AG &amp; Co KGaA</b>	<b>22.7x</b>	<b>21.0x</b>	<b>20.3x</b>	<b>2.2x</b>	<b>2.2x</b>	<b>2.1x</b>	<b>12.5x</b>	<b>11.9x</b>	<b>11.3x</b>	<b>15.8x</b>	<b>15.0x</b>	<b>14.7x</b>
<i>Upside (downside) to median</i>	-17.4%	-18.8%	-22.7%	-1.9%	-1.2%	-0.7%	-1.9%	-4.0%	-5.3%	-1.9%	-8.0%	-13.4%

Table 9 – Multiple analysis (Source: Analyst estimates)

## SotP valuation

To back our DCF model, we provide a Sum of the Parts valuation of Henkel's segments. We considered the EBITDA and EBIT 18E and 19E for Henkel as profit measures and multiplied it by the peer group multiples according to Bloomberg (see also table 9). Since Henkel Adhesives is very profitable in contrast to its competitors, we applied a **premium of 20%** to the EBITDA and EBIT multiple of the Adhesives peers. This is, because f.e. the EBIT margin of Henkel Adhesives 18E lies at 18.8% compared to a peer group median of 14.1%. To stay consistent, we also corrected the Laundry & Home Care multiple. Since the segment has below-average EBIT margin, we apply a **discount of 10%** to

**SotP valuation in line with DCF model**

the peer group multiple we use for Henkel's sum of the parts analysis. We arrive at implied share prices between EUR 100.12 and EUR 104.75 reflecting our DCF valuation of EUR 111.00.

Segment	Median peer group 18E		Henkel 18E		Henkel EV	
	EBITDA multiple	EBIT multiple	EBITDA	EBIT	EBITDA based	EBIT based
Adhesives	13.0x	17.3x	1,767	1,405	23,021	24,274
Beauty Care	15.1x	19.6x	713	567	10,754	11,132
Laundry & Home Care	11.9x	13.5x	1,246	991	14,835	13,389
<b>Company</b>					<b>48,610</b>	<b>48,795</b>

Segment	Median peer group 19E		Henkel 19E		Henkel EV	
	EBITDA multiple	EBIT multiple	EBITDA	EBIT	EBITDA based	EBIT based
Adhesives	11.8x	15.5x	1,889	1,494	22,363	23,135
Beauty Care	14.1x	16.0x	729	577	10,255	9,220
Laundry & Home Care	12.5x	14.2x	1,315	1,041	16,500	14,744
<b>Company</b>					<b>49,117</b>	<b>47,099</b>

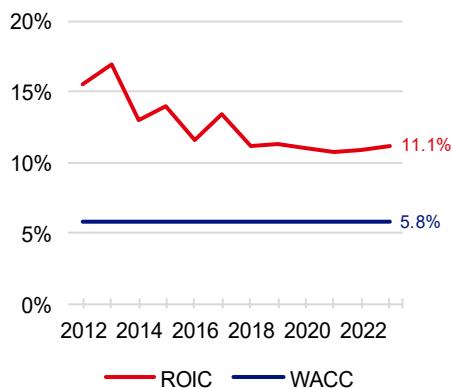
Sum of the Parts	EBIT 18E	EBIT 19E	EBITDA 18E	EBITDA 19E
EV	48,795	47,099	48,610	49,117
Net debt	-4,682	-4,682	-4,682	-4,682
Non-core assets	1,255	1,255	1,255	1,255
EV - net debt - non-core	45,369	43,673	45,184	45,691
Adjustment preferred shares	-18,348	-17,662	-18,273	-18,479
Equity value	27,020	26,010	26,910	27,212
Shares outstanding	259.80	259.80	259.80	259.80
<b>Implied share price</b>	<b>104.01</b>	<b>100.12</b>	<b>103.58</b>	<b>104.75</b>

Table 10 – SotP valuation details (Source: Analyst estimates)

## Final considerations

Considering all our valuation thoughts, we would like to conclude with the question if Henkel is creating value or not. To assess this issue, the relationship between ROIC and WACC need to be addressed. When ROIC > WACC, Henkel will create value for its shareholders because the cost of capital is lower than the return that is generated by the core business model. Our calculations yield a WACC of 5.8% and a ROIC that is between 10.8% and 16.9%. In ROIC calculations, we explicitly included intangibles, as they are a major value driver for Henkel. As visible clearly, Henkel is creating value with a gap of 5.3% between ROIC and WACC.

Graph 32 – ROIC vs. WACC development



Source: Company data, Analyst estimates

## Appendix

EURm	2017A	2018E	2019E	2020E	2021E	2022E	2023E
<b>Reformulated income statement</b>							
Operating revenue	20,029	20,901	21,835	22,871	23,793	24,840	25,735
<i>Growth in %</i>	7.0%	4.4%	4.5%	4.7%	4.0%	4.4%	3.6%
Cost of sales	-10,008	-10,429	-10,880	-11,380	-11,822	-12,325	-12,751
<i>% of revenue</i>	-50.0%	-49.9%	-49.8%	-49.8%	-49.7%	-49.6%	-49.5%
<b>Gross profit</b>	<b>10,021</b>	<b>10,472</b>	<b>10,955</b>	<b>11,491</b>	<b>11,971</b>	<b>12,515</b>	<b>12,984</b>
<i>% of revenue</i>	50.0%	50.1%	50.2%	50.2%	50.3%	50.4%	50.5%
Marketing, selling and distribution expenses	-4,876	-5,121	-5,350	-5,603	-5,829	-6,086	-6,305
<i>% of revenue</i>	-24.3%	-24.5%	-24.5%	-24.5%	-24.5%	-24.5%	-24.5%
Research and development expenses	-476	-543	-546	-572	-595	-621	-643
<i>% of revenue</i>	-2.4%	-2.6%	-2.5%	-2.5%	-2.5%	-2.5%	-2.5%
Administrative expenses	-980	-1,024	-1,092	-1,144	-1,213	-1,292	-1,338
<i>% of revenue</i>	-4.9%	-4.9%	-5.0%	-5.0%	-5.1%	-5.2%	-5.2%
Other operating income / expense	38	-35	-11	-11	-17	-12	18
<i>% of revenue</i>	0.2%	-0.2%	-0.1%	-0.1%	0.1%	-0.1%	0.1%
<b>EBITDA</b>	<b>3,727</b>	<b>3,748</b>	<b>3,957</b>	<b>4,161</b>	<b>4,317</b>	<b>4,504</b>	<b>4,715</b>
<i>% of revenue</i>	18.6%	17.9%	18.1%	18.2%	18.1%	18.1%	18.3%
Depreciation	-430	-477	-527	-610	-673	-716	-741
<i>% of PP&amp;E</i>	14.3%	14.3%	14.3%	14.3%	14.3%	14.3%	14.3%
Amortization	-242	-290	-300	-343	-354	-364	-407
<i>% of intangible assets</i>	1.5%	1.8%	1.8%	2.0%	2.0%	2.0%	2.2%
<b>EBIT</b>	<b>3,055</b>	<b>2,981</b>	<b>3,131</b>	<b>3,208</b>	<b>3,289</b>	<b>3,424</b>	<b>3,567</b>
<i>% of revenue</i>	15.3%	14.3%	14.3%	14.0%	13.8%	13.8%	13.9%
Operating Taxes	-471	-745	-783	-802	-822	-856	-892
<i>% of operating income from sales before tax</i>	15.4%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
<b>NOPLAT</b>	<b>2,584</b>	<b>2,235</b>	<b>2,348</b>	<b>2,406</b>	<b>2,467</b>	<b>2,568</b>	<b>2,675</b>
		<b>3.66%</b>	5.0%	2.5%	2.6%	4.1%	4.2%
Other comprehensive income	-1,224	-209	-218	0	476	-497	0
<i>% of revenue</i>	-6.1%	-1.0%	-1.0%	0.0%	2.0%	-2.0%	0.0%
Interest income	18	23	15	15	21	16	17
<i>% of financial assets</i>	3.5%	2.0%	1.5%	1.5%	1.5%	1.5%	1.5%
Interest expense	-55	-87	-82	-106	-98	-89	-72
<i>% of financial liabilities</i>	1.0%	1.5%	1.5%	2.0%	2.0%	2.0%	2.0%
Other financial result	-10	-235	-182	-156	-145	-136	-117
<i>% of financial liabilities</i>	-1.9%	-4.0%	-3.3%	-3.0%	-3.0%	-3.0%	-3.3%
Investment result	-4	1	0	0	0	0	0
<i>% of financial assets</i>	-0.8%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Dividends preferred stock	-298	-237	-265	-282	-302	-327	-356
<i>% of total dividends</i>	-40.4%	-40.4%	-40.4%	-40.4%	-40.4%	-40.4%	-40.4%
<b>Net financial result before taxes</b>	<b>-1,573</b>	<b>-744</b>	<b>-733</b>	<b>-529</b>	<b>-48</b>	<b>-1,033</b>	<b>-528</b>
<i>% of revenue</i>	-7.9%	-3.6%	-3.4%	-2.3%	-0.2%	-4.2%	-2.1%
Tax shield	-8	-16	-17	-23	-19	-18	-14
<i>% of net interest result</i>	21.2%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
<b>Financial result</b>	<b>-1,565</b>	<b>-728</b>	<b>-716</b>	<b>-506</b>	<b>-29</b>	<b>-1,015</b>	<b>-515</b>
<i>% of financial assets</i>	303.6%	64.2%	70.5%	49.5%	2.0%	93.7%	44.9%
<b>Comprehensive result</b>	<b>1,020</b>	<b>1,507</b>	<b>1,632</b>	<b>1,899</b>	<b>2,439</b>	<b>1,553</b>	<b>2,160</b>
<i>% of revenue</i>	5.1%	7.2%	7.5%	8.3%	10.2%	6.3%	8.4%

EURm	2017A	2018E	2019E	2020E	2021E	2022E	2023E
<b>Reformulated balance Sheet</b>							
Working cash	401	418	437	457	476	497	515
% of revenue	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Inventories	2,080	2,160	2,246	2,342	2,425	2,519	2,598
Days inventories outstanding	75.86	75.61	75.36	75.11	74.86	74.61	74.36
Trade accounts receivable	3,544	3,684	3,834	4,000	4,145	4,310	4,448
Days receivables outstanding	64.58	64.33	64.08	63.83	63.58	63.33	63.08
Income tax refund claims	337	252	270	283	295	308	319
% of revenue	1.7%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
Other assets	620	551	576	603	628	655	679
% of revenue	3.1%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%
Intangible assets	15,653	16,125	16,641	17,140	17,716	18,175	18,507
% of revenue	78.2%	77.1%	76.2%	74.9%	74.5%	73.2%	71.9%
PP&E	3,005	3,336	3,683	4,266	4,702	5,007	5,181
% of revenue	15.0%	16.0%	16.9%	18.7%	19.8%	20.2%	20.1%
Deferred income taxes	949	990	1,035	1,084	1,127	1,177	1,219
% of revenue	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
<b>Total operating assets</b>	<b>26,589</b>	<b>27,516</b>	<b>28,722</b>	<b>30,176</b>	<b>31,512</b>	<b>32,648</b>	<b>33,465</b>
Income tax provisions	464	484	506	530	551	575	596
% of revenue	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%
Other provisions	2,094	2,185	2,283	2,391	2,487	2,597	2,691
% of revenue	10.5%	10.5%	10.5%	10.5%	10.5%	10.5%	10.5%
Income tax liabilities	5	5	5	6	6	6	6
% of revenue	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Trade accounts payable	3,717	3,881	4,056	4,250	4,423	4,620	4,797
Days payables outstanding	135.56	135.81	136.06	136.31	136.56	136.81	137.31
Other liabilities	357	373	389	408	424	443	459
% of revenue	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%
Deferred tax liabilities	617	644	673	705	733	765	793
% of revenue	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%
<b>Total operating liabilities</b>	<b>7,254</b>	<b>7,572</b>	<b>7,912</b>	<b>8,289</b>	<b>8,625</b>	<b>9,006</b>	<b>9,342</b>
<b>Net operating assets</b>	<b>19,335</b>	<b>19,944</b>	<b>20,810</b>	<b>21,887</b>	<b>22,888</b>	<b>23,642</b>	<b>24,124</b>
Other financial assets	1,122	1,171	1,223	1,281	1,333	1,391	1,442
% of revenue	5.6%	5.6%	5.6%	5.6%	5.6%	5.6%	5.6%
Assets held for sale	81	85	88	92	96	100	104
% of revenue	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
<b>Total non-core assets</b>	<b>1,203</b>	<b>1,255</b>	<b>1,311</b>	<b>1,374</b>	<b>1,429</b>	<b>1,492</b>	<b>1,546</b>
Liabilities held for sale	0	0	0	0	0	0	0
% of revenue	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Non-core liabilities</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Net non-core assets</b>	<b>1,203</b>	<b>1,255</b>	<b>1,311</b>	<b>1,374</b>	<b>1,429</b>	<b>1,492</b>	<b>1,546</b>
Excess cash	515	1,135	1,016	1,023	1,416	1,083	1,146
% of revenue	2.6%	5.4%	4.7%	4.5%	6.0%	4.4%	4.5%
<b>Total financial assets</b>	<b>515</b>	<b>1,135</b>	<b>1,016</b>	<b>1,023</b>	<b>1,416</b>	<b>1,083</b>	<b>1,146</b>
Other financial liabilities	299	312	326	341	355	371	384
% of revenue	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Borrowings	4,344	4,533	4,149	3,888	3,450	2,981	2,059
% of revenue	21.7%	21.7%	19.0%	17.0%	14.5%	12.0%	8.0%
Provisions for pensions and similar obligatic	760	793	829	868	903	943	977
% of revenue	3.8%	3.8%	3.8%	3.8%	3.8%	3.8%	3.8%
Preferred shares	178	178	178	178	178	178	178
% of total stocks	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%
<b>Total financial liabilities</b>	<b>5,581</b>	<b>5,816</b>	<b>5,481</b>	<b>5,275</b>	<b>4,886</b>	<b>4,472</b>	<b>3,598</b>
<b>Net financial assets</b>	<b>-5,066</b>	<b>-4,682</b>	<b>-4,465</b>	<b>-4,252</b>	<b>-3,470</b>	<b>-3,389</b>	<b>-2,452</b>
	11.3%	10.4%	9.9%	9.5%	7.7%	7.5%	5.5%
<b>Common shareholder's equity</b>	<b>15,472</b>	<b>16,518</b>	<b>17,656</b>	<b>19,008</b>	<b>20,847</b>	<b>21,745</b>	<b>23,218</b>
Statement of Equity	15,472	16,518	17,656	19,008	20,847	21,745	23,218
Sanity check	o.k.	o.k.	o.k.	o.k.	o.k.	o.k.	o.k.

EURm	2017A	2018E	2019E	2020E	2021E	2022E	2023E
<b>Reformulated cash flow statement</b>							
<b>NOPLAT</b>	<b>2,584</b>	<b>2,235</b>	<b>2,348</b>	<b>2,406</b>	<b>2,467</b>	<b>2,568</b>	<b>2,675</b>
Change in working cash	26	17	19	21	18	21	18
Change in inventories	142	80	86	95	83	95	78
Change in trade accounts receivable	195	140	150	166	145	165	138
Change in income tax refund claims	56	-85	19	13	11	13	11
Change in other assets	31	-69	25	27	24	28	24
Change in deferred taxes	-68	41	44	49	44	50	42
Change in income tax provision	0	20	22	24	21	24	21
Change in other provisions	-219	91	98	108	96	109	94
Change in tax liabilities	-11	0	0	0	0	0	0
Change in accounts payable	52	164	175	194	173	197	177
Change in other liabilities	-63	16	17	18	16	19	16
Change in deferred tax liabilities	-216	27	29	32	28	32	28
<b>Total investment in NWC</b>	<b>-839</b>	<b>192</b>	<b>-2</b>	<b>6</b>	<b>10</b>	<b>10</b>	<b>24</b>
<b>Gross CAPEX</b>							
Change in PPE	-118	-331	-348	-583	-436	-305	-174
Change in intangibles assets	-110	-472	-516	-499	-576	-459	-332
<b>Total investment in gross CAPEX</b>	<b>-228</b>	<b>-802</b>	<b>-864</b>	<b>-1,082</b>	<b>-1,011</b>	<b>-764</b>	<b>-506</b>
<b>Total investment</b>	<b>-1,067</b>	<b>-610</b>	<b>-866</b>	<b>-1,077</b>	<b>-1,001</b>	<b>-754</b>	<b>-482</b>
	1.1%	3.8%	4.0%	4.7%	4.3%	3.1%	2.0%
CAPEX / NOPLAT	41.3%	27.3%	36.9%	44.8%	40.6%	29.4%	18.0%
<b>Free cash flow</b>	<b>1,517</b>	<b>1,626</b>	<b>1,482</b>	<b>1,329</b>	<b>1,466</b>	<b>1,814</b>	<b>2,193</b>
Financial results	-1,565	-728	-716	-506	-29	-1,015	-515
Change in excess cash	-499	619	-119	7	393	-333	63
Change in other current financial assets	293	49	52	58	52	59	50
Change in assets held for sale	-14	4	4	4	4	4	4
Change in liabilities held for sale	-13	0	0	0	0	0	0
Change in other financial liabilities	21	13	14	15	14	16	13
Change in borrowings	621	189	-384	-261	-438	-469	-922
Change in provision for pensions and similiar obligations	-247	33	35	39	35	40	34
Change in preferred stock	0	0	0	0	0	0	0
<b>Debt financing cash flows</b>	<b>-962</b>	<b>-1,165</b>	<b>-988</b>	<b>-782</b>	<b>-866</b>	<b>-1,158</b>	<b>-1,506</b>
<b>Equity financing cash flows</b>	<b>-554</b>	<b>-461</b>	<b>-494</b>	<b>-547</b>	<b>-600</b>	<b>-656</b>	<b>-687</b>
<b>Financing cash flow</b>	<b>1,517</b>	<b>1,626</b>	<b>1,482</b>	<b>1,329</b>	<b>1,466</b>	<b>1,814</b>	<b>2,193</b>
<i>NOPLAT - Net investment</i>	1,517	1,626	1,482	1,329	1,466	1,814	2,193
	o.k.	o.k.	o.k.	o.k.	o.k.	o.k.	o.k.

	2017A	2018E	2019E	2020E	2021E	2022E	2023E
<b>Reformulated statement of changes in equity</b>							
EUR							
<b>Beginning balance</b>	<b>15,007</b>	<b>15,472</b>	<b>16,518</b>	<b>17,656</b>	<b>19,008</b>	<b>20,847</b>	<b>21,745</b>
Dividends	-438	-349	-391	-416	-445	-481	-525
<i>% of total dividends</i>	59.6%	59.6%	59.6%	59.6%	59.6%	59.6%	59.6%
Sale of treasury shares	0	0	0	0	0	0	0
<i>% of shareholders equity</i>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Changes in ownership interest	-191	-112	-104	-131	-155	-174	-163
<i>% of shareholders equity</i>	-1.3%	-0.7%	-0.6%	-0.7%	-0.8%	-0.8%	-0.7%
Other changes in equity	75	0	0	0	0	0	0
<i>% of shareholders equity</i>	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total transactions with shareholders</b>	<b>-554</b>	<b>-461</b>	<b>-494</b>	<b>-547</b>	<b>-600</b>	<b>-656</b>	<b>-687</b>
Net income	2,541	1,953	2,116	2,182	2,265	2,377	2,517
<i>% growth</i>	21.3%	-23.1%	8.3%	3.1%	3.8%	5.0%	5.9%
Other comprehensive income	-1,224	-209	-218	0	476	-497	0
Dividends on preferred stock	-298	-237	-265	-282	-302	-327	-356
<i>% of total dividends</i>	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%
<b>Total comprehensive income</b>	<b>1,019</b>	<b>1,507</b>	<b>1,632</b>	<b>1,899</b>	<b>2,439</b>	<b>1,553</b>	<b>2,160</b>
<b>Ending balance</b>	<b>15,472</b>	<b>16,518</b>	<b>17,656</b>	<b>19,008</b>	<b>20,847</b>	<b>21,745</b>	<b>23,218</b>
Total dividends	-736	-586	-656	-698	-747	-808	-881
Payout ratio	29.0%	30.0%	31.0%	32.0%	33.0%	34.0%	35.0%

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### Research Recommendations

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<b>Buy</b>	Expected total return (including expected capital gains and expected dividend yield) of more than 10% over a 12-month period.
<b>Hold</b>	Expected total return (including expected capital gains and expected dividend yield) between 0% and 10% over a 12-month period.
<b>Sell</b>	Expected negative total return (including expected capital gains and expected dividend yield) over a 12-month period.

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