

Fair Value Uncertainty Economic Moat™ Moat Trend™ Stewardship **Industry Group** 26.57 EUR 29 00 FUR Medium Stable Standard Industrial Products Narrow

### Philips Delivered Again on Our Expected Operational Results Improvements in Q2; Shares Undervalued

See Page 2 for the full Analyst Note from 25 Jul 2016

Jeffrey Vonk, CFFA Equity Analyst jeffrey.vonk@morningstar.com +31 20 751 1356

### **Important Disclosure**

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The primary analyst covering this company does not own its stock.

Research as of 25 Jul 2016 Estimates as of 21 Jun 2016 Pricing data through 02 Sep 2016 Rating updated as of 02 Sep 2016

Currency amounts expressed with "\$" are in U.S. dollars (USD) unless otherwise denoted

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#### **Investment Thesis** 21 Jun 2016

Philips introduced its first light bulb more than 120 years ago; today, the firm is the premier lighting manufacturer in Europe. Through numerous acquisitions and divestitures, the company grew into other businesses and has admirable positions in lighting, healthcare products, and consumer lifestyle. The firm is selling its consumer electronics businesses to focus the portfolio on healthy living and prevention products, and management's focus is on improving the company's cost structure. In September 2014, Philips announced what we think is the logical next strategic step of its impressive transformation by combining healthcare and consumer lifestyle into one company and splitting off the lighting solutions business into a separate firm. We believe the breakup has potential for shareholder value creation and better allocation of capital. In June 2016, the firm launched an IPO for 25% of shares of its lighting segment. We expect it to sell the remaining shares during the next few years.

With the market's transition to LED lighting products, the competitive landscape is changing. New players are entering the market, and intensified competition is strongly apparent at the LED component business. Philips announced its intention to sell the LED component and automotive lighting divisions, as it doesn't want to participate in the next capital expenditure cycle, given limited visibility on returns. Instead, it is focusing on the strong and growing demand for professional lighting solutions. Fewer players are active in this market, and we think Philips is well positioned, given its deep application and systems integration

We see softer demand resulting from hospital consolidation and focus on cost, which hurts Philips' imaging business. Imaging is effectively a three-player market with GE and Siemens, and long-term emerging-market growth is mitigating our concerns. Philips' product suites tie well into growing demand for integral value-based healthcare solutions and the ageing population with more chronic diseases. Philips has a clear strategy to partner with hospitals to manage the work flow, lower the cost of care, and offer home-care devices and solutions.

Vital S	Statistics
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Market Cap (EUR Mil)	24,643
52-Week High (EUR)	26.61
52-Week Low (EUR)	20.47
52-Week Total Return %	20.5
YTD Total Return %	16.2
Last Fiscal Year End	31 Dec 2015
5-Yr Forward Revenue CAGR %	2.6
5-Yr Forward EPS CAGR %	17.1
Price/Fair Value	0.92

### **Valuation Summary and Forecasts**

Fiscal Year	r: 2014	2015	2016(E)	2017(E)
Price/Earnings	63.1	34.6	20.4	19.7
EV/EBITDA	14.6	11.6	9.2	8.4
EV/EBIT	50.2	26.7	15.7	13.4
Free Cash Flow Yield %	2.3	1.5	6.8	6.7
Dividend Yield %	1.3	1.4	3.0	3.0

### Financial Summary and Forecasts (EUR Mil)

			, ,		
	Fiscal Year:	2014	2015	2016(E)	2017(E)
Revenue		21,391	24,244	24,728	25,318
Revenue YoY %		-2.7	13.3	2.0	2.4
EBIT		489	992	1,805	2,128
EBIT YoY %		-74.0	102.9	81.9	17.9
Net Income, Adjusted		352	629	1,197	1,245
Net Income YoY %		-71.1	78.9	90.3	4.0
Diluted EPS		0.38	0.68	1.30	1.35
Diluted EPS YoY %		-71.1	78.9	90.1	4.0
Free Cash Flow		1,489	216	1,979	1,919
Free Cash Flow YoY %		51.1	-85.5	818.1	-3.1

Historical/forecast data sources are Morningstar Estimates and may reflect adjustments

### Profile

Philips is a diversified global manufacturer operating in three segments: lighting, healthcare, and consumer lifestyle. About 41% of revenue comes from the healthcare segment, which features imaging systems, home healthcare solutions, and patient care. Almost 20% of revenue is derived from consumer products like domestic appliances, health and wellness, and personal care. Lighting contributes the remaining part of Philips' turnover. In 2016, Philips combined its healthcare and consumer lifestyle segments and span off the lighting business.



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### Morningstar Analysis

# Philips Delivered Again on Our Expected Operational Results Improvements in **Q2**; Shares Undervalued 25 Jul 2016

Philips reported good second-quarter sales of EUR 5.9 billion, up 3% on a comparable basis, and adjusted EBITA of EUR 544 million, or 9.3% of sales, compared with 8.4% in the year-ago quarter. Revenue was in line with our expectations, and we are encouraged by the solid sales growth in the quarter, driven by 5% growth in the HealthTech portfolio and partly offset by a 1% decline in lighting. For 2016, we expect modest sales growth and increasing margins as a result of operational performance improvements, mainly in the healthcare segment, benefiting from progress in ramping up production and shipments from the U.S. Cleveland manufacturing facility. We maintain our narrow moat rating and our fair value estimate of EUR 29 per share per Amsterdam listed share and USD 32 for the ADR.

As in previous quarters, personal health again delivered strong top- and bottom-line performance. Comparable sales grew 9%, driven by double-digit growth in growth geographies like the Middle East and Turkey. Adjusted EBITA was EUR 234 million, or 14.1% of sales, up 170 basis points, due to cost productivity and operational leverage from higher sales. The Connected Care and Health Informatics businesses' unit sales and margin improved in the quarter, owing to high-single-digit growth in patient care and monitoring. However, more improvements are needed for the HealthTech portfolio to bring the current high-single-digit margin level to the long-term margin target in the high teens

Positively, LED lighting sales grew strongly by 25% and now account for 53% of overall lighting sales. With the continued growth of LED within the total portfolio, Philips Lighting is expected to return to growth during the course of 2016. Adjusted EBITA improved year on year for the seventh consecutive quarter, with margin expansion of 180 basis

points.

Philips Lighting shares made a successful debut on the Amsterdam Exchange in the quarter. As the flotation underscores Philips aim to focus on its HealthTech business, we expect the remaining shares to be sold over the next several years. We support Philips' shift toward making equipment and consumer goods for the global health market, and we maintain our narrow moat rating, which is mainly due to switching costs and intangible assets. Decreasing exposure to PL strengthens Royal Philips' moat, as it lowers the company's exposure to less moaty aspects of the business.

### Valuation, Growth and Profitability 21 Jun 2016

We are maintaining our fair value estimate of EUR 29 for narrow-moat Philips' Amsterdam-listed shares after updating our estimates for 2016 and 2017. The management team's key moves to improve profitability have been accretive to cash flow, and as a result of increased production of the Cleveland healthcare factory and continued revenue growth from consumer lifestyle sales, revenue will increase about 2.0% in 2016. Our model assumes a five-year earnings compound annual growth rate of 2.6%, reflecting sluggish activity in 2016 but meaningful growth in the healthcare, lighting, and consumer lifestyle end markets beyond 2016, driven by global activity and increased production of medical devices. We expect the Cleveland facility production ramp-up to be largely completed by the end of 2016, resulting in single-digit revenue growth for the healthcare division in 2016. We model conventional lighting product sales to see a continued decline of 10% in 2016, but we believe this will be partly offset by growth north of 20% for LED products and systems and services, resulting in a 3% revenue decline for the lighting unit. This, combined with low-single-digit revenue growth in consumer lifestyle, translates into 2% expected revenue growth for the firm for 2016. We forecast operating



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margins of 7.3% in 2016 and expect them to expand to 9.1% for 2020. Management's focus on operational performance and reshaping the portfolio will enhance operating margins. Using our assumptions, we expect Philips to generate returns on invested capital of 14.6%, on average, during our five-year discrete forecast horizon, above the firm's cost of capital of 8.2%. We assume a long-term effective tax rate of 30%.

### **Scenario Analysis**

We model three scenarios of varying revenue growth and operating margin assumptions. The pace of the economic recovery has a profound impact on these variables. In our base-case scenario, we assume internal revenue growth of 2% in fiscal 2016, based on mid-single-digit growth of consumer lifestyle and modest growth at healthcare and a 3% decline at lighting. Our base model assumes cost reduction and portfolio optimization resulting in operating margins of 9.1% by 2020, and generates a fair value estimate of EUR 29 per share. In our more optimistic model, we assume average core growth of 4% in fiscal 2016, with margins expanding 170 basis points more than in the base model over the same horizon. Under this scenario, our fair

value estimate increases to EUR 42 per share. When thinking about the bear case, we assume modest growth in revenue in 2016 of 0.1%, reflecting a protracted recovery. Operating margins in this scenario are 7.5% in 2016 and 8.3% by 2020. Under these assumptions, our fair value estimate drops to EUR 24 per share.

### **Economic Moat**

We assign a narrow moat rating to Philips, mainly due to switching costs and, to a lesser extent, intangible assets and technology leadership. The firm's strong competitive positions in healthcare diagnostics and imaging, traditional lighting, and professional lighting solutions should result in returns on invested capital exceeding the cost of capital over our five-year forecast period. The switching costs result from the firm's healthcare products being well integrated in hospitals and Philips' strong focus on training of doctors at hospitals, which ensures strong relationships. Its medical equipment has a long economic lifetime, and support services increase customer loyalty. Patents for healthcare and lighting products are Philips' main sources of intangible assets. At its 2014 capital markets day, management expressed its intention to establish two companies by combining healthcare and consumer lifestyle (into HealthTech) and to transition lighting solutions into a separate legal structure. In June 2016, the firm launched an IPO for 25% of the shares of its lighting business. We expect Philips to sell the remaining shares during the next few years, which could enhance our moat rating in the future for the remaining HealthTech company.

The lack of pricing power for domestic appliances, LED components, and consumer luminaires, due to competition, prevents us from assigning the firm a wide moat. Although Philips has dominant positions in the personal-care and health and wellness markets, like male grooming and oral healthcare, we believe the entry barriers and switching costs for consumer products are low. Philips has an excellent position in conventional lighting, but this market will be



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taken over by energy-saving light solutions like LED and OLED. The value chain for LED products is much more fragmented than the conventional lighting value chain, given the former's strong Asian competition.

We consider the healthcare division to have a narrow economic moat. This division generated 45% of sales and 56% of adjusted EBITA in 2015. Next to equipment sales, Philips is focused on integrated solutions in diagnosis, treatment, recovery, and home care. The company has a strong market position based on technology leadership for imaging products like MRI and CT scanning machines. Although we see softer demand resulting from the U.S. hospital consolidation and related focus on cost, we still believe Philips is attractively positioned in the high end of the imaging business, which is effectively a three-player market with General Electric and Siemens. In the lower end of the market, the big players face competitors out of Asia like Mindray Medical.

Philips has a clear strategy to partner with hospitals to manage the workflow, lower the cost of care, and offer home-care devices and solutions. In our view, the healthcare business moat is based on high switching costs and technology leadership in the diagnosis market. Philips' end-to-end integrated solutions are well embedded in the patient-care process. As such, many companies elect to stay with the incumbent product for several years rather than convert to something new, irrespective of the technology improvement or cost savings. Philips also develops a sticky relationship through maintenance support services.

Consumer lifestyle is a no-moat business. The consumer lifestyle division generated 22% of sales and 32% of adjusted EBITA in 2015. In January 2014, Philips sold the remaining stake in its television joint venture and has clear intentions to sell its DVD and multimedia assets. The firm is selling its consumer electronics businesses to focus the

portfolio on healthy living and prevention products. We think Philips has excellent positions in personal care (32% of 2015 sales) and health and wellness (22% of 2015 sales), like men's electric shaving and oral healthcare. However, 46% of consumer lifestyle 2015 revenue was derived by selling domestic appliances. The markets for kitchen appliances, garment care, and coffee are very competitive, and barriers to entry are low. The Philips brand is well known but not strong enough to justify a moat.

The lighting division is also a no-moat business, in our opinion. The lighting division generated 31% of sales and 32% of adjusted EBITDA in 2015, and switching costs are low. Two trends are affecting the lighting industry value chain: first, a gradual migration from light sources to applications and solutions; and second, a far-reaching technological change toward solid-state lighting technologies like LED and OLED. Conventional lighting continues to be a large part of the market, but management forecasts LED penetration to grow to about 50% by 2016. We estimate current LED penetration is less than 25%.

The competitive situation varies strongly among segments and value-chain components. For instance, the traditional lamp and ballast market is comparatively concentrated, with three top players (Philips, OSRAM, and GE) reaching a combined share of over 50%. On the other hand, the luminaires market in the general lighting segment is highly fragmented and regionally focused, where the top five players do not reach a combined share of 30%. With the transition to SSL products, the competitive landscape is changing. New players are entering the lighting market from different industries despite barriers to entry such as intellectual property rights, market channel access, and technology and application know-how.

In March 2015, Philips announced the sale of the LED component and automotive lighting divisions, with expected



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### Morningstar Analysis

completion in the first half of 2016, as it doesn't want to participate in the next capital expenditure cycle, given limited visibility on returns. After the sale of the component business, lighting sales will be derived from light sources (59%), consumer luminaires (6%), and professional lighting solutions (35%). Professional lighting solutions comprises systems of interconnected lighting products and software integration and servicing an installed lighting system through its lifecycle. In our view, Philips is well positioned in professional lighting solutions, given its deep application and systems integration expertise, but low entry barriers for light sources and consumer luminaires markets prevent our assigning a moat rating for lighting.

We consider the innovation, group, and services division to be a no-moat segment that generated 2% of sales and negative 20% of EBITDA in 2015. The revenue and costs of this division are related to various activities like startup investments and royalty income. Philips receives roughly EUR 250 million per year for royalties related to intellectual property rights of the assets that have been sold during the past couple of years. Royalty income booked in this division will decrease by EUR 15 million per year, as patents will be expiring.

### **Moat Trend**

We believe the moat trend is stable, as continued equipment competition in healthcare diagnostics and LED lighting is offset by strong demand for integrated solutions. In our view, Philips is one of the few companies that has the capabilities and resources to handle large integrated healthcare and lighting projects.

Especially in the U.S., rising medical costs have become a political issue and hospitals are more reluctant to invest in high-end imaging equipment. To counter this, Philips focuses more on the lower segments of the market by introducing products with fewer bells and whistles at lower

prices. The growing lower end of the market is less focused on technology and could reduce switching costs. However, switching costs rise when Philips' end-to-end solutions are well embedded in the healthcare diagnosis and treatment process.

With the transition to SSL products, the competitive landscape in lighting is changing. New players have entered, and we believe more will enter the LED product market from different industries, despite barriers to entry such as intellectual property rights, market channel access, and technology and application know-how. The competitive environment for lighting systems and services is much more benign, and Philips is well positioned for strong demand for professional energy-saving light solutions.

At its 2014 capital markets day, management expressed its intention to establish two companies by combining healthcare and consumer lifestyle (into HealthTech) and to transition lighting solutions into a separate legal structure. More information about the ownership structure of lighting solutions will be presented in the first half of 2016. The sale or spin-off could enhance our moat trend rating in the future for the remaining HealthTech company.



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### Bulls Say/Bears Say

### **Bulls Say**

- Philips will create additional value by a sale of lighting solutions and the combination of its healthcare and consumer lifestyle divisions.
- ► The health continuum is a growing EUR 100 billionplus market for Philips. The firm's leading portfolio of medical devices and relationships, combined with insights into clinical and consumer needs, leads to a strong position to capture this opportunity.
- ► Philips is a leader in the consumer lifestyle, lighting, and healthcare equipment and services markets. Weakness in any one area can be offset by strength in other divisions.

### **Bears Say**

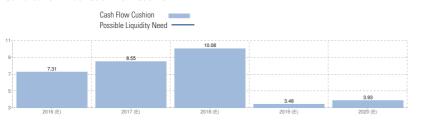
- ► With the market's transition to LED lighting products, the competitive landscape is changing. New players are entering the lighting market from different industries, despite barriers to entry such as intellectual property rights, market channel access, and technology and application know-how.
- Changes in the U.S. healthcare system, like lower reimbursement rates, will have an overall negative impact on demand for healthcare orders.
- Philips has a record of returning excess cash to shareholders through dividends, but the cash it does retain is often used on expensive acquisitions.



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Five Year Adjusted Cash Flow Forecast (EUR Mil)								
		2016(E)	2017(E)	2018(E)	2019(E)	2020(E)		
(	Cash and Equivalents (beginning of period)	1,766	2,200	2,867	3,394	3,966		
A	Adjusted Available Cash Flow	1,240	1,178	1,014	1,060	1,055		
T	otal Cash Available before Debt Service	3,006	3,378	3,881	4,455	5,021		
F	Principal Payments	-42	-26	-16	-910	-910		
li	nterest Payments	-369	-369	-369	-369	-369		
(	Other Cash Obligations and Commitments	_		_				
T	otal Cash Obligations and Commitments	-411	-395	-385	-1,279	-1,279		

### **Cumulative Annual Cash Flow Cushion**



### **Adjusted Cash Flow Summary**

		% OT
	EUR Millions	Commitments
Beginning Cash Balance	1,766	47.1
Sum of 5-Year Adjusted Free Cash Flow	5,548	148.0
Sum of Cash and 5-Year Cash Generation	7,314	195.1
Revolver Availability	1,800	48.0
Asset Adjusted Borrowings (Repayment)	_	_
Sum of Cash, 5-Year Cash Generation, Revolver and Adjustments	9,114	243.1
Sum of 5-Year Cash Commitments	-3,749	_

### **Financial Health**

Philips is in relatively solid financial shape, and Morningstar rates the firm a BBB+ credit issuer. The company had EUR 4.0 billion in long-term debt and EUR 1.6 billion in short-term debt compared with EUR 1 billion of cash as of Sept. 30, 2015. The firm operates with a relatively straightforward capital structure, composed mostly of U.S. dollar-dominated unsecured bonds, but also uses small amounts of bank loans and finance leases. The unused EUR 1.8 billion standby facility matures in February 2018. The debt maturities issues are spread evenly, and the average tenure of long-term debt is 12.4 years. Only EUR 1.3 billion of the outstanding debt is due in the next five years. We believe Philips can comfortably cover this obligation in 2018 with internally generated cash flow. Thus, we do not expect repayment or refinancing to be an issue for Philips.

### **Enterprise Risk**

We assign a medium uncertainty rating to Philips, as the company's portfolio is well diversified in different products, market segments, and countries. The company operates in cyclical end markets, with much of the demand for its products tied to the overall health of the economy. As a result, cash flow forecasts—a key driver of our discounted cash flow model—are susceptible to economic slowdowns, and a prolonged global recession will hamper the company's performance. Furthermore, its acquisition-driven growth in the healthcare technology and lighting markets carries a high degree of integration and execution risk. Also, U.S. government spending cutbacks on healthcare have an outsize effect on Philips' medical equipment business. We will review our medium uncertainty rating after the sale of the remaining shares of Philips Lighting is complete.



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## Management & Ownership

### **Management Activity**

Fund Numarchin

 Name
 Position
 Shares Held
 Report Date\*
 InsiderActivity

 NA
 NA
 NA
 NA
 NA

<sup>\*</sup>Represents the date on which the owner's name, position, and common shares held were reported by the holder or issuer

Fund Ownership				
Top Owners	% of Shares Held	% of Fund Assets	Change (k)	Portfolio Date
Franklin Mutual Global Discovery Fund	1.20	1.30	1,917	30 Jun 2016
Thornburg International Value Fund	0.66	2.14	_	31 Jul 2016
Longleaf Partners Fund	0.69	4.71	213	30 Jun 2016
WisdomTree Europe Hedged Equity Fund	0.50	1.41	86	01 Sep 2016
iShares MSCI EAFE (AU)	0.48	0.22	_	31 Aug 2016
Concentrated Holders				
AEGON Dutch Equity Index Fund	0.03	7.04	-4	30 Apr 2016
RZL Nederlands Aandelenfonds	0.07	6.70	0	31 Jul 2016
SNS Nederlands Aandelenfonds	0.01	6.70	-9	31 Jul 2016
Zwitserleven Aandelenfonds	0.03	6.65	_	31 Jul 2016
iShares MSCI Netherlands	0.04	6.04	_	31 Aug 2016
Institutional Transactions				
Top 5 Buyers	% of Shares Held	% of Fund Assets	Shares Bought/ Sold (k)	Portfolio Date
Franklin Mutual Advisers, LLC	1.84	1.55	2,052	30 Jun 2016
Fidelity Management & Research Company	0.44	0.40	1,194	31 Jul 2016
American Century Inv Mgt Inc	0.12	0.24	1,091	30 Jun 2016
State Street Global Advisors	0.28	0.33	999	31 Jul 2016
Lyxor International Asset Management	0.42	1.35	639	31 Aug 2016
Top 5 Sellers				
SKAGEN AS	0.49	2.38	-924	31 Jul 2016
	0.03	2.09	-479	31 Jul 2016
Natixis Asset Management	0.00			
Natixis Asset Management Templeton Investment Counsel LLC	0.02	0.33	-439	30 Jun 2016
<u> </u>		0.33 0.74	-439 -337	30 Jun 2016 30 Jun 2016

Management 21 Jun 2016

Frans van Houten replaced Gerard Kleisterlee as CEO in 2011. Van Houten brings a history of restructuring expertise and is credited with jump-starting Philips' recent success. Corporate governance appears adequate. In the two-tier corporate structure, the supervisory board supervises the policies of the board of management and executive committee. A new long-term incentive plan was introduced in 2013. The new plan consists of performance shares only, and vesting of these shares is based on two equally weighted performance conditions: 50% adjusted earnings per share growth and 50% relative total shareholder return. We like the combination of profit growth and shareholder value creation, two vital measurements of how effectively Philips is running its businesses. Also in 2013, guidance for members of the board of management to hold a certain number of shares in the company was increased to at least 200% of base pay. For the CEO, the level is 300%. Directors serve for four-year terms, and the CEO was reappointed as part of the annual general meeting agenda in 2015. A poison pill exists in the form of preference shares. This arrangement allows a Philips-connected foundation to buy a large ownership stake in the case of an unsolicited takeover offer.

For the past several decades, and until relatively recently, we would have considered Philips' stewardship to be Poor, as investors have had to endure management's overpaying for acquisitions and layering overhead costs across the globe with little concern for shareholder value creation. The new management team has taken a different approach, stripping layers of overhead, exiting underperforming businesses, and returning cash to shareholders. Under the stewardship of the new CEO, the firm has successfully delivered on restructuring, achieving targets in 2013, 2014, and 2015, despite much lower GDP growth than it anticipated at the time of the target setting in 2011, currency headwinds, and a change in pension accounting. In our opinion, actions by current leadership merit a Standard stewardship rating.



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### **Analyst Notes**

### Philips Lighting Shares Shine After Successful IPO; Philips Shares Remain Undervalued 27 May 2016

Philips Lighting shares made a successful debut on the Amsterdam Exchange today as parent company Royal Philips raised EUR 750 million, prior to exercising the 15% overallotment option, in an IPO of the world's largest general lighting business. As expected, the restarted sale process of the Lumileds unit had no significant impact on Philips' separation process, as the Lumileds divestment is being pursued as an independent transaction, with an expected completion of 2016. We believe the breakup of the company has potential for shareholder value creation and improved capital allocation. We expect an enterprise value/adjusted EBITDA multiple rerating, owing to operational improvements. We are updating our valuation to the new corporate structure, but expect no significant change to our fair value estimate of EUR 29 per Amsterdam-listed share and \$32 for the ADR.

The number of shares in the offering represents 25% of share outstanding; combined with the IPO price of EUR 20 per share, this implies a market capitalization for Philips Lighting of EUR 3 billion and implied enterprise value of approximately EUR 4.5 billion. Assuming full exercise of the overallotment option, Royal Philips will hold 71.25% of the Philips Lighting shares. As the flotation underscores Philips' aim of focusing on its HealthTech business, we expect the remaining shares to be sold over the next several years. Royal Philips and Philips Lighting have agreed to a lockup period of 180 days. We support Philips' shift toward making equipment and consumer goods for the global health market, and we maintain our narrow moat rating, which mainly stems from switching costs and intangible assets. Decreasing exposure to Philips Lighting strengthens Royal Philips' moat, as it lowers the company's exposure to the less moaty aspects of the business.

Philips Lighting's biggest competitors in the production of

conventional light and light-emitting diodes are Osram, spun off from Siemens, and General Electric. We expect Philips Lighting to return to positive comparable sales growth during the course of 2016, driven by an increasing contribution of LED lamps, luminaires, and systems and services, versus a diminishing proportion of conventional lighting. LED lighting sales grew strongly in the first half of 2016 and now account for approximately 50% of overall lighting sales.

## Philips Delivered Expected Operational Improvements in Q1; Outlook for Lighting Improving 25 Apr 2016

Philips reported good first-quarter sales of EUR 5.5 billion, up 3% on a comparable basis, and adjusted EBITA of EUR 374 million, or 6.8% of sales, compared with 6.1% in the year-ago quarter. Revenue was in line with our expectations, and we are encouraged by the solid sales growth in the quarter, driven by 5% growth in the HealthTech portfolio and partly offset by a 2% decline for Philips Lighting. Although margins improved year over year, they came in slightly below both our expectations and those of consensus. For 2016, we expect modest sales growth and increasing margins as a result of operational performance improvements, mainly in the healthcare segment, benefiting from progress in ramping up production and shipments from the Cleveland manufacturing facility. We maintain our narrow moat rating and our fair value estimate of EUR 29 per share.

As it did in previous quarters, personal health again delivered strong top- and bottom-line performance. Comparable sales grew 6%, driven by double-digit growth in growth geographies such as the Middle East and Turkey. Adjusted EBITA was EUR 227 million, or 14.1% of sales, up 130 basis points, owing to product mix and operational leverage from higher sales. Unit sales and margins for the diagnosis and treatment segment also improved in the quarter, owing to double-digit growth in image-guided therapy, mid-single-digit growth in ultrasound, and low-



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### **Analyst Notes**

dingle-digit growth in diagnostic imaging. However, more improvements are needed here to increase current low-single-digit margins to the long-term high-teen margin target.

Positively, LED lighting sales grew strongly by 27% and now account for 50% of overall lighting sales. With the continued growth of LED and of the total portfolio, Philips Lighting is expected to return to growth in the course of 2016. Adjusted EBITA improved year on year for the sixth consecutive quarter, with 60 basis points of margin expansion.

The next big catalyst is the separation of the lighting solutions unit. We do not expect the restarted sale process of the Lumileds unit to have a significant impact on Philips' separation process, which is being pursued as an independent transaction. We believe the breakup of the company has potential for shareholder value creation and improved allocation of capital. We expect an enterprise value/adjusted EBITDA multiple rerating, owing to operational improvements, and a trade sale or IPO for lighting solutions in 2016.



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## Morningstar Analyst Forecasts

Financial Summary and Forecasts Fiscal Year Ends in December						Forecast	
	3-Year					7 07 00 00 01	5-Year
Growth (% YoY)	Hist. CAGR	2013	2014	2015	2016	2017	Proj. CAGR
Revenue	-0.7	-11.3	-2.7	13.3	2.0	2.4	2.6
EBIT	-1.3	82.8	-74.0	102.9	81.9	17.9	20.3
EBITDA	-2.2	26.0	-45.2	35.6	36.2	9.8	10.1
Net Income	10.1	158.3	-71.1	78.9	90.3	4.0	17.1
Diluted EPS	10.3	159.6	-71.1	78.9	90.1	4.0	17.1
Earnings Before Interest, after Tax	28.9	168.2	-26.3	8.4	4.0	0.1	1.4
Free Cash Flow	-48.8	-38.8	51.1	-85.5	818.1	-3.1	53.6
	3-Year						5-Year
Profitability	Hist. Avg	2013	2014	2015	2016	2017	Proj. Avg
Operating Margin %	5.0	8.6	2.3	4.1	7.3	8.4	8.5
EBITDA Margin %	10.4	13.9	7.8	9.4	12.5	13.4	13.3
Net Margin %	3.3	5.5	1.6	2.6	4.8	4.9	4.9
Free Cash Flow Margin %	4.1	4.5	7.0	0.9	8.0	7.6	7.2
ROIC %	12.7	16.6	10.5	10.9	10.6	13.3	13.9
Adjusted ROIC %	23.4	30.4	19.3	20.6	22.2	31.4	33.5
Return on Assets %	2.6	4.2	1.5	2.2	3.9	4.0	4.0
Return on Equity %	6.7	10.5	3.7	5.9	10.3	10.6	10.6
	3-Year						5-Year
Leverage	Hist. Avg	2013	2014	2015	2016	2017	Proj. Avg
Debt/Capital	0.29	0.26	0.27	0.33	0.33	0.33	0.32
Total Debt/EBITDA	2.09	1.27	2.45	2.53	1.86	1.70	1.67
EBITDA/Interest Expense	5.52	7.65	4.04	4.87	8.39	9.21	9.39

Valuation Summary and Forecasts										
•	2014	2015	2016(E)	2017(E)						
Price/Fair Value	0.89	_	_	_						
Price/Earnings	63.1	34.6	20.4	19.7						
EV/EBITDA	14.6	11.6	9.2	8.4						
EV/EBIT	50.2	26.7	15.7	13.4						
Free Cash Flow Yield %	2.3	1.5	6.8	6.7						
Dividend Yield %	1.3	1.4	3.0	3.0						
Kev Valuation Drivers										

Key Valuation Drivers	
Cost of Equity %	9.0
Pre-Tax Cost of Debt %	6.5
Weighted Average Cost of Capital %	8.2
Long-Run Tax Rate %	30.0
Stage II EBI Growth Rate %	3.0
Stage II Investment Rate %	14.0
Perpetuity Year	15

Additional estimates and scenarios available for download at http://select.morningstar.com.

Discounted Cash Flow Valuation			
	FUR Mil	Firm Value (%)	Per Share Value
Present Value Stage I	7,481	25.6	8.29
Present Value Stage II	10,071	34.5	11.16
Present Value Stage III	11,657	39.9	12.91
Total Firm Value	29,208	100.0	32.36
Cash and Equivalents	1,766	_	1.96
Debt	-5,760	_	-6.38
Preferred Stock	_	_	_
Other Adjustments	-188	_	-0.21
Equity Value	25,026	_	27.72
Projected Diluted Shares	903		
Fair Value per Share (EUR)	_		

The data in the table above represent base-case forecasts in the company's reporting currency as of the beginning of the current year. Our fair value estimate may differ from the equity value per share shown above due to our time value of money adjustment and in cases where probability-weighted scenario analysis is performed.

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## Morningstar Analyst Forecasts

Income Statement (EUR Mil) Fiscal Year Ends in December				Fore	ecast
risear rear Enas in December	2013	2014	2015	2016	2017
Revenue	21,990	21,391	24,244	24,728	25,318
Cost of Goods Sold	12,653	13,185	14,388	14,675	15,026
Gross Profit	9,337	8,206	9,856	10,053	10,293
Selling, General & Administrative Expenses	5,882	5,871	7,024	7,164	7,335
Research & Development	1,659	1,635	1,927	1,965	2,012
Other Operating Expense (Income)	-87	211	-87	-882	-1,183
Depreciation & Amortization (if reported separately)	_	_	_	_	_
Operating Income (ex charges)	1,883	489	992	1,805	2,128
Restructuring & Other Cash Charges	_	_	_	_	_
Impairment Charges (if reported separately)	28	3	_	_	_
Other Non-Cash (Income)/Charges		_		_	
Operating Income (incl charges)	1,855	486	992	1,805	2,128
Interest Expense	400	415	467	369	369
Interest Income	70	114	98		
Pre-Tax Income	1,525	185	623	1,436	1,759
Income Tax Expense	466	26	239	239	514
Other After-Tax Cash Gains (Losses)	138	190	245	_	_
Other After-Tax Non-Cash Gains (Losses)	-25	62	30	_	_
(Minority Interest)	_	_	_	_	_
(Preferred Dividends)	_	_	_	_	_
Net Income	1,172	411	659	1,197	1,245
Weighted Average Diluted Shares Outstanding	922	923	923	924	924
Diluted Earnings Per Share	1.27	0.45	0.71	1.30	1.35
Adjusted Net Income	1,216	352	629	1,197	1,245
Diluted Earnings Per Share (Adjusted)	1.32	0.38	0.68	1.30	1.35
Dividends Per Common Share	0.75	0.80	0.80	0.80	0.80
EBITDA	3,032	1,673	2,273	3,095	3,398
Adjusted EBITDA	3,060	1,676	2,273	3,095	3,398



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## Morningstar Analyst Forecasts

11,227	10,968	11,780	11,738	11,992
13	101	118	118	118
11,214	10,867	11,662	11,620	11,874
-467	256	1,130	1,130	1,130
-718	-547	-363	-863	-1,113
10,415	8,790	8,040	8,498	9,002
1,796	2,181	2,669	2,669	2,669
188	187	186	186	186
_	_	_	_	_
15,332	17,384	19,197	19,250	19,315
· · · · · · · · · · · · · · · · · · ·		2,477	2,477	2,477
1,903	2,500	2,392	2,392	2,392
76	107	165	165	165
3,309	3,712	4,095	4,095	4,095
8,476	8,676	10,068	10,121	10,186
5,422	5,785	5,730	5,730	5,730
_	_	_	_	_
592	392	1,665	1,665	1,665
2,462	2,499	2,673	2,726	2,791
26,559	28,352	30,976	30,988	31,308
657	619	670	670	670
207	261	317	317	317
1,675	2,460	2,758	2,758	2,758
3,262	3,368	3,693	3,003	2,313
6,504	7,158	8,523	8,523	8,523
2,780	2,095	2,322	2,422	2,559
11,474	12,391	12,693	13,295	14,168
1,091	2,481	2,482	2,482	2,482
_	_	_	_	_
3,240	3,314	3,463	3,532	3,616
4,678	4,723	4,982	5,081	5,203
_	_	_	_	_
2,465	1,873	1,766	2,200	2,867
2013	2014	2015	2016	2017
	2,465 — 4,678 3,240 — 1,091 11,474  2,780 6,504 3,262 1,675 207 657  26,559  2,462 592 — 5,422 8,476  3,309 76 1,903 1,568 15,332 — 188 1,796 10,415 —718 —467 11,214	2,465       1,873         —       —         4,678       4,723         3,240       3,314         —       —         1,091       2,481         11,474       12,391         2,780       2,095         6,504       7,158         3,262       3,368         1,675       2,460         207       261         657       619         26,559       28,352         2,462       2,499         592       392         —       —         5,422       5,785         8,476       8,676         3,309       3,712         76       107         1,903       2,500         1,568       2,389         15,332       17,384         —       —         188       187         1,796       2,181         10,415       8,790         -718       -547         -467       256         11,214       10,867	2,465       1,873       1,766         —       —       —         4,678       4,723       4,982         3,240       3,314       3,463         —       —       —         1,091       2,481       2,482         11,474       12,391       12,693         2,780       2,095       2,322         6,504       7,158       8,523         3,262       3,368       3,693         1,675       2,460       2,758         207       261       317         657       619       670         26,559       28,352       30,976         2,462       2,499       2,673         592       392       1,665         —       —       —         5,422       5,785       5,730         8,476       8,676       10,068         3,309       3,712       4,095         76       107       165         1,903       2,500       2,392         1,568       2,389       2,477         15,332       17,384       19,197         —       —       —         188       187 <td>2,465       1,873       1,766       2,200         —       —       —       —         4,678       4,723       4,982       5,081         3,240       3,314       3,463       3,532         —       —       —       —         1,091       2,481       2,482       2,482         11,474       12,391       12,693       13,295         2,780       2,095       2,322       2,422         6,504       7,158       8,523       8,523         3,262       3,368       3,693       3,003         1,675       2,460       2,758       2,758         207       261       317       317         657       619       670       670         26,559       28,352       30,976       30,988         2,462       2,499       2,673       2,726         592       392       1,665       1,665         —       —       —       —         5,422       5,785       5,730       5,730         8,476       8,676       10,068       10,121         3,309       3,712       4,095       4,095         76</td>	2,465       1,873       1,766       2,200         —       —       —       —         4,678       4,723       4,982       5,081         3,240       3,314       3,463       3,532         —       —       —       —         1,091       2,481       2,482       2,482         11,474       12,391       12,693       13,295         2,780       2,095       2,322       2,422         6,504       7,158       8,523       8,523         3,262       3,368       3,693       3,003         1,675       2,460       2,758       2,758         207       261       317       317         657       619       670       670         26,559       28,352       30,976       30,988         2,462       2,499       2,673       2,726         592       392       1,665       1,665         —       —       —       —         5,422       5,785       5,730       5,730         8,476       8,676       10,068       10,121         3,309       3,712       4,095       4,095         76



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## Morningstar Analyst Forecasts

Cash Flow (EUR Mil)				Fore	caet
Fiscal Year Ends in December	2013	2014	2015	2016	2017
Net Income	1,034	221	414	1,197	1,245
Depreciation	521	592	582	600	580
Amortization	656	595	699	690	690
Stock-Based Compensation	_	_	_	_	_
Impairment of Goodwill	38	21	48	_	_
Impairment of Other Intangibles	_	_	_	_	_
Deferred Taxes	_	_	_	_	_
Other Non-Cash Adjustments	-23	-60	-41	_	_
(Increase) Decrease in Accounts Receivable	-486	-75	161	-99	-121
(Increase) Decrease in Inventory	-165	-77	22	-69	-84
Change in Other Short-Term Assets	_	_	_	_	_
Increase (Decrease) in Accounts Payable	-516	464	-116	53	65
Change in Other Short-Term Liabilities	-147	-378	-602	_	_
Cash From Operations	912	1,303	1,167	2,372	2,374
(Capital Expenditures)	-830	-806	-842	-700	-717
Net (Acquisitions), Asset Sales, and Disposals	68	-197	-1,059	_	_
Net Sales (Purchases) of Investments	_	_	_		_
Other Investing Cash Flows	-100	19	-40	_	_
Cash From Investing	-862	-984	-1,941	-700	-717
Common Stock Issuance (or Repurchase)	-562	-596	-425	-500	-250
Common Stock (Dividends)	-272	-292	-298	-739	-741
Short-Term Debt Issuance (or Retirement)	-285	-37	1,241	_	_
Long-Term Debt Issuance (or Retirement)	-122	-264	-10	_	_
Other Financing Cash Flows	_	_	_	_	_
Cash From Financing	-1,241	-1,189	508	-1,239	-991
Exchange Rates, Discontinued Ops, etc. (net)	-178	278	159	_	_
Net Change in Cash	-1,369	-592	-107	433	667



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## **Comparable Company Analysis**

These companies are chosen by the analyst and the data are shown by nearest calendar year in descending market capitalization order.

Valuation Analysis																
		Price/Ea	rnings		EV/EBITD	Α		Price/Fr	ee Cash Flo	w	Price/Bo	ok		Price/Sa	ales	
Company/Ticker	Price/Fair Value	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)
General Electric Co GE USA	1.04	23.8	20.8	18.4	24.6	12.1	11.4	38.6	24.9	18.6	3.0	3.2	3.6	2.5	2.2	2.2
Siemens AG SIE DEU	1.03	12.5	14.0	13.0	8.3	7.8	7.6	13.7	18.1	16.2	1.9	2.4	2.2	0.9	1.1	1.0
Average		18.2	17.4	15.7	16.5	10.0	9.5	26.2	21.5	17.4	2.5	2.8	2.9	1.7	1.7	1.6
Royal Philips NV PHIA NL	0.92	34.6	20.4	19.7	11.6	9.2	8.4	67.5	14.7	14.9	1.9	2.1	2.1	0.9	1.0	1.0

Returns Analysis																
		ROIC %			Adjusted	ROIC %		Return o	n Equity %		Return o	n Assets %		Dividend	J Yield %	
O	Last Historical Year Total Assets	2015	2010/51	2017/51	2015	2010/51	2017/5	2015	2010/51	2017/51	2015	2010/51	2017/51	2015	2010/51	2017/51
Company/Ticker	(Mil)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)
General Electric Co GE USA	492,692 USD	9.5	13.9	15.2	6.1	9.0	9.9	-5.4	13.3	16.3	-1.1	2.5	2.8	3.2	3.2	3.0
Siemens AG SIE DEU	120,347 EUR	17.7	16.3	16.3	33.8	31.7	30.7	22.3	16.6	16.8	6.5	4.9	5.1	4.2	3.2	3.2
Average		13.6	15.1	15.8	20.0	20.4	20.3	8.5	15.0	16.6	2.7	3.7	4.0	3.7	3.2	3.1
Royal Philips NV PHIA NL	<b>30,976</b> EUR	10.9	10.6	13.3	20.6	22.2	31.4	5.9	10.3	10.6	2.2	3.9	4.0	1.4	3.0	3.0

Growth Analysis																
		Revenue	Growth %		EBIT Gro	wth %		EPS Gro	wth %		Free Cas	h Flow Gro	wth %	Dividen	d/Share Gro	owth %
Company/Ticker	Last Historical Year Revenue (Mil)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)
General Electric Co GE USA	117,385 USD	0.2	7.5	1.7	-16.5	64.7	7.3	17.1	15.0	12.9	49.3	-70.2	-10.2	3.4	_	_
Siemens AG SIE DEU	75,636 EUR	6.2	5.5	4.5	1.2	29.8	4.6	5.4	19.1	7.8	-270.6	-217.3	13.1	6.1	_	_
Average		3.2	6.5	3.1	-7.7	47.3	6.0	11.3	17.1	10.4	-110.7	-143.8	1.5	4.8	_	_
Royal Philips NV PHIA NL	<b>24,244</b> EUR	13.3	2.0	2.4	102.9	81.9	17.9	78.9	90.1	4.0	-85.5	818.1	-3.1	-	_	0.2



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## **Comparable Company Analysis**

These companies are chosen by the analyst and the data are shown by nearest calendar year in descending market capitalization order.

Profitability Analysis																
	Leat I Patrick of Manager	Gross Ma	argin %		EBITDA I	/largin %		Operatin	g Margin %	Ď	Net Mar	gin %		Free Cas	h Flow Ma	rgin %
Company/Ticker General Electric Co GE USA	Last Historical Year Net Income (Mil) 13,110 USD	2015 22.2	2016(E) 23.7	2017(E) 28.3	2015 13.8	2016(E) 18.2	2017(E) 18.9		2016(E) 12.9	2017(E) 13.6	2015 11.2	2016(E) 11.4	2017(E) 12.0	2015 6.5	2016(E) 8.9	2017(E) 11.7
Siemens AG SIE DEU	5,252 EUR	28.9	29.1	29.5	13.0	16.0	15.8	9.6	11.8	11.9	6.9	7.4	7.6	6.2	6.0	6.4
Average		25.6	26.4	28.9	13.4	17.1	17.4	9.0	12.4	12.8	9.1	9.4	9.8	6.4	7.5	9.1
Royal Philips NV PHIA NL	<b>629</b> EUR	40.7	40.7	40.7	9.4	12.5	13.4	4.1	7.3	8.4	2.6	4.8	4.9	1.3	6.8	6.6

Leverage Analysis		Debt/Equ	ity %		Debt/Tota	al Cap %		EBITDA/	nterest Exp	р.	Total Del	ot/EBITDA		Assets/E	equity	
Company/Ticker General Electric Co GE USA	Last Historical Year Total Debt (Mil) 195,193 USD	2015 198.6	2016(E) 225.0	2017(E) 261.1	2015 66.5	2016(E) 69.2	2017(E) 72.3	2015 9.5	2016(E) 12.4	2017(E) 13.1	2015 12.0	2016(E) 8.5	2017(E) 8.3	2015 5.0	2016(E) 5.6	2017(E) 6.2
Siemens AG SIE DEU	29,661 EUR	86.0	80.9	75.5	46.3	44.7	43.0	7.5	_	_	3.0	2.3	2.3	3.5	3.4	3.2
Average		142.3	153.0	168.3	56.4	57.0	57.7	8.5	12.4	13.1	7.5	5.4	5.3	4.3	4.5	4.7
Royal Philips NV PHIA NL	<b>5,760</b> EUR	49.4	49.6	48.5	33.1	33.1	32.7	4.9	8.4	9.2	2.5	1.9	1.7	2.7	2.7	2.6

Liquidity Analysis																
	Market Cap	Cash per	Share		Current F	latio		Quick Ra	ntio		Cash/Sh	ort-Term D	ebt	Payout F	Ratio %	
Company/Ticker	(Mil)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)
General Electric Co GE USA	279,591 USD	7.04	6.62	6.60	1.58	1.53	1.51	1.37	1.31	1.30	1.41	1.27	1.20	-150.0	71.8	63.0
Siemens AG SIE DEU	86,240 EUR	12.10	13.33	14.57	1.30	1.34	1.39	0.86	0.89	0.92	3.34	3.48	3.80	39.6	46.1	42.7
Average		9.57	9.98	10.59	1.44	1.44	1.45	1.12	1.10	1.11	2.38	2.38	2.50	-55.2	59.0	52.9
Royal Philips NV PHIA NL	<b>24,643</b> EUR	1.91	2.38	3.10	1.26	1.31	1.39	0.92	0.96	1.04	1.06	1.32	1.72	112.0	61.7	59.5

### **Research Methodology for Valuing Companies**



#### Overview

At the heart of our valuation system is a detailed projection of a company's future cash flows, resulting from our analysts' research. Analysts create custom industry and company assumptions to feed income statement, balance sheet, and capital investment assumptions into our globally standardized, proprietary discounted cash flow, or DCF, modeling templates. We use scenario analysis, in-depth competitive advantage analysis, and a variety of other analytical tools to augment this process. Moreover, we think analyzing valuation through discounted cash flows presents a better lens for viewing cyclical companies, high-growth firms, businesses with finite lives (e.g., mines), or companies expected to generate negative earnings over the next few years. That said, we don't dismiss multiples altogether but rather use them as supporting cross-checks for our DCF-based fair value estimates. We also acknowledge that DCF models offer their own challenges (including a potential proliferation of estimated inputs and the possibility that the method may miss short-term market-price movements), but we believe these negatives are mitigated by deep analysis and our long-term approach.

Morningstar, Inc. and its affiliates ("Morningstar", "we", "our") believes that a company's intrinsic worth results from the future cash flows it can generate. The Morningstar Rating for stocks identifies stocks trading at a discount or premium to their intrinsic worth—or fair value estimate, in Morningstar terminology. Five-star stocks sell for the biggest risk-adjusted discount to their fair values, whereas 1-star stocks trade at premiums to their intrinsic worth.

Four key components drive the Morningstar rating: (1) our assessment of the firm's economic moat, (2) our estimate of the stock's fair value, (3) our uncertainty around that fair value estimate

and (4) the current market price. This process ultimately culminates in our single-point star rating.

### 1. Economic Moat

The concept of an economic moat plays a vital role not only in our qualitative assessment of a firm's long-term investment potential, but also in the actual calculation of our fair value estimates. An economic moat is a structural feature that allows a firm to sustain excess profits over a long period of time. We define economic profits as returns on invested capital (or ROIC) over and above our estimate of a firm's cost of capital, or weighted average cost of capital (or WACC). Without a moat, profits are more susceptible to competition. We have identified five sources of economic moats: intangible assets, switching costs, network effect, cost advantage, and efficient scale.

Companies with a narrow moat are those we believe are more likely than not to achieve normalized excess returns for at least the next 10 years. Wide-moat companies are those in which we have very high confidence that excess returns will remain for 10 years, with excess returns more likely than not to remain for at least 20 years. The longer a firm generates economic profits, the higher its intrinsic value. We believe low-quality, no-moat companies will see their normalized returns gravitate toward the firm's cost of capital more quickly than companies with moats.

To assess the sustainability of excess profits, analysts perform ongoing assessments of the moat trend. A firm's moat trend is positive in cases where we think its sources of competitive advantage are growing stronger; stable where we don't anticipate changes to competitive advantages over the next several years; or negative when we see signs of deterioration.

### 2. Estimated Fair Value

Combining our analysts' financial forecasts with the firm's economic moat helps us assess how long returns on invested capital are likely to exceed the firm's cost of

capital. Returns of firms with a wide economic moat rating are assumed to fade to the perpetuity period over a longer period of time than the returns of narrow-moat firms, and both will fade slower than no-moat firms, increasing our estimate of their intrinsic value.

Our model is divided into three distinct stages:

### Stage I: Explicit Forecast

In this stage, which can last five to 10 years, analysts make full financial statement forecasts, including items such as revenue, profit margins, tax rates, changes in working-capital accounts, and capital spending. Based on these projections, we calculate earnings before interest, after taxes (EBI) and the net new investment (NNI) to derive our annual free cash flow forecast.

### Stage II: Fade

The second stage of our model is the period it will take the company's return on new invested capital—the return on capital of the next dollar invested ("RONIC")to decline (or rise) to its cost of capital. During the Stage Il period, we use a formula to approximate cash flows in lieu of explicitly modeling the income statement, balance sheet, and cash flow statement as we do in Stage I. The length of the second stage depends on the strength of the company's economic moat. We forecast this period to last anywhere from one year (for companies with no economic moat) to 10-15 years or more (for wide-moat companies). During this period, cash flows are forecast using four assumptions: an average growth rate for EBI over the period, a normalized investment rate, average return on new invested capital (RONIC), and the number of years until perpetuity, when excess returns cease. The investment rate and return on new invested capital decline until a perpetuity value is calculated. In the case of firms that do not earn their cost of capital, we assume marginal ROICs rise to the firm's cost of capital (usually attributable to less reinvestment), and we may truncate the second stage.

### Stage III: Perpetuity

Once a company's marginal ROIC hits its cost of capital, we calculate a continuing value, using a standard perpetuity formula. At perpetuity, we assume that any growth or decline or investment in the business neither creates nor destroys value and that any new investment provides a return in line with estimated WACC.

Because a dollar earned today is worth more than a dollar earned tomorrow, we discount our projections of cash flows in stages I, II, and III to arrive at a total pres-

Morningstar Research Methodology for Valuing Companies

Economic Moat
Financial Health
Stewardship
Uncertainty
Moat Trend

Morningstar Fair Value
Market Pricing
Morningstar Rating™ For Stocks
★★★★★

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### **Research Methodology for Valuing Companies**



ent value of expected future cash flows. Because we are modeling free cash flow to the firm—representing cash available to provide a return to all capital providers—we discount future cash flows using the WACC, which is a weighted average of the costs of equity, debt, and preferred stock (and any other funding sources), using expected future proportionate long-term, market-value weights.

### 3. Uncertainty around that fair value estimate

Morningstar's Uncertainty Rating captures a range of likely potential intrinsic values for a company and uses it to assign the margin of safety required before investing, which in turn explicitly drives our stock star rating system. The Uncertainty Rating represents the analysts' ability to bound the estimated value of the shares in a company around the Fair Value Estimate, based on the characteristics of the business underlying the stock, including operating and financial leverage, sales sensitivity to the overall economy, product concentration, pricing power, and other company-specific factors.

Analysts consider at least two scenarios in addition to their base case: a bull case and a bear case. Assumptions are chosen such that the analyst believes there is a 25% probability that the company will perform better than the bull case, and a 25% probability that the company will perform worse than the bear case. The distance between the bull and bear cases is an important indicator of the uncertainty underlying the fair value estimate.

Our recommended margin of safety widens as our uncertainty of the estimated value of the equity increases. The more uncertain we are about the estimated value of the equity, the greater the discount we require relative to our estimate of the value of the firm before we would recommend the purchase of the shares. In addition, the uncertainty rating provides guidance in portfolio construction based on risk tolerance.

Our uncertainty ratings for our qualitative analysis are low, medium, high, very high, and extreme.

► Low: margin of safety for 5-star rating is a 20% discount and for 1-star rating is 25% premium.

- ► **Medium:** margin of safety for 5-star rating is a 30% discount and for 1-star rating is 35% premium.
- ► **High:** margin of safety for 5-star rating is a 40% discount and for 1-star rating is 55% premium.
- ► **Very High:** margin of safety for 5-star rating is a 50% discount and for 1-star rating is 75% premium.
- ► Extreme: Stock's uncertainty exceeds the parameters we have set for assigning the appropriate margin of safety.

#### 4. Market Price

The market prices used in this analysis and noted in the report come from exchange on which the stock is listed which we believe is a reliable source.

For more detail information about our methodology, please go to http://global.morningstar.com/equitydisclosures

### **Morningstar Star Rating for Stocks**

Once we determine the fair value estimate of a stock, we compare it with the stock's current market price on a daily basis, and the star rating is automatically re-calculated at the market close on every day the market on which the stock is listed is open. Our analysts keep close tabs on the companies they follow, and, based on thorough and ongoing analysis, raise or lower their fair value estimates as warranted.

Please note, there is no predefined distribution of stars. That is, the percentage of stocks that earn 5 stars can fluctuate daily, so the star ratings, in the aggregate, can serve as a gauge of the broader market's valuation. When there are many 5-star stocks, the stock market as

a whole is more undervalued, in our opinion, than when very few companies garner our highest rating.

We expect that if our base-case assumptions are true the market price will converge on our fair value estimate over time, generally within three years (although it is impossible to predict the exact time frame in which market prices may adjust).

Our star ratings are guideposts to a broad audience and individuals must consider their own specific investment goals, risk tolerance, tax situation, time horizon, income needs, and complete investment portfolio, among other factors.

The Morningstar Star Ratings for stocks are defined below:

### Five Stars \*\*\*\*

We believe appreciation beyond a fair risk-adjusted return is highly likely over a multiyear time frame. Scenario analysis developed by our analysts indicates that the current market price represents an excessively pessimistic outlook, limiting downside risk and maximizing upside potential.

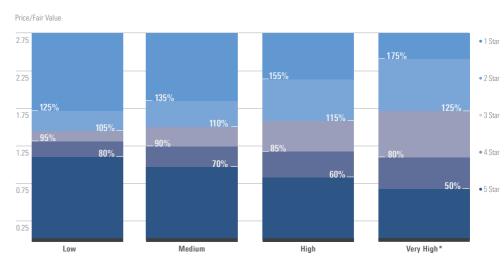
### Four Stars ★★★★

We believe appreciation beyond a fair risk-adjusted return is likely.

### Three Stars ★★★

Indicates our belief that investors are likely to receive a fair risk-adjusted return (approximately cost of equity).

### Morningstar Research Methodology for Valuing Companies



<sup>\*</sup> Occasionally a stock's uncertainty will be too high for us to estimate, in which case we label it Extreme.

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### **Research Methodology for Valuing Companies**



### Two Stars ★★

We believe investors are likely to receive a less than fair risk-adjusted return.

### One Star ★

Indicates a high probability of undesirable riskadjusted returns from the current market price over a multiyear time frame, based on our analysis. Scenario analysis by our analysts indicates that the market is pricing in an excessively optimistic outlook, limiting upside potential and leaving the investor exposed to Capital loss.

Other Definitions:

**Last Price:** Price of the stock as of the close of the market of the last trading day before date of the report.

Stewardship Rating: Represents our assessment of management's stewardship of shareholder capital, with particular emphasis on capital allocation decisions. Analysts consider companies' investment strategy and valuation, financial leverage, dividend and share buyback policies, execution, compensation, related party transactions, and accounting practices. Corporate governance practices are only considered if they've had a demonstrated impact on shareholder value. Analysts assign one of three ratings: "Exemplary," "Standard," and "Poor." Analysts judge stewardship from an equity holder's perspective. Ratings are determined on an absolute basis. Most companies will receive a Standard rating, and this is the default rating in the absence of evidence that managers have made exceptionally strong or poor capital allocation decisions.

**Quantitative Valuation:** Using the below terms, intended to denote the relationship between the security's Last Price and Morningstar's quantitative fair value estimate for that security.

- ► **Undervalued:** Last Price is below Morningstar's quantitative fair value estimate.
- ► Farily Valued: Last Price is in line with Morningstar's quantitative fair value estimate.
- ► Overvalued: Last Price is above Morningstar's quantitative fair value estimate.

### Risk Warning

Please note that investments in securities are subject to market and other risks and there is no assurance or guarantee that the intended investment objectives will be achieved. Past performance of a security may or may not be sustained in future and is no indication of future performance. A security investment return and an investor's principal value will fluctuate so that, when redeemed, an investor's shares may be worth more or less than their original cost. A security's current investment performance may be lower or higher than the investment performance noted within the report. Morningstar's Uncertainty Rating serves as a useful data point with respect to sensitivity analysis of the assumptions used in our determining a fair value price.



 Last Price
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 Uncertainty
 Economic Moat™
 Moat Trend™
 Stewardship
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 29.00 EUR
 Medium
 Narrow
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 Standard
 Industrial Products



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Last Price	Fair Value	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Industry Group
26.57 EUR	29.00 EUR	Medium	Narrow	Stable	Standard	Industrial Products

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