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Credit Summary: Ingersoll-Rand PLC (BBB+, stable)
Ambient profitability gains underpin IR's credit rating.

Morningstar Credit Ratings, LLC
4 October 2018

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Rating Rationale

Morningstar Credit Ratings, LLC, assigns Ingersoll-Rand PLC a corporate credit rating of BBB+ with a stable outlook. Our rating for Ingersoll-Rand reflects its moderate its Business Risk and Cash Flow Cushion scores, and a strong Solvency Score. Despite record results thus far in 2018, we are assigning a stable outlook for Ingersoll-Rand, as we expect that the company's credit profile will remain unchanged over the coming years. Ingersoll-Rand has earned a narrow economic moat from Morningstar's Equity Research Group due to its collection of brand names such as Trane, difficult-to-replicate distribution in HVAC, and cost advantages in its non-HVAC businesses. These benefits are slightly offset by its exposure to the general industrial economy and the resulting cyclicality, but its 32% service-oriented business softens the blow. Operational improvements have lifted operating margins and returns on invested capital nearly 300 basis points over the past few years. Specifically, returns on invested capital of around 13%, an average total-liabilities-to-total-asset ratio, and an interest coverage ratio projected to grow from 9.0 times to above 10.0 times underpin its strong Solvency Score. We project that Ingersoll-Rand will generate around $1.9 billion in average annual operating cash flow and reinvest roughly $340 million in the business. However, it has boosted its dividend payout ratio to 35%-40% from around 23% previously and is likely to increase its dividend more quickly than earnings. The firm has allocated the remaining cash flow for repurchases—running close to $1 billion for 2018—or M&A. Ingersoll-Rand faces a manageable maturity schedule during the next five years. Collectively, these factors hinder its Cash Flow Cushion score.

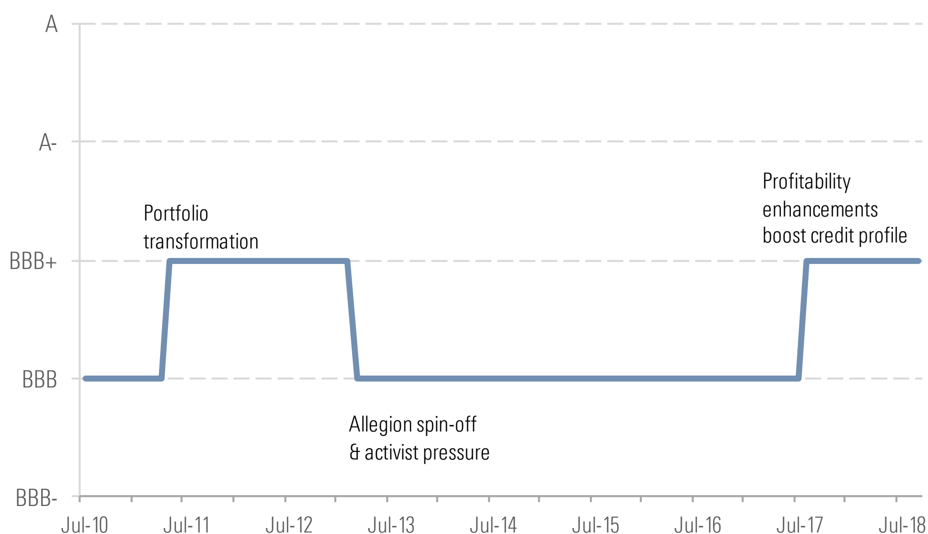
Key Takeaways

- Ingersoll-Rand's credit profile benefits from moderate Business Risk score. The pillar balances the company's strong brand names and defensible competitive advantage offset by selling products primarily into housing-and-construction-related markets and the associated uncertainty regarding its end markets.
- The decades long transformation out of heavy machinery, capital-intensive, and highly cyclical businesses has elevated its proportion of revenue parts and services revenue while bolstering its profitability and improving leverage.
- Ingersoll-Rand generously rewards shareholders, which constrains its rating. The firm has raised its dividend meaningfully over the last few years and returned significant amounts via repurchases.

Credit Rating History

- We initiated non-NRSRO coverage of Ingersoll-Rand July 2010, with a BBB rating. Our rating incorporated Ingersoll-Rand's market-leading brands and near completion of its transformation to a less-cyclical diversified industrial firm, but the rating was constrained by the 2008 $9.4 billion acquisition of Trane. The deal depleted the company's cash from its 2007 sale of Bobcat and added $3.7 billion of incremental debt, which increased leverage 2 turns to 3.2 times. Moreover, the fallout from the housing downturn resulted in a $3.7 billion impairment charge in 2008 and depressed EBITDA for the next few years.
- We upgraded Ingersoll-Rand one notch to BBB+ May 27, 2011, after the firm's metamorphosis into a more profitable, less-cyclical diversified industrial firm coupled with leverage improving 1 turn to 2.2 times as of March 31, 2011. The impressive earnings growth and free cash flow generation boosted the firm's Solvency Score.
- However, the improvement in credit quality was undone by the 2013 spin-off of its security business, Allegion, and the implementation, because of an activist investor's prodding, of shareholder-friendly initiatives, including a $2 billion share repurchase program and a substantially higher dividend. The firm also introduced leverage targets of 2.0 to 2.5 times, offsetting the 1.5 turns of deleveraging that followed the Trane deal. These factors led to a deterioration in the Solvency Score and Cash Flow Cushion and to our March 6, 2013, downgrade to BBB.
- We upgraded Ingersoll-Rand to BBB+ on Aug. 17, 2017, because of the continued improvement in the firm's profitability metrics and a relatively benign leverage profile.

Exhibit 1 Ingersoll-Rand PLC Credit Rating History



Source: Morningstar Credit Rating, LLC

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Pillar Analysis

Exhibit 2 Ingersoll-Rand PLC Credit Pillar Summary

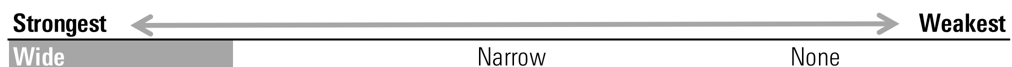
Current Rating: BBB+	Strongest									Weakest
Rating Pillars	1	2	3	4	5	6	7	8	9	10
Business Risk										
Cash Flow Cushion										
Solvency Score										
Distance to Default										

Source: Morningstar Credit Ratings, LLC

Please refer to the appendix for a full description of the rating pillars.

- **Business Risk** (5): Overall, Ingersoll-Rand's business risk benefits from its large size, narrow economic moat rating assigned by Morningstar's Equity Research Group, and its high uncertainty rating. However, we think that the firm's business quality is slightly below its peers given its lower services component and its historically weak operating performance. Moreover, although the firm generates ample operating cash flow, the firm's dependency on capital markets is affected by its commitment to return cash to shareholders and pursue tuck-in acquisitions.
  - **Size** (very large): We project that Ingersoll-Rand will generate $15.7 billion in 2018 revenue. Going forward, we expect that the firm will grow revenue approximately 5% per year, driven primarily by organic growth, but expect tuck-in acquisitions to add nearly 100 basis points to growth.

  - **Economic moat** (narrow): Morningstar's Equity Research Group has awarded Ingersoll-Rand a narrow economic moat rating because of its strong brand name and customer switching costs. The firm's brands Trane and American Standard are well known in the HVAC industry and have been around for 100 years.



  - **Uncertainty** (high): Ingersoll-Rand has a high uncertainty rating due to its reliance on housing, construction, and HVAC-related industries. These segments represent 63% of annual sales.

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- **Product/customer concentration** (concentrated): Ingersoll-Rand is not reliant on any specific customer for its annual sales—no customer is responsible for more than 10% of revenue. But, it sells primarily into the construction market while its remaining businesses are tied to cyclical transport refrigeration market (15% of sales) and general industrial-related sectors.

- **Management** (neutral): Management has done a commendable job of improving profitability and capital efficiencies during the recent cycle. The firm is also committed to maintaining an investment-grade credit rating. However, this is offset by its willingness to return most of its cash to shareholders via a growing dividend and share repurchases, while its dynamic capital allocation policy will enable the firm to pursue acquisitions should the appropriate opportunity present itself.

- **Dependence on capital markets** (low dependence): We forecast that Ingersoll-Rand will generate sufficient cash flow per year over our forecast period to meet all of its debt and debtlike obligations an average of 3.0 times. Although 2018 is the weakest year because of the $1.1 billion in debt maturities and our projection of $900 million in share repurchases, the coverage metric is still an impressive 2.4 times.

- **Cyclicality** (average cyclicality): Ingersoll-Rand benefits from its service business, approximately 33% of revenue, that helps reduce its dependence on the residential and general industrial markets. However, this component is on the lower side of some diversified industrial peers, and we think its exposure to electric cars (5% of sales) is a negative.

- **Cash Flow Cushion** (6): We forecast that Ingersoll-Rand will generate average operating cash flow of around $1.9 billion per year over our forecast period. As is common with many diversified industrial companies, Ingersoll-Rand requires minimal reinvestment needs of around $340 million (1% to 2% of sales) each year to fund its growth, although it requires working capital needs of approximately $500 million (around 4% of sales) annually. Management will look to grow its $430 million dividend at least in line with earnings, while using the remaining cash flow in a combination of repurchases and tuck-in acquisitions. Having already redeemed its $350 million 2019 maturity in early 2018, the company owes a negligible amount in 2019, $308 million in 2020, $433 million in 2021, and a de minis amount in 2022.

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The firm also has $343 million worth of currently puttable debentures included as current maturities that otherwise mature between 2027 and 2028.

Exhibit 3 Ingersoll-Rand Cash Flow Cushion ($s in millions)

Projections	Cumulative
Beginning Cash Balance	1,549
Adjusted Cash Flow from Operations	6,582
Available Cash	8,131
Debt and Debt-like Obligations	(5,126)
Cash Flow Cushion Coverage	1.6x

Source: Morningstar Credit Rating, LLC

- **Solvency Score** (4): Ingersoll-Rand's strong Solvency Score is the result of years-in-the-making progress. Ingersoll-Rand worked to shed volatile businesses and transform itself into a more traditional diversified industrial company that produces envious parts and services revenue from a large installed base. During this span, the operating margin improvement permeated down to better returns on invested capital while expanding EBITDAR coverage. However, a moderately leveraged capital structure with a TL/TA ratio of 64% works to slightly constrain the score. We expect the score to remain the same over the next few years, and it contributes to our stable outlook.

Exhibit 4 Ingersoll-Rand Solvency Score

Solvency Score Metrics	2018E	2019E
TL/TA	64.2%	65.8%
Quick Ratio	1.0x	1.1x
ROIC	12.9%	13.8%
EBITDAR Interest Coverage	9.0x	10.0x
Solvency Score	4	4

Source: Morningstar Credit Rating, LLC

- **Distance to Default** (3): Ingersoll-Rand has an enterprise of $28 billion compared with a total debt balance of $4.3 billion, providing debtholders with a substantial equity cushion. The firm's shares have exhibited slightly more volatility compared with the S&P 500 over the last year, although its equity value has slightly outperformed during this span.

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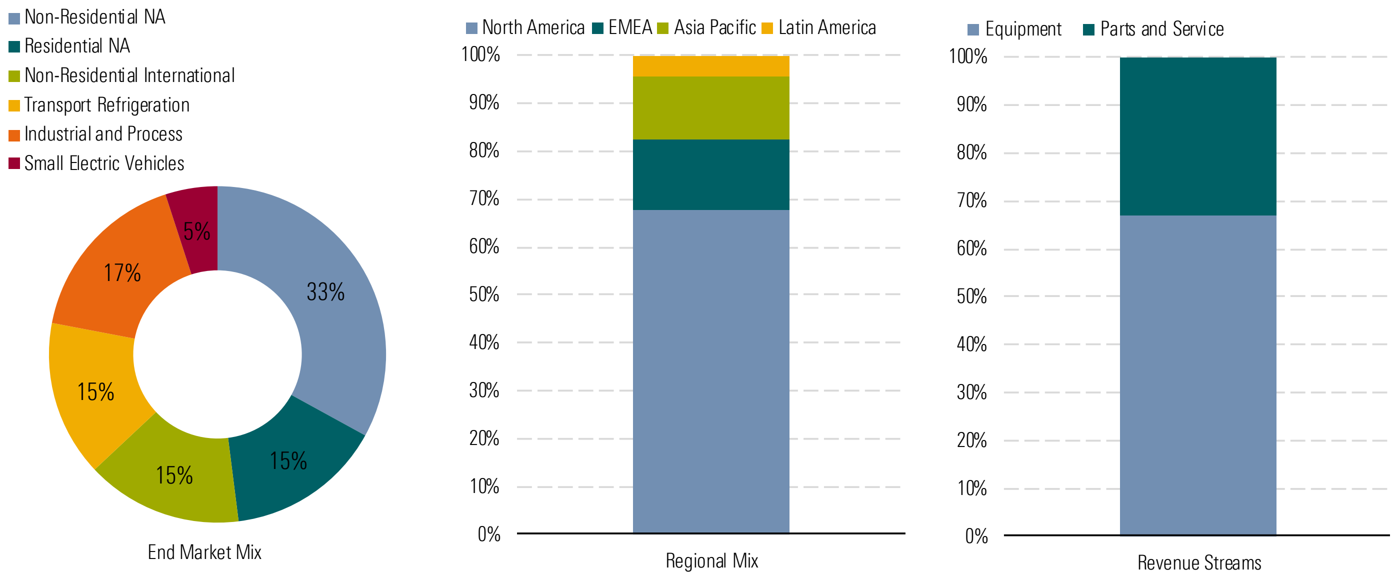
Ingersoll-Rand Overview

Company Description

Ingersoll-Rand is a global diversified industrial company that provides products and services that promote energy efficiency and improve industrial productivity. The firm operates two segments: climate, which is 79% of sales, and industrial. Ingersoll-Rand generates nearly 70% of its revenue from North America and generates 67% of its sales from equipment. The company expects organic revenue to expand at a 4% to 4.5% compound annual growth rate between now and 2020 as it looks to capitalize on key trends in energy consumption, urbanization, food and water scarcity, climate change, and industrial productivity and efficiency.

Exhibit 5 Ingersoll-Rand's Portfolio at a Glance



Source: Company 2018 investor presentation, Morningstar Credit Ratings, LLC

Climate Segment

The climate segment generated $12.2 billion in revenue in 2017 through three primary end markets: commercial HVAC, residential HVAC, and transport refrigeration. The firm's leading brands include Trane and Thermocold in commercial, Trane and American Standard in residential, and Thermo King in transport refrigeration.

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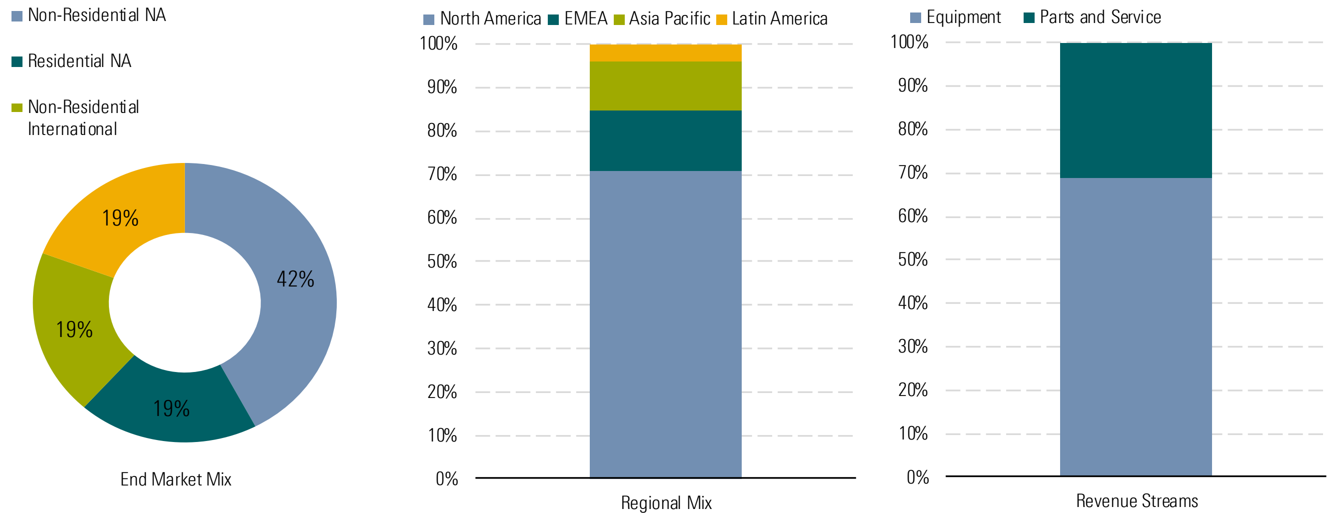
Exhibit 6 Climate Segment at a Glance

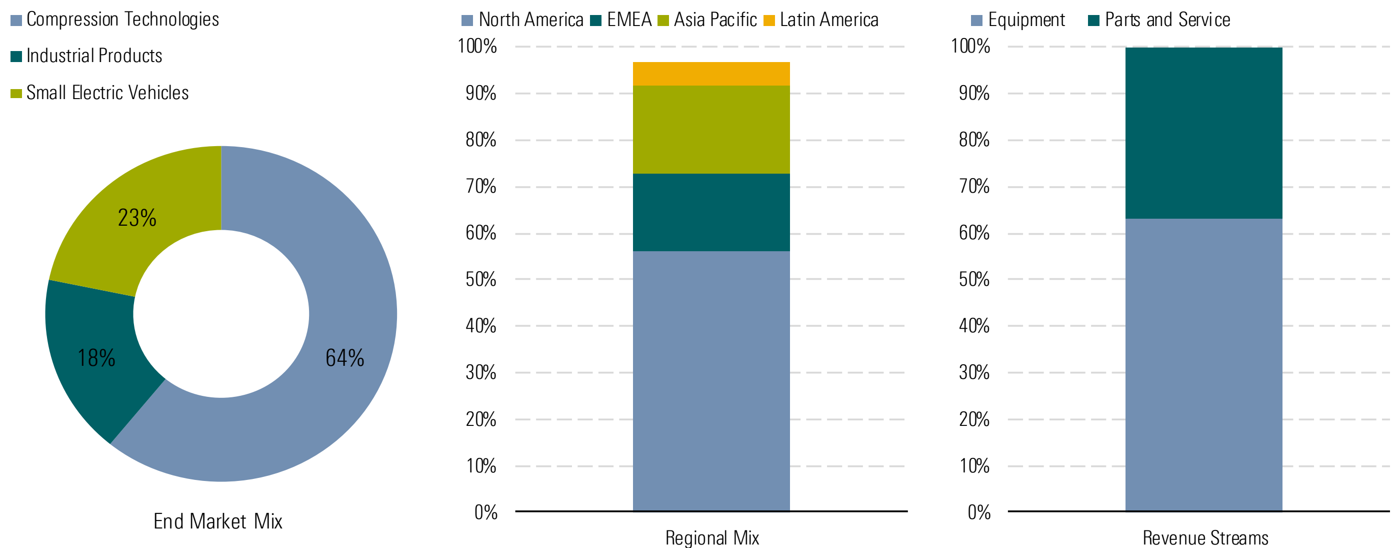


Source: Company 2018 investor presentation, Morningstar Credit Ratings, LLC

Industrial Segment

The industrial segment produced $3 billion in 2017 revenue. The firm's products include compression technologies and services sold under the Ingersoll-Rand brand, power tools, fluid management products like pumps and material handling sold under ARO and Ingersoll-Rand brand names, and small electrical vehicles for golf and commercial and utility transportation sold under the Club Car name. The firm believes this segment has a $28 billion total addressable market and expects growth in the low- to midsingle digits over the next few years.

Exhibit 7 Industrial Segment at a Glance



Source: Company 2018 investor presentation, Morningstar Credit Ratings, LLC

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Capital Structure and Liquidity Analysis

Ingersoll-Rand operates with a relatively straightforward capital structure composed mostly of U.S. dollar-denominated senior unsecured debt with maturity dates ranging from 2020 through 2048. Ingersoll-Rand held $970 million in cash compared with $4.3 billion of debt as of June 30, 2018, and is currently operating with 2.0 times gross leverage. Ingersoll-Rand supplements its short-term liquidity needs with a commercial paper program backstopped by two $1 billion revolving credit facilities that mature in 2021 and 2023. We project that Ingersoll-Rand will generate around $1.9 billion in average annual operating cash flow and reinvest a minimal 2% of sales, roughly $340 million, in the business. Ingersoll-Rand will look to grow its $430 million dividend at least in line with earnings, while using the remaining cash flow in a combination of repurchases—we project nearly $1 billion for 2018—and tuck-in acquisitions. Ingersoll-Rand faces a manageable maturity schedule. Having already redeemed its $350 million 2019 maturity in early 2018, the company owes a negligible amount in 2019, $308 million in 2020, $433 million in 2021, and a de minimis amount in 2022. The firm also has $343 million worth of currently puttable debentures included as current maturities that otherwise mature between 2027 and 2028.

Exhibit 8 Capital Structure ($s in Millions)

Type	Maturity	in USD	Debt/ EBITDA
Commercial Paper		$ 249	
Debentures with put feature	Various	$ 343	
2.625% Senior notes	2020	299.2	
2.900% Senior notes	2021	297.9	
9.000% Debentures	2021	124.9	
4.250% Senior notes	2023	696.8	
7.200% Debentures	Various	44.8	
3.550% Senior notes	2024	495.6	
6.480% Debentures	2025	149.7	
3.750% Senior notes	2028	544.2	
5.750% Senior notes	2043	494.2	
4.650% Senior notes	2044	295.7	
4.300% Senior notes	2048	295.7	
Other loans and notes	Various	7.8	
Total Gross Debt		$ 4,339	2.0x
Cash		$ 970	0.5x
Net Debt		$ 3,369	1.6x
EBITDA (TTM)		$ 2,143	

Source: Company filings, Morningstar Credit Ratings, LLC

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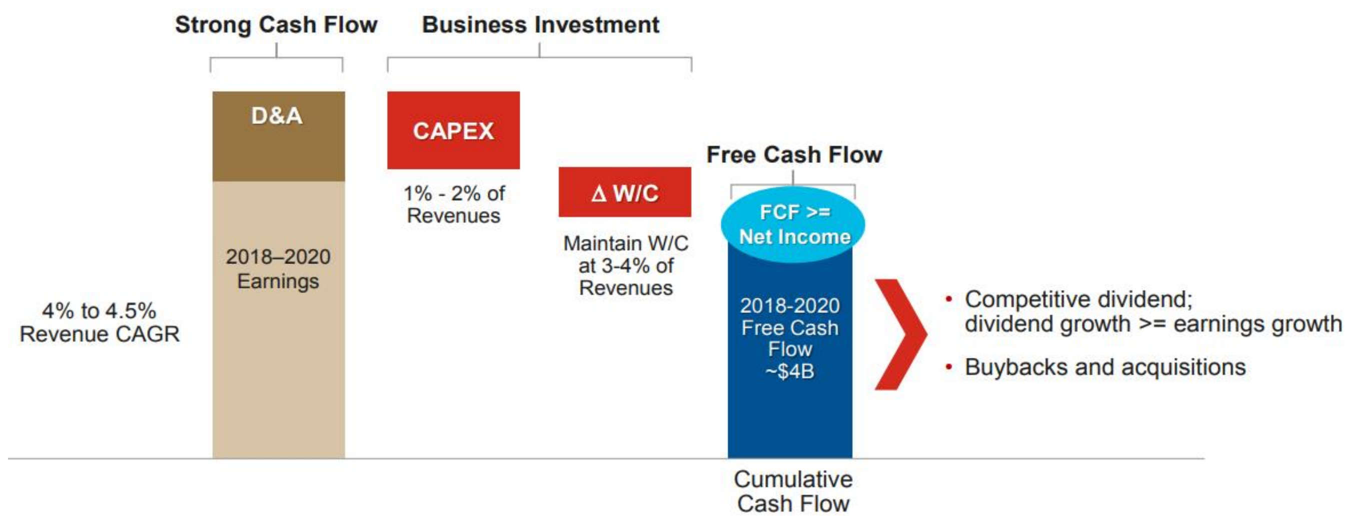
Capital-Allocation Policy

Like many diversified industrial firms, Ingersoll-Rand produces a healthy amount of operating cash flow. Specifically, the firm is targeting to generate free cash flow equal to 100% of net income. In total, from 2018 through 2020, management predicts it will produce $4 billion in free cash flow, but we believe that leverage will remain mostly unchanged in light of its dynamic, three-prong capital allocation approach. First, it will invest to grow the business by reinvesting around 1% to 2% of sales for growth opportunities. Management believes it has no gaps in its current portfolio but has mentioned it will pursue tuck-in acquisitions to strengthen its core. Second, the firm wants to maintain and preserve its liquidity. It defines this as targeting a BBB-flat investment-grade rating. Third, the firm plans to return cash to shareholders. It aims to pay a competitive dividend that grows at least in line with earnings but using the excess cash to repurchase shares when intrinsic value provides high returns.

Exhibit 9 Dynamic Capital Allocation Plan



Source: Company 2017 analyst day

Financial Projections

- In our base case, we project revenue growth of about 6% per year over the next five years, driven by organic growth of 4%, while acquisitions should drive 1 percentage point over the forecast period. We expect that the climate segment (nearly 80% of sales) will deliver 5.3% organic growth, while the industrial segment will generate average organic revenue growth of 5.7%. Thus far, revenue growth has exceeded expectations, but our longer-term projections are consistent with management's three-year target of 4% to 4.5% organic growth. We expect profitability will improve in the industrial segment as growth resumes and help lift EBITDA margins to 16.1% by 2021. This is again consistent with management's adjusted operating margin goal of 14.5% to 15% by 2020.

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Exhibit 10 Financial Projections ($ in Millions Unless Otherwise Noted)

Years	2015	2016	2017	2018	2019	2020	2021	2022
Income Statement				**Forecast**				
Revenue	13,301	13,509	14,198	15,648	16,352	17,237	18,117	18,932
Gross Profit	4,012	4,189	4,433	4,908	5,208	5,531	5,815	6,003
Operating Income	1,492	1,609	1,727	2,002	2,156	2,325	2,446	2,461
Adjusted EBITDA	1,856	1,961	2,080	2,353	2,539	2,745	2,908	2,964
Net Income	665	1,476	1,303	1,293	1,526	1,663	1,765	1,784
Balance Sheet								
Cash + Investments	737	1,715	1,549	2,343	3,199	3,771	4,359	5,006
Total Debt	4,239	4,070	4,064	4,942	5,332	5,765	6,108	6,224
Total Adjusted Debt	5,573	5,913	6,952	7,203	7,629	8,100	8,481	8,636
Cash Flow Statement								
Cash Flow From Operations	888	1,522	1,524	1,601	1,812	1,878	2,082	2,114
Capital Expenditures	(250)	(183)	(221)	(313)	(311)	(310)	(353)	(398)
Free Cash Flow (CFO-Capex)	639	1,339	1,302	1,288	1,501	1,568	1,729	1,716
Free Cash Flow / Sales	4.8%	9.9%	9.2%	8.2%	9.2%	9.1%	9.5%	9.1%
Growth (% YoY)								
Revenue	3.2%	1.6%	5.1%	10.2%	4.5%	5.4%	5.1%	4.5%
Gross Profit	2.6%	4.4%	5.8%	10.7%	6.1%	6.2%	5.1%	3.2%
Operating Income	5.3%	7.8%	7.4%	15.9%	7.7%	7.8%	5.2%	0.6%
Adjusted EBITDA	6.1%	5.6%	6.1%	13.1%	7.9%	8.1%	5.9%	1.9%
Profitability (%)								
Gross Margin	30.2%	31.0%	31.2%	31.4%	31.9%	32.1%	32.1%	31.7%
Operating Margin	11.2%	11.9%	12.2%	12.8%	13.2%	13.5%	13.5%	13.0%
Adjusted EBITDA Margin	14.0%	14.5%	14.7%	15.0%	15.5%	15.9%	16.1%	15.7%
Net Margin	5.0%	10.9%	9.2%	8.3%	9.3%	9.6%	9.7%	9.4%
Adjusted ROIC	10.8%	11.3%	11.7%	12.9%	13.8%	14.5%	14.7%	14.5%
Coverage / Cash Flow								
Adjusted EBITDA / Interest Expense	8.3	8.9	9.6	11.1	12.7	14.1	15.8	17.0
(Adj. EBITDA-CapEx) / Int. Exp.	7.2	8.0	8.6	9.6	11.2	12.5	13.9	14.8
Adj. EBITDAR / (Int. Exp. + 1/3 Rent	7.3	7.3	7.8	9.0	10.0	10.9	11.9	12.5
Dividends / FCF	47%	26%	33%	35%	34%	37%	36%	39%
Share repurchase (issuance) / FCF	30%	14%	72%	70%	33%	32%	29%	29%
Leverage								
Total Debt / Adj. EBITDA	2.3	2.1	2.0	2.1	2.1	2.1	2.1	2.1
Net Debt / Adj. EBITDA	1.9	1.2	1.2	1.1	0.8	0.7	0.6	0.4
Total Adj. Debt / Adj. EBITDAR	2.8	2.7	3.0	2.8	2.8	2.7	2.7	2.7
EV /Adj. EBITDA	9.9	11.2	12.3	11.7	-	-	-	-
Debt / Capital	42%	38%	36%	41%	41%	41%	41%	40%
FCF / Total Debt	15%	33%	32%	26%	28%	27%	28%	28%

Source: Morningstar Credit Ratings, LLC

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Appendix

Ingersoll-Rand Moat and Trend

The following description comes directly from Morningstar's Equity Research Group.

"We think Ingersoll-Rand has a narrow economic moat supported mainly by intangible assets and customer switching costs. Ingersoll-Rand has a portfolio of strong brands that drive pricing power and deep channel penetration, and the company's proficient research and development resources consistently create new and improved products that promote brand integrity, encourage customer retention, and drive improved profitability. The majority of Ingersoll-Rand's products have the ability to demonstrably lower customers' operating costs through efficiency gains, so the company is able to apply economic value-added pricing models, which supports excess returns on invested capital. Ingersoll-Rand's large installed base of commercial HVAC systems, transportation refrigeration units, compressor systems, and other industrial solutions support a stable stream of higher-margin aftermarket and service revenue. We think the specter of operation disruptions and capital commitments prevent many customers from outright switching vendors without the promise of meaningful and measurable performance improvements and operating cost reductions. Given Ingersoll-Rand's reputation for dependable, innovative, and efficient products, we think the company's installed based is well protected.

"Ingersoll Rand's climate segment sells HVAC equipment and services (78% of segment sales) under the Trane, American Standard, and Ameristar brand names. While Ameristar is a relatively new brand (launched in 2012) meant to serve the entry level market, Trane and American Standard are extremely well-known, premium brands that have each served the HVAC market for over 100 years. Thanks to a long-standing reputation for quality and performance, combined with products that provide demonstrable energy cost savings for consumers, we think Ingersoll-Rand is able to extract a price premium for its Trane and American Standard products that results in favorable margins as compared with competitors with lower-tier products. Trane and American Standard products are generally priced in line with other premium brands such as Carrier (owned by wide-moat United Technologies) and Lennox, and priced above lower-tier brands such as Goodman (owned by no-moat Daikin) and York (owned by narrow-moat Johnson Controls). We think that Ingersoll-Rand is able to leverage Trane and American Standard brand equity to drive stronger presence in the distribution channel with less promotional activity (for example, sales incentives) as distributors prefer to stock products with better brand recognition to lower inventory risk. The climate segment rounds out its product portfolio with

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Thermo King-branded products and services (22% of segment sales) that have been serving the transportation refrigeration market since 1938. Thermo King, along with United Technologies' Transicold brand, largely controls the market. Like Ingersoll-Rand's HVAC brands, Thermo King also has a long-standing reputation for dependability and continued innovation that helps customers lower operating costs and prevent costly damage claims, which supports product pricing.

"The industrial segment's product portfolio consists of Ingersoll-Rand branded compressor systems, tools, and lifting and material-handling products; ARO fluid products; and Club Car small-wheel electric vehicles, which are ubiquitous on golf courses around the world. By our estimates, air equipment and services account for nearly two thirds of segment sales. Although Ingersoll-Rand branded industrial compressors do not enjoy the market share of narrow-moat Atlas Copco, Ingersoll-Rand compressor products and services are nonetheless widely used in a wide range of industries that utilize compression technology. When going to market with its compression products, Ingersoll-Rand highlights the efficiency gains, costs savings, and return on investment that its products can deliver for customers. For example, after assessing the compression system at a customer's manufacturing plant, Ingersoll-Rand concluded that replacing oil-free compressors with oil-flooded compressors and installing new dryers, piping, and controls would reduce the plant's annual energy and maintenance costs by 40%. Because Ingersoll-Rand's compression technology can result in tangible financial benefits for customers, the company is able to utilize economic value-added pricing models that support segment returns in excess of the company's cost of capital.

"In order to preserve or gain market share and continue to benefit from pricing power, the company must maintain a robust portfolio of dependable, efficient, cutting-edge products and services that truly add value for its customers. We think Ingersoll-Rand has done a respectable job of refreshing its product portfolio and expanding value-added products and services. Indeed, 75% of HVAC products were introduced after 2011 and about 30% of the company's sales are driven by new products. In 2015, Ingersoll-Rand acquired Cameron's centrifugal compression business for $850 million. The acquisition expanded Ingersoll-Rand's product portfolio and end-market exposure and enhanced the company's engineering and manufacturing capabilities. The company also continues to invest in variable refrigerant flow, or VRF, technology, which is one of the fastest-growing product lines in North America.

"Ingersoll-Rand's large installed base of commercial HVAC systems, transportation refrigeration units, compressor systems, and other industrial solutions support a stable stream of higher-margin aftermarket and service revenue. The climate segment generates about 30% of revenue from service offerings, while service revenue accounts for about 35% of the industrial segment's sales. In many cases, replacing mission-critical products could be disruptive endeavors with high upfront capital requirements, which we think constitutes as a meaningful switching cost for existing customers and helps preserve the company's installed base.

"Within the HVAC market, we think Ingersoll Rand's outsize commercial share supports the company's economic moat. Commercial HVAC systems are embedded into building infrastructure and systems, and

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replacing large and complex HVAC systems would likely disrupt building operations. Switching costs are an important moat source for the North American HVAC business because sales are mainly driven by aftermarket and retrofitting activity from the company's installed base. We do not believe that the company's switching cost advantages extend to the residential HVAC market because residential replacement costs are comparatively low and the service market is far more fragmented and competitive. We think Ingersoll-Rand's commercial presence is a stark advantage over more residential-focused peers.

"We think Ingersoll-Rand benefits from some economies of scale, as the company can leverage research and development and manufacturing capabilities across its compression, HVAC, and transport refrigeration product portfolio. For example, innovations in refrigerants with lower global warming potential, or GWP, are utilized in commercial air conditioning, transport refrigeration, and air compressor and dryer products. In another example, the company manufactures components used in air compressors, HVAC compressors, and Thermo King compressors in shared facilities, utilizing common tools, manufacturing processes, and overhead costs. Although Ingersoll-Rand benefits from symbiotic relationships between key business lines, which may be less evident at some of the company's competitors, we see this as more of an additive effect rather than a stand-alone moat source.

"We believe that Ingersoll-Rand's economic moat trend is stable. The company has maintained a steady investment in research and development, or R&D, distribution channels, and other organic growth initiatives, and the firm has recently turned to acquisitions to expand existing businesses with the possibility of more deals in the future. We think these investments should help the company maintain its competitive advantages, and we do not see competitive dynamics materially changing between Ingersoll-Rand and its closest competitors over the next 10 years, nor do we see any secular changes on the horizon that the company is not prepared to address."

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Exhibit 11 Descriptors for Pillar Analysis

		Rating Pillars			
Score Range		**Business Risk**	**Cash Flow Cushion**	**Solvency Score**	**Distance to Default**
Strongest	1-2	Minimal	Very Strong	Very Strong	Very Strong
	3-4	Low	Strong	Strong	Strong
	5-6	Moderate	Moderate	Moderate	Moderate
	7-8	High	Weak	Weak	Weak
Weakest	9-10	Very High	Very Weak	Very Weak	Very Weak

Business Risk Pillar Components	
Country Risk (10% of Business Risk Score)	
Weakest	Very High Risk
	High Risk
	Moderate Risk
Strongest	Low Risk

Company Risk (90% of Business Risk Score)				
	Size	**Economic Moat**	**or Sustainable Competitive Advantage**	**Uncertainty**
Weakest	Very Small	None	None	Extreme
	Small			Very High
	Moderate	Narrow	Moderate	High
	Large			Medium
Strongest	Very Large	Wide	Substantial	Low
	Product/Customer Concentration	**Management**	**Dependence on Capital Markets**	**Cyclicality**
Weakest	Highly Concentrated	Aggressive	Extremely Dependent	Highly Cyclical
	Concentrated	Fairly Aggressive	Highly Dependent	Cyclical
	Neutral	Neutral	Dependent	Average Cyclicality
	Diversified	Fairly Conservativ	Low Dependence	Mild Cyclicality
Strongest	Highly Diversified	Conservative	Very Low Dependence	Non-Cyclical

Source: Morningstar Credit Ratings, LLC
Economic Moat provided by Morningstar's Equity Research Group

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