

# UNITED TECHNOLOGIES CORPORATION



FROM: UNITED TECHNOLOGIES CORPORATION

2015 Undergraduate SMF Analyst Report

Akanksha Singh  
Mitesh Mistry

# UNITED TECHNOLOGIES CORP (UTX)

## Company Summary

United Technologies is a diversified conglomerate with 2014 revenue of \$65 billion and business operations serving primarily construction and aerospace markets. The company is split into two main divisions: commercial and aerospace. The commercial side is UTC Building & Industrial Systems, which consists of Otis and UTC Climate, Controls, & Security. Sikorsky, Pratt & Whitney, and UTC Aerospace Systems make up the aerospace sector. Otis elevators, Carrier air conditioners, Pratt & Whitney engines, and Sikorsky helicopters are key United Technologies product lines.

## Key Financial Metrics

<b>Intrinsic Value:</b>	\$134.94	<b>ROIC:</b>	39.74%
<b>Beta:</b>	1.1	<b>ROA:</b>	6.84%
<b>52 Week Range:</b>	97.30 – 124.45	<b>Price/Book:</b>	\$3.41
<b>Price/Earnings:</b>	\$17.28	<b>Profit Margin:</b>	9.55%
<b>Dividend Yield:</b>	2.20%	<b>Free Cash Flow Yield:</b>	4.02%
<b>Market Cap:</b>	106.92B	<b>Earnings Per Share:</b>	\$6.82
<b>ROE:</b>	20.06%	<b>Shares Outstanding:</b>	915,240,000

## Recommendation

<b>Rating:</b>	Buy	<b>Exp. Annual Return:</b>	6.61%
		<b>Margin of Safety:</b>	33.05%

## Rationale

United Technologies is a cash-generating business that is able to invest in longer-term platforms. Durability and balance are trademarks of UTC’s portfolio. The company is set apart from competitors through management’s consistency and commitment to shareholders. Limited competition, strong brand recognition, extremely high switching costs, low-cost manufacturing, and strong service revenues make UTC a dependable, safe addition to any value-driven investment portfolio.

## UTX vs. S&P 500 (5 years)



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## 2015 UNDERGRADUATE SMF ANALYST REPORT

### INDUSTRY ANALYSIS

#### Aerospace/Defense Products & Services

The term “Aerospace & Defense” is a generic term that encompasses several different industries. The major companies housed under the industries manufacture both commercial and military aircrafts. Most commercial aircraft are sold to the world’s airlines. A few are configured for general aviation use, serving nations, companies, or individuals that need large aircraft for transportation outside of those available to the public. Historically, airlines based in the United States have provided the largest market for commercial aircraft. But in recent years, foreign airlines (many subsidized by local governments) have become the major source of orders. The United States military comprises by far, the largest market for defense equipment, systems, and services in the world. The companies included in this sector not only serve America's needs, but often are the suppliers most sought by our allies and friends.

United Technologies is the biggest player in the aerospace and defense industry with a market cap of \$106.3 billion and the company has three divisions that fall under this industry: Pratt & Whitney, UTC Aerospace Systems, and Sikorsky. Boeing Company is the world’s largest aerospace and defense company; it is UTC’s biggest competitor and partner in the industry with a market cap of \$105.2 billion. Boeing operates in over 90 countries and has three divisions: commercial airplanes, Integrated Defense Systems (IDS), and Boeing Capital Corporation.

In general, the performance of the industry is subject to the cyclical trends of the aerospace market. Since 2001, increased military aircraft demand by the United States government as well as increased demand for commercial aircraft has pushed revenues higher for United Technologies and other companies.

#### Elevators & HVAC Equipment/Service

Due to increased urbanization in emerging market countries, especially India and China, the industry for elevators, air conditioning, cooling systems and security systems will expand in the future. The elevator business is nearly an \$18 billion a year industry and is expected to grow at an average of 1.7% a year for the next 5 years according to IBIS World. The industry is highly fragmented with UTC having the third largest market share of 5.1% with Schindler elevators being the largest company in the industry at 9.2%. The larger companies in the industry, especially Schindler have been focusing on acquiring smaller competitors in order to consolidate the industry. This industry is reliant on the health of the economy as people are more willing to construct commercial buildings when the economy is in an expansion and spend less during recessions. As the world economy improves, the demand for elevators will improve

alongside, providing opportunities for Otis and UTC in this market. The HVAC and refrigeration business is a \$47.6 billion dollar industry which is expected to grow at more than 3% over the next few years. UTC is the second largest company in this industry following Ingersoll-Rand. This industry is also highly fragmented, allowing UTC and other large companies to consolidate smaller companies. In the Electronic Access Control System, UTC competes with companies such as Honeywell and Siemens who both also provide fire safety systems as well. Success in this industry is reliant on advanced technologies and strong reputation, especially in commercial uses as companies need to keep proprietary and valuable information or technologies safe.

## BUSINESS ANALYSIS

### Aerospace Businesses

The aerospace businesses division of United Technologies is comprised of Pratt & Whitney, UTC Aerospace Systems, and Sikorsky. The financial performance of these sectors is directly tied to the economic conditions of the commercial aerospace and defense aerospace industries.

#### **Pratt & Whitney**

Pratt & Whitney is among the world's leading suppliers of aircraft engines for the commercial, military, business jet and general aviation markets. Pratt & Whitney also provides fleet management services and aftermarket maintenance, repair and overhaul services, including the sale of spare parts for large commercial and military engines. The business' products are sold principally to aircraft manufacturers, airlines and other aircraft operators, aircraft leasing companies, and the U.S. and foreign governments. Pratt & Whitney's products and services must adhere to strict regulatory and market-driven safety and performance standards. The frequently changing nature of these standards, along with the long duration of aircraft engine development, production and support programs, creates uncertainty regarding engine program profitability.

The development of new engines and improvements to current production engines present important growth opportunities. P&WC is under contract with the U.S. Government's F-35 Joint Program Office to develop, produce, and sustain the F135 engine, to power the single-engine F-35 Lightning II aircraft being developed by Lockheed Martin. In addition, Pratt & Whitney is currently developing technology, including the PurePower PW1000G Geared TurboFan engine, intended to enable it to power both currently-proposed and future aircraft. PurePower PW1000G engine models have been selected by many big-name aircraft manufacturers, such as Airbus, Bombardier, and Mitsubishi to add to their airplanes.

#### **UTC Aerospace Systems**

UTC Aerospace Systems is a leading global provider of technologically advanced aerospace products and aftermarket service solutions for aircraft manufacturers, airlines, regional, business and general aviation markets, military, space and undersea operations. The business sells aerospace products to aircraft manufacturers, airlines and other aircraft operators, the U.S. and foreign governments, maintenance, repair and overhaul providers, and independent distributors. UTC Aerospace Systems

conducts operations in over 160 locations in 26 countries and has the largest and most comprehensive aftermarket business in the industry. They were recently awarded a contract to provide submarine acoustic windows for the Naval Undersea Warfare Center. There is much opportunity for growth in emerging countries.

### **Sikorsky**

Sikorsky, one of the world's largest helicopter companies, manufactures military and commercial helicopters and also provides aftermarket helicopter and aircraft parts and services. Current major production programs at Sikorsky include the UH-60M Black Hawk medium-transport helicopters and HH-60M Medevac helicopters for the U.S. and foreign governments, the S-70 Black Hawk for foreign governments, the MH-60S helicopter for the US Navy and the MH-60R helicopter for the US and foreign navies. In July 2012, the US Government and Sikorsky signed a five-year multi-service contract for approximately 650 H-60 helicopters. Sikorsky is increasingly engaging in logistics support programs and partnering with its government and commercial customers to manage and provide logistics and repair services. This will help the business continue to generate the large cash flows it currently brings in from all of the product contracts with governments.

## **Commercial Businesses**

### **Building & Industrial Systems (BIS)**

UTC's Building and Industrial Systems (BIS) division is in prime position to capitalize off of this growth. The BIS division consists of Otis, which produces elevators and escalators, Carrier which produces cooling systems and air conditioners as well as Kidde fire and Carbon Monoxide alarms. In 2013, the BIS provided UTC with approximately \$5.2 billion in operating profit and \$29.8 billion in sales. For Otis and Carrier products, UTX uses a razor-razor blade business model in which they offer these products with little markup or at cost to customers. UTC then makes revenues by servicing these products and providing maintenance, which is very lucrative for the company. Once installed into buildings, Otis elevators and escalators and Carrier air conditioning products are difficult to remove, providing UTC with a reliable stream of income. Customers are locked into UTC's servicing charges as customers need to rely on UTC to maintain these purchases as these products are expensive to take out and replace with a competitors product. UTC unlike its competitors provides maintenance services on competitor's goods as well while some competitors do not. This provides additional revenue for UTC. By servicing their products, UTC also provides convenience to customers of UTC as they have the best knowledge on how to fix their elevators and air conditioners since they built them in the first place.

UTC has been restructuring their divisions in order to save costs and has been able to achieve their margin improvements in their Climate, Controls and Security division 2 years earlier. In this division, UTC has been able to provide major contracts to the Hong Kong airport where they are providing security and HVAC (Heating, Ventilation, Air conditioning) equipment. This division is also providing control services to Intergate Manhattan which is the world's tallest data center. UTC has unveiled the Carrier AquaForce 30XA chiller which is one of the quietest and most efficient on the market and uses less than 30% less refrigerant than traditional designs. This chiller also utilizes aluminum coils which limits corrosion that normally occurs. Another one of Carrier's products is the CO2OLtec system which



uses CO<sub>2</sub> as a refrigerant and also controls the HVAC system of stores. This system is made especially for grocery stores and can save 30% of the stores energy costs. In addition to these products, Carrier has tailored its refrigeration products countries like India where food waste is high due to the hot climate. The Transicold line is an economical, efficient refrigeration system that is built to be put on light trucks. Kidde has introduced a new Carbon Monoxide alarm that lasts 10 years, longer than any other product on the market.

Otis has also been able to receive major projects such as the Hyderabad Metro Rail Project which is India's largest elevator and escalator contract and the Goldin Finance Tower in China. Otis has created the new Otis Gen2 Switch elevator which has a battery backup system. This feature is important in the South Asian and European markets as there are frequent power outages in these countries and so this elevator will be able to still run when these power outages occur. This elevator also harnesses the power of gravity and uses 81% less energy than other elevators which will result in cost savings for customers.

## GROWTH OPPORTUNITIES

All of United Technologies' business segments have great opportunities for growth because they are uniquely positioned to benefit from widespread urbanization and the rapidly growing markets, accelerating growth well into the future. In the decades ahead. A much greater portion of the world's population will live in urban centers, driving investment in infrastructure and real estate development. This will create demand for products that contribute to clean, safe, energy-efficient buildings. UTC's commercial businesses (Otis and UTC Climate, Controls & Security) are well established in the world's fastest-growing economies and are moving quickly to further localize manufacturing and distribution networks to capture new opportunities and better serve customers.

A good example is Otis' actions in China. Otis businesses have prepared for China to become the world's largest market for new elevator equipment as well as the world's fastest-growing service market in the years ahead. Also, UTC Climate, Controls & Security formed a joint venture to manufacture and distribute HVAC products in India to expand the company's presence there.

Furthermore, the outlook for the commercial aerospace business is very strong, driven by the need to replace aging fleets in North America and by increasing demand across Asia. Over the next 20 years, 30,000 new aircraft are expected to enter service. UTC is at the forefront in developing the next generation of aircraft to meet this growing global demand.

## RISKS

China is the largest market for new accounts as it is a large country where urbanization is resulting in millions of people moving from farms to cities. 20% of Otis' revenue comes from the Chinese market and given growing concern over a potential housing bubble in China, if this bubble were to be in fact reality, this would adversely affect UTC's revenues. UTC would be unable to make its revenues from servicing these products and so this is a large risk that the firm faces. Another risk that UTC faces is the

reduction in government spending in the U.S. and by governments around the world on military aircraft. In 2013, 19% of revenues came from Military Aerospace sales and so large reductions in spending will result in a material change in the success of UTC. Due to UTC's reliance on innovation in order to distinguish itself from competitors, UTC will need to continue to provide products and technologies with practical uses, especially since Research and Development expenditures were \$4.7 billion last year. Because of the competitive nature of the businesses that UTC is in with large rivals such as GE and Rolls-Royce, and Schindler, UTC may face significant loss in market share should UTC lose focus on products that customers want or create products that are inferior to those of rivals. As, UTC may need to focus on inorganic growth, or growth through acquisitions, it is important that the firm doesn't destroy value by paying more for a company than what it is worth to UTC. Also, the company needs to be able to integrate new companies into the pre-existing structure effectively or else projected synergies will fail to materialize.

## VALUATION

We valued UTC using a DCF method in which a 4% growth rate of FCF was used for 10 years after which a terminal growth rate of 3% was used. The 4% growth rate was determined by taking the Net Operating Profit Less Adjusted Taxes (NOPLAT) in 2013 and dividing that by the capital invested capital or the total operating assets of the company in order to find the Return on Invested Capital (ROIC). The ROIC was then multiplied by the net invested capital as a portion of NOPLAT in order to determine a growth rate of 4%. The 3% terminal growth rate is utilized as this is the historical growth rate in GDP of the U.S. and a discount rate of 10% is used as this is the historical discount rate when accounting for the historical returns of the risk-free U.S. Treasury and the historical stock market returns. The enterprise value of UTC was determined and then the equity value was determined by subtracting debt and adding cash. The Intrinsic value was determined to be \$126.21 and the price at the time we bought UTC was 101.42. After accounting for share repurchases of \$1.2 billion a year, in 5 years the intrinsic value of UTC would be \$134.94.

## APPENDIX

## Exhibit 1: UTX DCF Valuation

UTC Valuation			
Operating Income	\$	9,209.00	
Add: Restructuring Charges	\$	481.00	
Deferred Taxes	\$	-	
Adjusted Operating Income	\$	9,690.00	
Less: Taxes (26.9%)	\$	2,238.00	
NOPLAT	\$	7,452.00	
Add: Depreciation	\$	1,821.00	
Add: Stock compensation cost	\$	275.00	
Gross CF	\$	9,548.00	
			Change in OWC \$ -
			Capital Expenditures \$ 1,821.00
			Gross Investment \$ 1,821.00
			Non-controlling Interest \$ 388.00
			Free Cash Flow \$ 7,339.00
			% of NOPLAT 98.48%

Working Capital	2013	2012
Total Current Assets	\$ 29,442.00	\$ 29,610.00
Less: Cash & Equivalents	\$ 4,619.00	\$ 4,819.00
Adjusted: TCA	\$ 24,823.00	\$ 24,791.00
Total Current Liabilities	\$ 22,800.00	\$ 23,786.00
Less: ST Debt	\$ 500.00	\$ 1,624.00
Adjusted: TCL	\$ 22,300.00	\$ 22,162.00
NOWC	\$ 2,523.00	\$ 2,629.00
Change		\$ (106.00)

ROIC			
	2013	Net Invested Capital	2013
NOWC	\$ 2,523.00	Change in WC	0
Net PP&E	\$ 8,866.00	Capital Expenditures	1821
Other Assets & unconsol. Affiliates	\$ 7,361.00	Change in other Op. Assets	663
Invested Capital	\$ 18,750.00		
Goodwill & Other Intangibles	\$ 43,689.00	Net Invested Capital	2484
Invested Capital w/ GW	\$ 62,439.00	Retention Ratio	\$ 0.33
ROIC w/o goodwill	39.74%		
ROIC w/ goodwill	11.93%		
Retention ratio	33%		
g	4.0%		



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United Technologies Corp.												WACC		
												10.00%		
												3.98%		
												TV R	3.00%	
	0	1	2	3	4	5	6	7	8	9	10	11		
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024		
FCF	\$ 7,339.00	\$ 7,630.97	\$ 7,934.55	\$ 8,250.21	\$ 8,578.42	\$ 8,919.70	\$ 9,274.55	\$ 9,643.52	\$ 10,027.16	\$ 10,426.07	\$ 10,840.85	\$ 11,266.16	\$ 115,515.35	
Discount Factor		\$ 0.91	\$ 0.83	\$ 0.75	\$ 0.68	\$ 0.62	\$ 0.56	\$ 0.51	\$ 0.47	\$ 0.42	\$ 0.38	\$ 0.34	\$ 0.42	
PVFCF	\$ 7,339.00	\$ 6,944.18	\$ 6,585.67	\$ 6,187.65	\$ 5,833.33	\$ 5,530.21	\$ 5,279.22	\$ 5,030.37	\$ 4,782.55	\$ 4,535.76	\$ 4,290.03	\$ 4,045.36	\$ 66,996.45	
Enterprise Value	\$ 131,134.35													
Less: Debt	(20,241.00)													
Cash+Cash Eq.	469													
Equity Value	\$ 115,512.35													
Intrinsic Value	\$ 126.21													

Share Repurchase after 5 years	6,000,000,000
Current Share Price	101.42
Shares Repurchased	59,159,929
Total Shares Outstanding	915,240,000
Shares Outstanding after 5 years	856,080,071
Intrinsic Value after 5 years	\$ 134.94