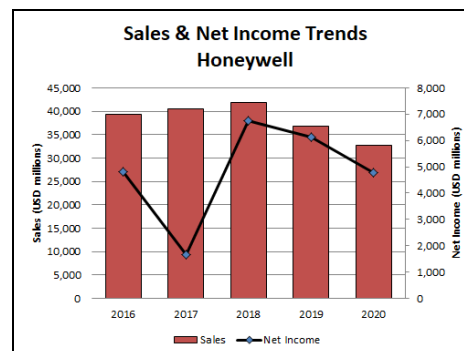


Honeywell

Outlook

- Halfway through 2021 and Honeywell is going strong, with sales of \$13.0 billion, up 8 percent compared to the first half of 2020
- A strong recovery across all its sectors coupled with an earlier streamlining effort is a key factor in the company's success
- Aerospace sector sales are up 7 percent for the second quarter to \$2.8 billion, driven by a strong recovery in business and GA aviation aftermarket demand as flight hours return to 2019 levels
- Company forecasts 2021 sales in the \$34.6 to \$35.2 billion range



Headquarters

Honeywell International Inc
300 South Tryon St
Charlotte, NC 28202
Telephone: + 1 (704) 627-6200
Website: <https://www.honeywell.com>

Honeywell International Inc is a worldwide corporation that supplies aerospace products and services; turbochargers; energy efficient products and solutions for homes, businesses, and transportation; specialty chemicals; electronic and advanced materials; process technology for refining and petrochemicals; and

productivity, sensing, safety, and security technologies for buildings, homes, and industries.

The company was created in its current form in December 1999, when AlliedSignal completed its merger with Honeywell in a transaction valued at more than \$14 billion. This complementary merger followed the industry trend toward becoming a "total supplier solution," with AlliedSignal products filling the gap in Honeywell's avionics portfolio. The company operates under the Honeywell name.

Structure and Personnel

Darius Adamczyk
Chairman and CEO
Que Dallara
President and CEO, Connected Enterprise
Vimal Kapur
President and CEO, Performance Materials and Technologies
Jeff Kimbell
Senior Vice President and Chief Commercial Officer
Greg Lewis
Senior Vice President and Chief Financial Officer
Anne T. Madden
Senior Vice President and General Counsel
Mike Madsen
President and CEO, Aerospace
Tim Mahoney
Senior Vice President, Enterprise Transformation

Karen Mattimore
Senior Vice President and Chief Human Resources Officer
Torsten Pilz
Senior Vice President and Chief Supply Chain Officer
Shane Tedjarati
President, Global High Growth Regions
Suresh Venkatarayalu
Chief Technology Officer
John Waldron
President and CEO, Safety and Productivity Solutions
Doug Wright
President and CEO, Building Technologies

Honeywell

Product Area

Honeywell's products and services are grouped into the following industry segments:

Honeywell

1. Aerospace
 - 1.1 Commercial Aviation
 - 1.2 Space and Defense
2. Honeywell Building Technologies
3. Performance Materials and Technologies
4. Safety and Productivity Solutions

Aerospace. Headquartered in Phoenix, Arizona, this unit is a Tier 1 supplier of aircraft engines, equipment, and systems that provides commercial transport, regional, general aviation, and military aircraft services. Specifically, Honeywell Aerospace manufactures auxiliary power units (APUs); turbofan, turboprop, and turboshaft propulsion engines; marine propulsion and ground power systems; engine systems and accessories; commercial avionics, including Enhanced Ground Proximity Warning Systems (EGPWS); flight control systems; environmental control systems; aircraft landing systems; aircraft wheels and brakes; power management and generation systems; turbochargers and thermal systems; and interior and exterior aircraft lighting. Honeywell also provides MRO services, aerospace consumable spare parts, hardware and logistics support,

and management and technical services for space and communications facilities.

Honeywell Building Technologies. This division focuses on commercial building owners. Products and services include advanced software applications for building control and optimization; sensors, switches, control systems and instruments for energy management; access control; video surveillance; fire products; remote patient monitoring systems; and installation, maintenance and upgrades of systems.

Performance Materials and Technologies. This segment serves diverse markets, offering advanced materials, process technologies, and automation solutions. Products include hydrocarbon-processing technologies, catalysts, adsorbents, fluorine products, specialty films and additives, advanced fibers and composites, intermediates, specialty chemicals, and electronic materials.

Safety and Productivity Solutions. This unit provides products, software, and connected solutions to customers around the globe that improve productivity, workplace safety, and asset performance. Safety products include personal protection equipment and footwear designed for work, play, and outdoor activities.

Facilities

Honeywell Aerospace, 1944 E Sky Harbor Circle, Phoenix, AZ 85034. Telephone: + 1 (602) 231-1000. This is the headquarters of the Aerospace operations.

Website: <https://aerospace.honeywell.com>

Honeywell BendixKing, 9201 B San Mateo Blvd, Albuquerque, NM 87113. Telephone: + 1 (505) 903-6148. This unit produces flight safety avionics for large commercial aircraft and a broad range of avionics products for business and general aviation aircraft and military aircraft. In addition, BendixKing is a source of precision guidance and sensor systems for spacecraft, aircraft, tactical weapons, and other commercial applications.

Website: <https://www.bendixking.com>

Honeywell Defense and Space Electronic Systems, 2600 Ridgway Pkwy, Minneapolis, MN 55413. This unit produces guidance, navigation, and control products for missiles and munitions, spacecraft, military aircraft, and surface vehicles. It also produces precision sensors and components.

Honeywell Defense and Space Electronic Systems, 13350 U.S. Hwy 19 N, Clearwater, FL 33764. Telephone: + 1 (727) 531-4611. This division manufactures guidance, navigation, and control systems; data management and processing systems; mechanisms and pointing systems; space instruments and sensors; guidance systems for launch vehicles; onboard data processing, flight, and engine controls for manned spacecraft; and precision inertial instruments, radiation-hardened memories, and guidance systems for strategic missiles, re-entry vehicles, and interceptors.

Honeywell Aerospace, Aircraft Landing Systems, 3520 Westmoor St, South Bend, IN 46628. Telephone: + 1 (219) 231-2000. This location manufactures landing gear systems, wheels, brakes, anti-skid systems, struts, and steering and hydraulic components for airframes.

Honeywell Aerospace, Engines and Systems, 111 S 34th St, PO Box 52181, Phoenix, AZ 85072. Telephone: + 1 (602) 231-1000. This division manufactures gas turbine engines, fixed-wing aircraft

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and helicopter piston engines, advanced power systems, auxiliary power systems, and control systems.

CFE Company, 111 S 34th St, PO Box 62332, Phoenix, AZ 85082. Telephone: + 1 (602) 231-4570. This is a joint venture composed of GE Aircraft Engines and Honeywell Engines, Systems and Services. The venture is currently developing the CFE738 turbofan engine.

Light Helicopter Turbine Engine Company, Meadow Green Center, Bldg Two, Ste 119, 9238 Hwy 20, West Madison, AL 35758. Telephone: + 1 (256) 461-6009. The LHTEC manufacturing team consists of Honeywell and Rolls-Royce North America. The primary program is the LHTEC T800 engine.

Honeywell UOP, 25 E Algonquin Rd, PO Box 5017, Des Plaines, IL 60017-5017. Telephone: + 1 (847) 391-2000. This firm provides technology to the

petroleum refining, gas processing, and petrochemical production industries, and to major manufacturing industries.

Website: <https://www.uop.com>

International

Honeywell Aerospace GmbH, Frankfurter Strasse 41-65, 65479 Raunheim, Germany. Telephone: + 49 0 6142 405 0.

Honeywell Aerospace Canada, 3333 Unity Dr, Mississauga, ON, Canada. Telephone: + 1 (905) 607-0300.

Honeywell Aerospace Yeovil, Bunford Ln, Yeovil, Somerset BA20 2YD, United Kingdom. Telephone: + 44 0 1935 457 181.

Corporate Overview

Honeywell is a diversified technology and manufacturing company serving customers worldwide with aerospace products and services; control, sensing, and security technologies for buildings, homes, and industry; turbochargers; automotive products; specialty chemicals; fibers; and electronic and advanced materials.

New Products and Services

JetWave MCX Satcom. In June 2021, Honeywell unveiled a new broadband satcom solution, JetWave MCX, specifically designed for military and governmental aircraft. JetWave MCX builds upon the commercial JetWave's high-speed in-flight Wi-Fi capabilities to provide improved situational awareness throughout an airborne mission, secure communications, and the capability to connect to various Ka-band satcom networks depending on the needs of the mission.

Ultra-Rugged Inertial Measurement Units. In April 2021, Honeywell launched a new series of ruggedized miniature inertial measurement units. Roughly the size of a water bottle cap, the new HG1125 and HG1126 inertial measurement units (IMUs) are low-cost and serve both commercial and military applications. Honeywell reports that this new family of IMUs can survive shocks up to 40,000 g-force. These IMUs can be used for commercial applications such as drilling, for tactical military needs, and for application on unmanned aerial vehicles or navigation systems for general aviation aircraft.

BioFuel Turbogenerator. In March 2021, Honeywell announced development of a new power source for hybrid-electric aircraft. The Honeywell 1-

megawatt generator will be combined with the Honeywell HGT1700 auxiliary power unit. The new turbogenerator, which weighs 280 pounds, will be able to run on aviation biofuel, including Honeywell Green Jet Fuel, as well as conventional jet fuel and diesel. Honeywell's turbogenerator can be used to operate high-power electric motors or charge batteries and can satisfy missions from heavy-lift cargo drones to air taxis or commuter aircraft, the company said. The first demonstration of this turbogenerator system will occur in late 2021, with ongoing development and qualification to follow.

Chinook Engine Contract. In March 2021, Honeywell won a four-year indefinite delivery/indefinite quantity (IDIQ) contract for new-production and spare T55-GA-714A engines to power the U.S. Army's CH-47 Chinook helicopters. This \$476 million contract will ensure that the U.S. Army's Chinook fleet has spare engines to support future missions and available engines for Boeing's Philadelphia production line through 2024. The engines will be assembled and tested at Honeywell's production facility in Phoenix.

Honeywell UV Cabin System. In June 2020, Honeywell and Dimer LLC announced a partnership to bring an ultraviolet cleaning (UVC) system to airlines that, when properly applied, significantly reduces certain viruses and bacteria on airplane cabin surfaces. The Honeywell UV Cabin System is roughly the size of an aircraft beverage cart and has UVC light arms that extend over the top of seats and sweep the cabin to treat aircraft surfaces. According to the company, the Honeywell UV Cabin System can treat an aircraft cabin in less than 10 minutes for just a few dollars per flight for midsize to large airline fleets.

Honeywell

T55 Engine Upgrade. In June 2020, Honeywell entered into an agreement with the U.S. Army to demonstrate and fly its upgraded T55 engine on the heavy-lift, twin-engine Chinook helicopter. The new 6,000-hp engine is 25 percent more powerful and consumes 10 percent less fuel than the current T55. The new T55-GA-714C engine is specifically designed for next-generation military operators, and will improve the Chinook helicopter's ability to lift troops and heavy cargo.

Orion Components. In January 2020, Honeywell was contracted by Lockheed Martin to support production of NASA's Orion spacecraft fleet for the upcoming Artemis missions. Honeywell will provide 14 product types for Artemis missions III through V, including both hardware and software, to support NASA's lunar missions. NASA awarded Lockheed Martin a long-term, multibillion-dollar production contract for the Orion spacecraft, aimed to meet the space agency's anticipated needs into the 2030s. Honeywell will supply guidance and navigation systems; command data handling; displays and controls; and core flight software for the program.

Micro Power Unit. In October 2019, Honeywell unveiled its Micro Power Units, or mPU, for business and private airplanes, helicopters, and advanced ground vehicles. These compact auxiliary power units (APUs) are small enough to fit in aircraft that have space limitations while still providing enough power to operate air conditioning, charge batteries, conduct flight planning, and assist main engine start without using additional power sources.

USAF Secondary Power Support. In October 2018, Honeywell was awarded a 10-year, \$1.04 billion contract by the Defense Logistics Agency to provide end-to-end logistics support for U.S. Air Force secondary power systems. The company will support auxiliary power units on Air Force F-15, F-16, A-10, B-1B, B-2, E-3, and C-130 aircraft, as well as ground systems used to power aircraft on the ground.

Plant Expansion/Organization Update

Export Violations Settlement. In May 2021, the U.S. State Department concluded an administrative settlement with Honeywell to resolve alleged violations of the Arms Export Control Act (AECA) and International Traffic in Arms Regulations (ITAR). Honeywell agreed to pay a \$13 million settlement, \$5 million of which will be suspended on the condition that the funds will be used to strengthen Honeywell's compliance program. The penalty was related to the distribution to and within several countries of ITAR-controlled technical data that contained engineering prints showing dimensions, geometries, and layouts for

manufacturing castings and finished parts for multiple aircraft, gas turbine engines, and military electronics. The relevant countries are Canada, Ireland, Mexico, the People's Republic of China, and Taiwan. According to the State Department, Honeywell voluntarily disclosed the alleged violations that are resolved under this settlement. Honeywell also acknowledged the serious nature of the alleged violations, cooperated with the department's review, and instituted a number of compliance program improvements during the course of the department's review. For these reasons, the department determined that it is not appropriate to administratively debar Honeywell at this time.

New T55 Engine Maintenance Center in Phoenix. In July 2020, Honeywell secured approval from the U.S. Army through a product verification audit and opened a T55 Repair and Overhaul Center of Excellence facility near its Honeywell Aerospace headquarters in Phoenix.

Avionics Repair Consolidated. In February 2019, Honeywell Aerospace announced plans to consolidate avionics MRO operations in Renton, Washington, and Wichita, Kansas, into a similar operation in Olathe, Kansas. Approximately 175 employees would be affected by the move.

Headquarters Moving to North Carolina. In November 2018, Honeywell announced it would shift its global headquarters from Morris Plains, New Jersey, to Charlotte, North Carolina. As part of the move, the company also relocated its Safety and Productivity Solutions division to Charlotte from Fort Mill, South Carolina. Also, about 150 to 200 New Jersey-based senior management positions and about 100 South Carolina-based positions were relocated to Charlotte.

Mergers/Acquisitions/Divestitures

Fiplex Acquisition. In March 2021, Honeywell agreed to acquire a majority stake in Fiplex Communications Inc, a Miami-based company that develops in-building communications systems, including bi-directional amplifiers that provide continuous in-building radio coverage in challenging environments to improve the safety of first responders and building occupants. Terms were not announced.

Website: <https://fiplex.com>

Sparta Systems Acquired. In December 2020, Honeywell agreed to acquire privately held Sparta Systems for \$1.3 billion in an all-cash transaction from New Mountain Capital. Sparta Systems is a provider of enterprise quality management software (QMS), including a next-generation software as a service (SaaS) platform, for the life sciences industry. Honeywell will leverage its global presence, Honeywell Forge and

Honeywell

Sparta's expertise to introduce new, integrated solutions, including QMS offerings, for life sciences and adjacent industries, the company said.

Website: <https://www.spartasystems.com>

Ballard Unmanned Systems Acquired. In October 2020, Honeywell acquired assets from privately held Ballard Unmanned Systems, a wholly owned subsidiary of Ballard Power Systems Inc. Ballard Unmanned Systems designs and produces stored-hydrogen proton exchange membrane fuel cell systems that power unmanned aerial systems (UAS), particularly those used for energy inspection and cargo delivery, among other commercial and defense applications. Honeywell acquired the key intellectual property, inventory and equipment of Ballard Unmanned Systems. Ballard's team of fuel cell experts will also join Honeywell as part of the acquisition. Terms were not announced.

Rocky Research Acquired. In October 2020, Honeywell acquired privately held Rocky Research, a Boulder City, Nevada-based firm specializing in thermal, energy and power management solutions. The acquisition of Rocky Research positions Honeywell with an advanced capability in the power and thermal management market, the company said. Terms were not announced.

Unmanned Aerial Systems Unit Established. In June 2020, Honeywell formed a new business unit, Unmanned Aerial Systems (UAS), focused on the unmanned aerial systems and urban air mobility (UAM) industries. The UAS business unit will develop new products and services uniquely required for these markets. It will also act as a systems integrator for all Honeywell products and services that could be used in this industry, including aircraft systems such as avionics, electric and hybrid-electric propulsion, and thermal management; flight services such as unmanned air traffic management; and ground operations services such as predictive aircraft maintenance analytics.

Website: <https://aerospace.honeywell.com/us/en/learn/supported-platforms/urban-air-mobility>

TruTrak Flight Systems Acquired. In July 2019, Honeywell acquired privately held TruTrak Flight Systems for an undisclosed amount. TruTrak produces autopilots for experimental, light-sport and certified aircraft.

Transnorm Acquired. In November 2018, Honeywell acquired privately held warehouse automation business Transnorm for approximately EUR425 million from IK Investment Partners. Transnorm is a provider of engineered conveyor solutions that transport products and packages for e-

commerce and parcel delivery customers. Transnorm is now a part of Honeywell Safety and Productivity Solutions (SPS). The deal was first announced in October 2018.

Transportation Systems Spun Off. In October 2018, Honeywell completed the spin-off of its Transportation Systems unit, which now operates as Garrett Motion Inc. Garrett Motion designs, manufactures and sells highly engineered turbocharger and electric boosting technologies for light and commercial vehicle OEMs (original equipment manufacturers) and the aftermarket.

Website: <https://www.garrettmotion.com>

Resideo Technologies Spin-Off Complete. In October 2018, Honeywell completed its spin-off of Resideo Technologies Inc, composed of the former Homes and ADI Global Distribution businesses.

Website: <https://www.resideo.com>

Ortloff Engineers Acquired. In August 2018, Honeywell acquired Ortloff Engineers Ltd, a privately held licensor and developer of specialized technologies "that drive high returns in natural gas processing and sulfur recovery." Terms of the deal were not disclosed.

Nextnine Acquired. In August 2017, Honeywell completed its acquisition of Nextnine, a privately held provider of security management solutions and technologies for industrial cybersecurity. The addition of Nextnine would enhance the company's range of cybersecurity technologies and increase Honeywell's Connected Plant cybersecurity customer base. Nextnine's flagship technology, ICS Shield, protects industrial sites from cybersecurity attacks and enables remote monitoring of assets. Terms were not announced.

Honeywell Technology Solutions Sold. In September 2016, KBR acquired Honeywell Technology Solutions Inc (HTSI) for approximately \$266 million. HTSI was a wholly owned subsidiary of Honeywell Aerospace, with approximately 3,550 employees operating throughout 39 states and in 14 countries worldwide. The company's customers primarily consist of U.S. government agencies, including the Department of Defense and its Navy, Air Force, Army, and Marine Corps branches. Annual estimated revenues for HTSI are \$600 million. HTSI would be integrated into KBRwyle.

Intelligrated Acquired. In August 2016, Honeywell completed its \$1.5 billion acquisition of Intelligrated, a privately held provider of supply chain and warehouse automation solutions. Intelligrated's supply chain and logistics solutions include automated storage and

Honeywell

retrieval systems, palletizers, robotics solutions, software, and tote-handling systems. The business would be integrated into Honeywell Safety and Productivity Solutions.

Resins and Chemicals Business Spun Off. In May 2016, Honeywell spun off its \$1.3 billion Resins and Chemicals business into a stand-alone, publicly traded company named AdvanSix Inc. The move was pursued as part of a strategy to better focus Honeywell's portfolio.

Movilizer Acquired. In March 2016, Honeywell acquired the privately held Movilizer, which created a cloud platform for field service applications. Movilizer is used by remote workers performing service or maintenance, sales and distribution, and warehousing activities away from the office. Terms of the deal were not disclosed.

Honeywell/UTC Merger Dead. In February 2016, Honeywell offered to buy United Technologies for \$90.7 billion. UTC rejected the offer, saying that pursuing a merger would be "irresponsible" to its shareholders. While the two companies had discussed such a move for years, UTC stated that "a combination would be blocked outright or, even if it were possible to complete a transaction, the regulatory delay, required divestitures, and customer concerns and concessions would ultimately destroy shareholder value far beyond any synergies."

COM DEV International Acquired. In February 2016, Honeywell completed the acquisition of Ontario, Canada-based COM DEV International. COM DEV designs, tests, and manufactures space-qualified passive microwave equipment, specialized electronics, and optical subsystems, as well as provides microsatellite mission solutions ranging from mission concept studies to launch and operations. COM DEV would become part of the company's Defense and Space business, where it would complement existing space businesses and enhance radio frequency and microwave engineering competencies. The acquisition was first announced in November 2015. Terms were not announced.

Xtralis Acquisition. In February 2016, Honeywell agreed to acquire Xtralis, a provider of aspirating smoke detection along with advanced perimeter security technologies and video analytics software, for \$480 million.

UOP Now Wholly Owned. In January 2016, Honeywell acquired the remaining 30 percent stake in UOP Russell LLC, which develops technology and manufactures modular equipment to process natural gas, for approximately \$240 million. In 2012, Honeywell's

acquisition of a 70 percent stake in the Thomas Russell Co formed UOP Russell, which became part of Honeywell UOP.

Teaming/Competition/Joint Ventures

Aero Engine Corporation of China. In November 2016, Honeywell and Aero Engine Corporation of China (AECC) signed a Memorandum of Understanding (MoU) to work together on propulsion systems, propulsion-related systems, and auxiliary power unit initiatives. The two firms will also explore potential opportunities in China for new commercial aircraft, helicopters, and business jets.

AT&T. In May 2018, Honeywell and AT&T began collaborating to use the Internet of Things for a range of solutions that help companies improve productivity, reliability and asset performance. Honeywell is working with AT&T to deploy IoT technology to Honeywell's Connected Freight and Connected Aircraft solutions.

Aviapribor. In June 1997, Honeywell and Russian-based equipment supplier Aviapribor teamed to supply avionics and landing systems for use in the Commonwealth of Independent States. The alliance was formed to develop an integrated avionics suite based on Honeywell technology for several Russian aircraft, establish a satellite landing system, and upgrade avionics equipment currently in service.

Boeing. In April 2011, Honeywell and Boeing teamed up to create an integrated security and building management platform to help improve safety and operations at large facilities. The system provides a comprehensive view of alarm-triggering events using 3D high-definition models and video surveillance, delivering real-time, detailed visual information so that security personnel can effectively deploy a more accurate response. The solution combines Honeywell's security and building management portfolios – including its range of security sensor, video surveillance, access control, and intrusion-detection systems – to feed information into Boeing's Visual Security Operations console.

CFE Company. Headquartered in Phoenix, Arizona, this joint venture company consists of GE Aircraft Engines of West Lynn, Massachusetts, and Honeywell Engines and Systems (formerly AlliedSignal). This venture is developing the CFE738 turbofan engine. CFE stands for Commercial Fan Engines.

Clean Sky 2. In February 2017, Honeywell joined the Clean Sky 2 Joint Undertaking, a European research program developing innovative technologies aimed at reducing carbon dioxide emissions and noise levels

Honeywell

produced by aircraft. Honeywell received funding worth EUR35 million to back the development of aerospace technologies in support of the initiative. As part of its membership, Honeywell will undertake projects to develop priority technologies from cockpit solutions to health monitoring. It will also use the funding to advance its electromechanical actuators, which help improve aircraft performance and lower operating costs.

Website: <https://www.cleansky.eu/>

Curtiss-Wright. In February 2019, Honeywell and Curtiss-Wright partnered to develop an entirely new way for airlines to monitor and analyze flight data. Honeywell and Curtiss-Wright will use real-time connectivity to reinvent the cockpit voice recorder and flight data recorder for the commercial airline, cargo transport and business jet markets. The new recorder will serve as a "black box in the sky," meaning owners, operators and manufacturers will have the option to access critical aircraft data at all times, resulting in the potential for improving maintenance and operational insight through data analytics. In addition, in the event of an emergency, the data on board will be quickly and more easily accessible to investigators.

Global Aerospace Logistics. In November 2011, Honeywell signed a distribution agreement with Abu Dhabi-based aerospace services supplier GAL. This agreement provides Honeywell's UAE defense customers and commercial helicopter operators with quicker access to spares, parts, and technical support.

Ground Based Strategic Deterrent. The GBSD program aims to replace the Boeing LGM-30 Minuteman III ICBM around 2030. In August 2016, three competitors were selected to compete for the program: Boeing, Northrop Grumman, and Lockheed Martin. In December 2019, the U.S. Air Force confirmed Northrop Grumman as the contractor for the estimated \$63 billion 20-year program. In September 2020, the U.S. Air Force made it official with a \$13.3 billion contract for the engineering and manufacturing development (EMD) phase of the GBSD program. Northrop Grumman's industry team includes Aerojet Rocketdyne, Bechtel, Clark Construction, Collins Aerospace, General Dynamics, HDT Global, Honeywell, Kratos Defense and Security Solutions, L3Harris, Lockheed Martin, and Textron Systems. The company says hundreds of other businesses across the United States are also involved in the effort.

Website: www.northropgrumman.com/gbsd

Improved Turbine Engine Program. This is a U.S. Army competition to develop a smaller, cheaper, and more powerful engine for AH-64D and UH-60

helicopters. In August 2016, the Army began preparations to develop a successor engine to the T700. Contracts were awarded to GE Aviation (\$102 million) and to the Honeywell/Pratt & Whitney joint venture, the Advanced Turbine Engine Company (ATEC) (\$154 million). The competitors delivered preliminary designs for a new turboshaft engine that will power a range of military rotorcraft such as the AH-64, the UH-60, and variants of the Future Vertical Lift (FVL) family. GE Aviation, which currently provides the T700 engine, offered the new T901 (formerly called GE3000) for the ITEP. ATEC proposed its dual-spool HPW3000, which was recently designated the T900-HPW-900 by the Army. The program could be worth more than \$10 billion.

In February 2019, GE Aviation was selected as the winner of the ITEP competition with a \$517 million contract to complete EMD work on its T901-GE-900 engine.

ATEC immediately filed a protest with the Government Accountability Office (GAO) over the selection. This protest was subsequently denied in May 2019.

Website: <https://www.atecadvantage.com>

Inmarsat. In September 2014, Honeywell Aerospace and Inmarsat signed a Memorandum of Agreement to bring next-generation in-flight connectivity to government and military customers. Under the new MoA, Honeywell will provide hardware for government and military customers looking to access Inmarsat's high-speed connectivity Global Xpress services. Honeywell already exclusively develops, produces, and distributes commercial hardware for Inmarsat's Jet ConneX. Now, Honeywell would develop new products in its JetWave product family to support Inmarsat's government Global Xpress services.

Previously, Inmarsat selected Honeywell in 2012 as the exclusive hardware provider for its Jet ConneX (formerly called GX Aviation) satellite system. Under the terms of the agreement, Honeywell exclusively developed, produced, and distributed the onboard hardware that enables users to connect to Inmarsat's Jet ConneX network.

International Turbine Engine Company. ITEC, headquartered in Phoenix, Arizona, consists of Honeywell Engines and Systems (formerly AlliedSignal) and Aerospace Industrial Development Corporation (AIDC) of Taichung, Taiwan. The company's primary program is the F124/F125 turbofan engine series.

Israel Aerospace Industries. In July 2017, Honeywell and Israel Aerospace Industries (IAI) signed an MoU for the joint development of a GPS anti-

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jamming navigation system for military applications. Upon successful development, IAI's anti-jamming system, which protects avionics from jamming threats, will be integrated into Honeywell's Embedded Global Positioning System / Inertial Navigation System (EGI).

In July 2016, Honeywell partnered with IAI to jointly develop a sense-and-avoid capability for IAI's Heron family of UASs. Selected for funding from the Binational Industrial Research and Development (BIRD) Foundation, the system will be demonstrated on the Heron medium-altitude, long-endurance (MALE) UAS.

Light Helicopter Turbine Engine Company.

Formed in 1985, the LHTEC manufacturing team consists of Honeywell Engines and Systems and Rolls-Royce North America of Indianapolis, Indiana. The primary programs are the LHTEC CTS800 engine for helicopters.

Paragon. In May 2017, Honeywell and Paragon Space Development Corporation teamed to design, build, test, and apply environmental control and life support systems for future human NASA and commercial programs. Paragon's focus on evolving water and thermal technologies complements Honeywell's new developments in air revitalization technologies.

Pratt & Whitney Canada. In September 2002, Honeywell reached an understanding with Pratt & Whitney Canada to form a mutual component repair venture, enabling the companies to perform component repairs on some models of each other's engines. Under the arrangement, Honeywell Aerospace and P&WC act as suppliers to each other and perform component repairs on a number of traditional-model Honeywell and P&WC engines. These include Honeywell's TPE331, TFE731, and GTCP36-100/150 engines and P&WC's PW100, PT6, and JT15D engine series. The repairs are performed at P&WC facilities in Wichita Falls, Texas; San Diego, California; and St. Hubert, Quebec; and at Honeywell's component repair facilities in Greer, South Carolina, and Phoenix, Arizona.

ST Engineering. In January 2021, ST Engineering entered into a 10-year agreement with Honeywell Aerospace for the maintenance of CFM International's LEAP engine components in the Asia-Pacific region. Under the agreement, ST Engineering will provide component MRO and warranty repair services to all Asia-Pacific operators for Honeywell components installed on LEAP engines used in the Airbus A320neo family, Boeing 737 MAX, and COMAC C919.

TAE. In June 2014, Honeywell Aerospace strengthened its aftermarket support in Australia

through an agreement with TAE. As part of the agreement, TAE will provide total logistics support for Honeywell AGT1500 engines for the Australian Army's fleet of M1A1 Abrams main battle tanks. Honeywell is also working with the Australian Army and TAE to establish an engine repair, overhaul, and test facility at Royal Australian Air Force Base Amberley in Queensland to support M1A1 Abrams maintenance.

Transworld Aviation. In November 2011, Honeywell signed a distribution agreement with commercial and military aviation supplier Transworld Aviation to provide spares, parts, and maintenance for Middle Eastern and African defense customers and commercial helicopter operators.

Urban Air Mobility Teamings. In June 2021, Honeywell was selected by Lilium to develop the avionics and flight control systems for the "7-Seater Lilium Jet." The compact fly-by-wire system will act as the flight control system on the all-electric 7-Seater Lilium Jet. Honeywell is also investing in Lilium via a stake in the company.

In June 2019, Honeywell and Vertical Aerospace signed an MoU to address the technical, regulatory and business challenges of the emerging urban air mobility segment. The companies plan to integrate Honeywell avionics, navigation, fly-by-wire, and other products and advanced technologies into future vertical aerospace vehicles for use in urban environments. In addition, Honeywell will provide the flight deck on Vertical Aerospace's VA-X4 electrical vertical takeoff and landing (eVTOL) aircraft. Honeywell is also investing in Vertical Aerospace via a stake in the company.

In June 2019, Honeywell and Jaunt Air Mobility signed an MoU to develop avionics, navigation, flight control, and connectivity solutions, plus an electric propulsion system, for Jaunt Air Mobility's planned eVTOL aircraft. As part of the agreement, Honeywell and Jaunt Air Mobility will develop technical requirements, a program statement of work, and a definitive agreement in support of Jaunt's eVTOL demonstration program by the fall of 2021.

In June 2019, Honeywell and DENSO Corp began collaborating to develop hybrid-electric and fully electric powertrains. In mid-2021, DENSO and Honeywell were in advanced discussions with current and prospective customers and intend to deliver flight test configurations of the electric propulsion systems within the next year.

In April 2019, Honeywell and Volocopter signed an agreement to jointly test and develop new navigation and automatic landing systems for Volocopter's vertical takeoff and landing aircraft as the "emerging era of

Honeywell

urban air mobility moves closer to delivering a new breed of cleaner, safer and smarter air vehicles."

In January 2019, Honeywell and Pipistrel signed an MoU to explore solutions for the UAM market. The companies will integrate Honeywell avionics, navigation, flight control, connectivity and other products and services onto a future Pipistrel VTOL air vehicle to support fully autonomous operations in the future.

Website:

<https://aerospace.honeywell.com/en/learn/supported-platforms/urban-air-mobility>

Vector Aerospace. In September 2010, Honeywell licensed Vector Aerospace Engine Services UK Ltd to service Honeywell's ALF 502 and LF 507 engines. The agreement includes a Honeywell parts supply arrangement and a license to provide engine overhaul and repair services.

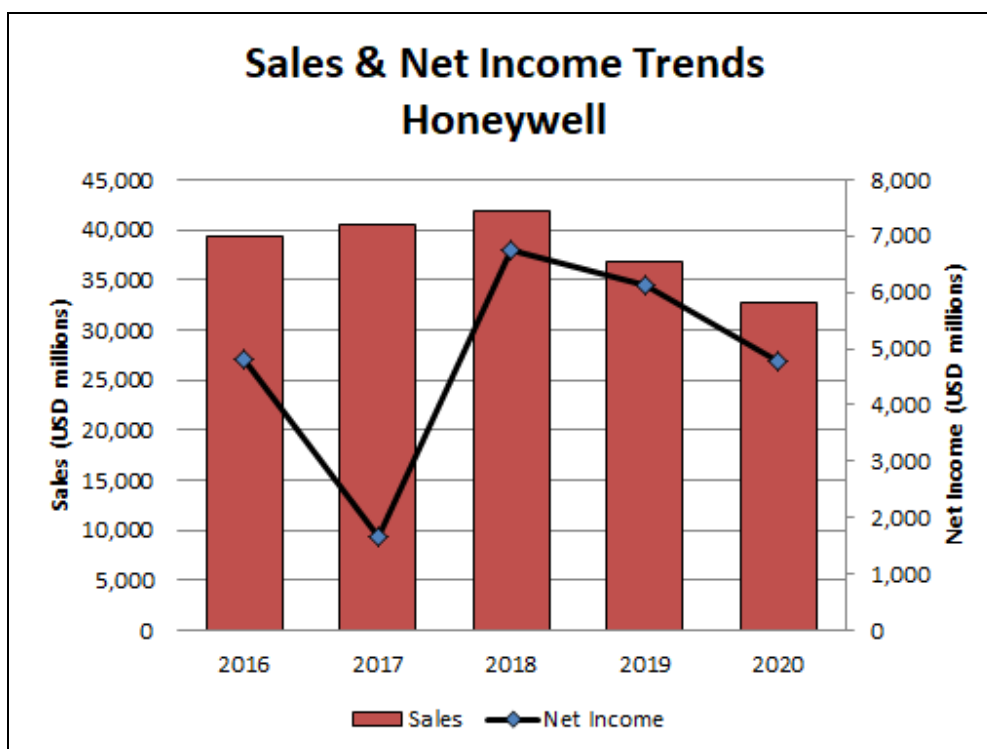
Financial Results/Corporate Statistics

For 2020, Honeywell reported net sales of \$32.6 billion, down 11 percent from sales of \$36.7 billion in 2019. Net income for the year was \$4.7 billion, compared to \$6.2 billion in 2019. The lower income level for 2017 was attributed to a provisional charge of \$3.8 billion to reflect the estimated impact of the U.S. Tax Cuts and Jobs Act. The latest full-year statistics, restated to the company's current presentation, are as follows.

Honeywell (NYSE: HON)

(USD millions)	2016	2017	2018	2019	2020
Net Sales	39,302	40,534	41,802	36,709	32,637
Net Income	4,809	1,655	6,765	6,143	4,779
Sales to Gov't	3,330	3,203	3,403	4,057	4,218
Percent Gov't Sales	8.47%	7.9%	8.1%	11.1%	12.9%
R&D Expenditures	1,864	1,835	1,809	1,556	1,334
Total Backlog	17,277	17,690	24,850	25,612	26,376
Long-term Debt	12,182	12,573	9,756	11,110	16,342
Shareholder Equity	19,547	17,439	18,358	18,706	17,790
Debt-to-Equity Ratio	.62	.72	.53	.59	.92
Employees	131,000	131,000	114,000	113,000	103,000

Honeywell



Industry Segments

The following is a breakdown of Honeywell's sales and operating income by major market segment for the past five years.

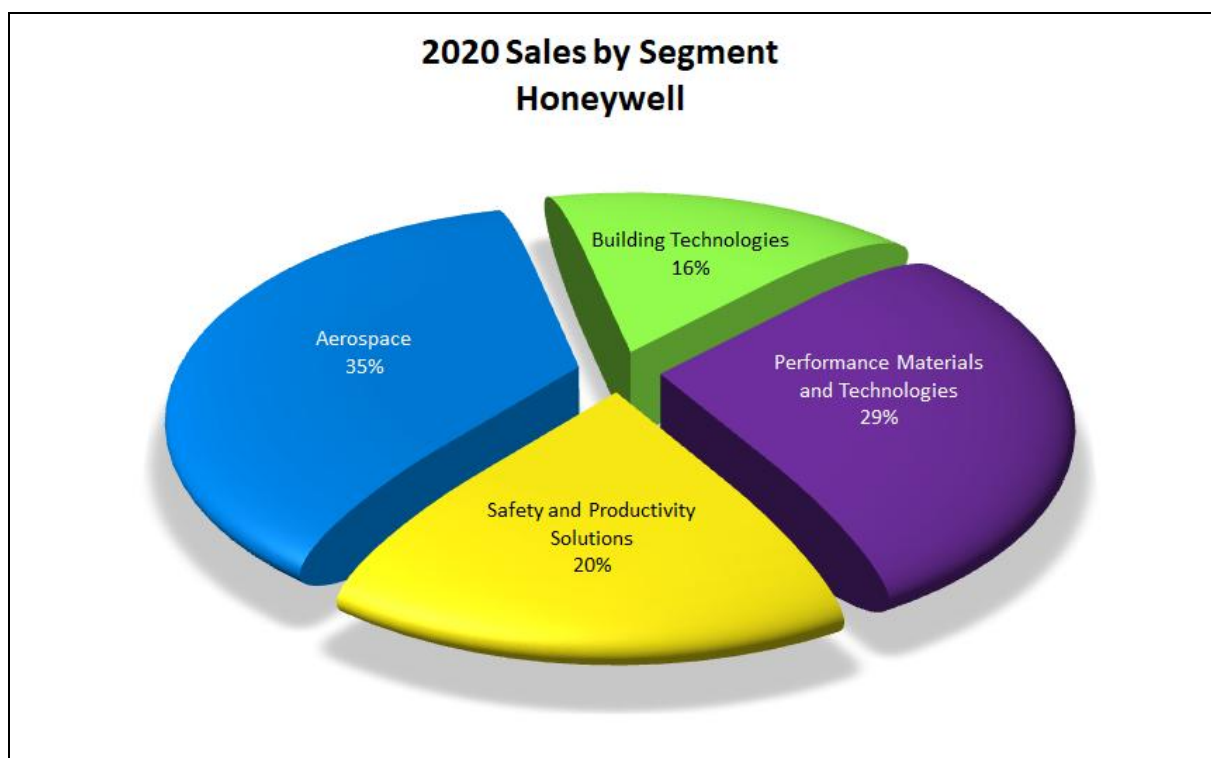
SALES	2016	2017	2018	2019	2020
(USD millions)					
Aerospace	14,751	14,779	15,493	14,054	11,544
Honeywell Building Technologies	9,490	9,777	9,298	5,717	5,189
Performance Materials and Technologies	10,436	10,339	10,674	10,834	9,423
Safety and Productivity Solutions	4,625	5,639	6,337	6,104	6,481
TOTAL	39,302	40,534	41,802	36,709	32,637
OPERATING INCOME	2016	2017	2018	2019	2020
(USD millions)					
Aerospace	2,991	3,288	3,503	3,607	2,904
Honeywell Building Technologies	1,621	1,650	1,608	1,165	1,099
Performance Materials and Technologies	2,112	2,206	2,328	2,433	1,851
Safety and Productivity Solutions	680	852	1,032	790	907
Corporate	-218	-306	-281	-256	-96
TOTAL	7,186	7,690	8,190	7,739	6,665

Honeywell**Segment Details**

Below is a breakdown of key financial data for the company's major business segments and geographic regions for the past five years.

AEROSPACE	2016	2017	2018	2019	2020
(USD millions)					
Net Sales	14,751	14,779	15,493	14,054	11,544
<i>Commercial Aviation OEM</i>	2,525	2,475	2,833	2,997	1,932
<i>Commercial Aviation Aftermarket</i>	4,796	5,103	5,373	5,731	3,786
<i>Defense and Space</i>	4,375	4,053	4,665	5,326	5,826
<i>Transportation Systems</i>	3,055	3,148	2,622	-	-
Operating Income	2,991	3,218	3,503	3,607	2,904
HONEYWELL BUILDING TECHNOLOGIES	2016	2017	2018	2019	2020
(USD millions)					
Net Sales	9,490	9,777	9,298	5,717	5,189
<i>Products</i>	-	-	2,953	3,314	2,995
<i>Building Solutions</i>	-	-	2,417	2,403	2,194
<i>Home Products & Software</i>	-	-	1,732	-	-
<i>Distribution (ADI)</i>	-	-	2,196	-	-
<i>Home and Building Products</i>	4,803	4,928	-	-	-
<i>Home and Building Distribution</i>	4,687	4,849	-	-	-
Operating Income	1,621	1,650	1,608	1,165	1,099
PERFORMANCE MATERIALS AND TECHNOLOGIES	2016	2017	2018	2019	2020
(USD millions)					
Net Sales	10,436	10,339	10,674	10,834	9,423
<i>UOP</i>	2,469	2,753	2,845	2,890	2,177
<i>Process Solutions</i>	4,640	4,795	4,981	5,146	4,590
<i>Specialty Products</i>	-	-	1,134	1,062	1,075
<i>Fluorine Products</i>	-	-	1,714	1,736	1,581
<i>Advanced Materials</i>	3,327	2,791	-	-	-
Operating Income	2,112	2,206	2,328	2,433	1,851
SAFETY AND PRODUCTIVITY SOLUTIONS	2016	2017	2018	2019	2020
(USD millions)					
Net Sales	4,625	5,639	6,337	6,104	6,481
<i>Safety and Retail</i>	2,075	2,169	2,278	2,215	2,414
<i>Productivity Products</i>	-	-	1,373	1,110	1,256
<i>Warehouse and Workflow Solutions</i>	-	-	1,829	1,931	2,018
<i>Sensing & Internet of Things (IoT)</i>	-	-	857	848	793
<i>Productivity Solutions</i>	2,550	3,470	-	-	-
Operating Income	680	852	1,032	790	907

Honeywell



GEOGRAPHIC SALES	2016	2017	2018	2019	2020
(USD millions)					
United States	22,652	22,722	23,841	21,910	19,665
Europe	9,966	10,400	10,066	7,424	6,356
Other	6,684	7,412	7,895	7,375	6,616
TOTAL	39,302	40,534	41,802	36,709	32,637

Major Competitors

Honeywell's top competitors in the aerospace market include BorgWarner, Collins Aerospace, General Electric, Thales, and UTC Aerospace Systems. The company also faces competition from units or divisions of BAE Systems, Boeing, Eaton, L3Harris, L3 Technologies, Lufthansa Technik, Northrop Grumman, Parker Hannifin, Pratt & Whitey, Rolls-Royce, Safran, Thales, and Williams.

Strategic Outlook

Halfway through 2021 and Honeywell is going strong. Sales for the first half of the year were \$13.0 billion, up 8 percent compared to the first half of 2020.

A strong recovery across all its sectors coupled with an earlier streamlining effort is a key factor in the company's success. As it looks to the full year, the company increased its sales projections, now expecting sales to be in the \$34.6 billion to \$35.2 billion range.

In the hard-hit aerospace sector, Honeywell does see some light at the end of the tunnel. In its 29th annual Global Business Aviation Outlook (released in October 2020), Honeywell forecasts up to 7,300 new

business jet deliveries worth \$235 billion from 2021 to 2030, down 4 percent from last year's equivalent 10-year forecast.

Overall, the company anticipates that this sector of the aviation industry will quickly recover, with business jet usage returning to pre-pandemic levels in mid-2021. This is so far being borne out by results. Aerospace sector sales are up 7 percent for the second quarter to \$2.8 billion (2Q20: \$2.5 billion), driven by a strong recovery in business and general aviation aftermarket demand as flight hours return to 2019 levels.

Honeywell

The outlook in large commercial jet transports is less sanguine, but optimism is rising as vaccines get distributed. Air traffic has begun to slowly improve, and carriers have been bringing stored aircraft back into service as quarantine measures are eased and economic activity begins to revive. However, this recovery will be a measured one, with a rebound to pre-pandemic levels expected in the 2024-2025 timeframe.

One area of growth the company is targeting is the nascent urban air mobility market. To pursue opportunities in this sector, Honeywell created a dedicated Unmanned Aerial Systems unit, focused on the UAS and UAM industries. Here the company hopes to leverage its expertise in autonomous flight, avionics, electric and hybrid-electric propulsion, detect-and-avoid systems, actuation systems, flight infrastructure, and connectivity to support the specialized needs of these systems.

With the consolidation of Tier 1 suppliers, such as the new Raytheon Technologies (a UTC / Collins Aerospace Systems and Raytheon tie-up), forming aerospace heavyweights, Honeywell is likely mulling options for its aerospace unit. Previously, Honeywell made its own play for United Technologies in a \$91 billion hostile takeover that ultimately failed. One long-shot scenario could see a merger with GE Aviation to counter the Collins Aerospace/Raytheon combination. While an attempt in the early 2000s to merge the two failed due to a block from the European Union, the post-pandemic landscape may prove more opportune.

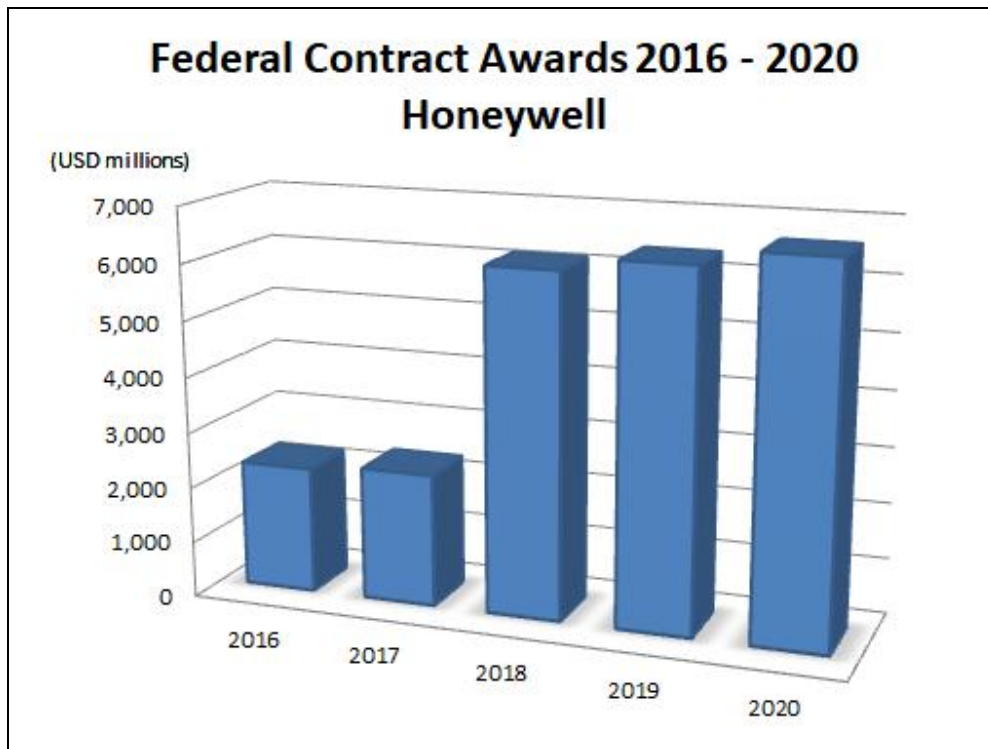
The company is expected to continue its positive momentum as the economy begins its slow recovery. While commercial aerospace will lag for some time, growth in defense and space will continue to provide stability.

Prime Award Summary

The following chart and table show the dollar volume of federal prime contracts awarded from 2016 through 2020 and Honeywell's rank among the top 100 companies in terms of federal contracts for each of the five years. For more information, refer to Appendix I, "Recipients of Federal Contract Awards."

Honeywell International Inc	2016	2017	2018	2019	2020
(USD millions)					
Rank	24	29	11	12	13
Total DoD Awards	2,266	2,381	6,134	6,365	6,635

Honeywell



Source: <https://sam.gov/reports/awards/static> Top 100 Contractors Report (login required)

Program Activity

The following outlines some important aerospace and government programs currently underway at Honeywell. The briefs are intended to provide a listing of programs of major importance to the company. For detailed information on or analysis of specific aerospace and defense programs or equipment, please refer to the applicable Forecast International service (for example, *Civil Aircraft*, *Military Aircraft*, *Military Vehicles*, *Warships*, *Missiles*, *Electronic Systems*, and *Aviation Gas Turbines*). The company's business interests are as follows:

- Defense Electronics
- Avionics
- C4I Systems
- Radar
- Sensors
- Missiles
- Space Systems
- Systems Integration
- Unmanned Vehicles

Electronic Programs

(Airborne Electronics)

Advanced Mission Computer

The AMC is the follow-on to the AYK-14 computer currently employed by a number of U.S. forces – primarily on tactical aircraft as a standard airborne data computer. The AMC was previously designated the Advanced AYK-14 system. The AMC is also known as the GD3000. Honeywell provides the graphics processor for the system.

MILACAS

The Military Airborne Collision Avoidance System is an air-to-air anti-collision system. The MILACAS is an upgraded Traffic Collision Avoidance System (TCAS)/Airborne Collision Avoidance System (ACAS) with advanced features for military use. The A330 MRTT, C-27J, C-130J, C-295, VH-71, and V-22 specify MILACAS as standard equipment. Future applications may include fighter aircraft and UAVs.

Honeywell

Primus Epic

The Primus Epic is a commercial/civilian integrated avionics system. Developed for business, regional, and helicopter aircraft, the Primus Epic has flat-panel displays that support movable navigation maps, ground-based weather alerts, real-time video, and aircraft utility systems controls. The system is in production and operational use for business jets, regional aircraft, and helicopters. It continues to undergo certification for various aircraft platforms.

(Radar)

APS-150 (RDR-4000M)

The APS-150 (aka the RDR-4000M, which is a military variant of the RDR-4000 IntuVue radar) is an advanced weather radar for military aircraft. It includes additional operating capabilities over the civilian RDR-4000, such as high-resolution ground mapping, precision ground mapping, and aircraft skin paint modes. APS-150 production is driven by new-build and retrofit markets for A400M, C-2, and C-130 fixed-wing and CH-47 helicopter transports.

RDR-4000

The RDR-4000 is an advanced weather radar. It is part of Honeywell's IntuVue (for intuitive view) weather radar line. The RDR-7000 IntuVue was launched to provide similar capabilities to smaller fixed-wing and rotary-wing aircraft. A growing number of civil aircraft are being offered with the IntuVue RDR-4000 as standard equipment. Airbus selected the radar for its A350 and A380 aircraft; Dassault for its Falcon 5X, Falcon 6X, Falcon 7X, and Falcon 8X; and Gulfstream for its G500, G600, G650, and G700. Additionally, the IntuVue is certificated as an installation or retrofit option across most of Airbus', Boeing's, and Embraer's passenger jet lines. Outside the commercial passenger jet market, many manufacturers have added the RDR-4000 as an option to a growing list of bizjet models.

Engine Programs

Honeywell AGT1500

The Honeywell AGT1500 is a two-spool, axial-centrifugal-flow gas turbine engine designed for use on the M1 Abrams. After nearly 12,170 engines were produced, production of the AGT1500 ended, and the Stratford Army Engine Plant where it was built closed in 1997. Support shifted to Anniston Army Depot. In 2005, the AGT1500 was reloaded onto the production line when Egypt ordered a few hundred new-build engines. This line also serves U.S. needs. Currently, Honeywell's TIGER program encompasses parts, engineering, depot, and field support services that support the reset of AGT1500 engines. The TIGER

upgrades have increased the reliability of the AGT1500 engine by overhauling it to a near-new engine standard.

(Aviation Turboprops)

CFE Company CFE738

This is a two-spool, axial-centrifugal, high-bypass-ratio aviation turboprop engine. The prime manufacturer is CFE Company of Phoenix, Arizona. CFE Company includes General Electric Company USA; GE Aircraft Engines of West Lynn, Massachusetts; and Honeywell Engines and Systems of Phoenix. U.S. Federal Aviation Administration (FAA) certification was obtained in the first quarter of 1994. European Joint Aviation Authorities (JAA) certification aboard the Dassault Falcon 2000 occurred in September 1994.

Honeywell HTF7000

This is a two-shaft, axial-centrifugal-flow, turboprop engine designed for midsize business jets and 30- to 50-passenger regional jet aircraft. The HTF7350 powers the Bombardier Challenger 350 and Embraer Legacy 450/500 family. Two new super-midsize models in particular – the Cessna Longitude and Embraer Praetor 600 – will drive deliveries of the HTF7000 production higher over the long term.

Honeywell TFE731

The TFE731 is a two-shaft, axial-centrifugal-flow, geared turboprop engine. The engine is intended for light commercial transport aircraft and business jets, as well as light military trainer/trainer-attack aircraft. The Bombardier Learjet 75 and Gulfstream G150 account for the bulk of the TFE731's demand. Production of Honeywell's TFE731 has been on a downslope for more than a decade. While there is nothing wrong with the engine, it has lost applications over the years without gaining new ones.

International Turbine Engine Company F124/F125

The ITEC F124 is a low-bypass turboprop engine derived from the civilian Honeywell TFE731. The F125 is an afterburning version of the engine. ITEC is a joint venture of Honeywell and Taiwan's AIDC. The F124 powers the Alenia Aermacchi M-346 and the Aero Vodochody L-159. The F125 is utilized on the AIDC F-CK-1 Ching-kuo.

(Aviation APUs)

Honeywell Model 36

The Model 36 is a small single-shaft, centrifugal-flow gas turbine/APU-GPU, with both commercial and military aircraft applications. The Model 36 remains one of the most popular business jet APUs.

Honeywell

Honeywell Model 85

This is a single-shaft, centrifugal-flow gas turbine machine designed as an APU for various transport aircraft and as a GPU for military and civil applications. The system is in production for its sole application: Lockheed Martin's C-130J Hercules.

Honeywell Model 131 and HGT750

These are single-shaft, axial-centrifugal-flow, bleed air gas turbine machines/APUs. The initial application was heavy military transport/bomber aircraft; recent applications include medium-weight commercial transport aircraft. Honeywell's Model 131-9 APU is produced for narrowbody transports and has applications on Boeing's 737 family, Airbus' A320 family, and, most recently, Bombardier's CSeries (now called the Airbus A220). COMAC has selected a variant of the Model 131 family, the HGT750, for the all-new COMAC C919 narrowbody. Also, Russia's Irkut has selected the Model 131 for its MC-21 narrowbody.

Honeywell Model 331/HGT1700

This is a single-shaft, centrifugal-flow gas turbine machine/APU designed for heavy fixed-wing commercial and military aircraft. The unit is in series production. Honeywell's Model 331 APU is produced for widebody aircraft made by Airbus and Boeing. Airbus selected the new HGT1700 model for its all-new A350 widebody.

Honeywell RE100

This is a new single-shaft, centrifugal-flow gas turbine / APU designed specifically for the new generation of light/medium business/executive jet-powered aircraft. Applications include the Bombardier Learjet 75 and Cessna Citation Latitude business jets and Bell's all-new 525 super medium helicopter. Secondary and ground power applications may follow.

Honeywell RE220/HGT400

This is an advanced technology, modular design, single-shaft, centrifugal-flow, integral-bleed gas turbine APU designed for high-end business/corporate jet aircraft and the 70- to 130-seat regional airliner market. AVIC has selected the HGT400 for its new MA700 regional turboprop airliner.

(Aviation Turboprops)

Honeywell TPE331

This is a single-shaft, centrifugal-flow, turboprop engine. The TPE331 is a free-turbine turboprop. Military variants of the TPE331 are designated T76. Applications include fixed-wing commuter, corporate, and military aircraft and light general aviation aircraft.

The TPE331 is also used on military UAVs such as the Predator/Reaper. It is in series production.

(Aviation Turboshfts)

Honeywell T55 (Turboshaft)

This is a two-shaft, axial-centrifugal-flow, free-turbine turboshaft engine for medium-lift military and commercial helicopters. The only application is the CH-47 Chinook helicopter. By mid-2019, the U.S. Army had taken delivery of more than 460 Block I CH-47Fs, including both new-build and remanufactured rotorcraft. The Army plans to buy only 15 more Block I CH-47Fs. With procurement of new-build Chinooks by the U.S. military winding down, future production of the T55 will depend on the export market, and it remains a popular aircraft with international customers. Honeywell is working on a new, more powerful variant that could re-engine the U.S. Army's fleet of CH-47Fs.

LHTEC CTS800

This is an advanced technology, centrifugal-flow, free-turbine turboshaft engine designed for use on light commercial and military helicopters, most notably the Comanche. The prime contractor is LHTEC of St. Louis, Missouri. The LHTEC manufacturing team consists of Honeywell and Rolls-Royce North America. Currently, there is only one application left for LHTEC's CTS800, Leonardo's AW129 attack helicopter. One new opportunity for LHTEC is TAI's T625 medium helicopter program. Turkish Aerospace Industries has selected the CTS800-4A to power the all-new twin-engine model. Production will likely conclude in 2023 after the Turkish backlog has been cleared.

Missile Programs

Missile Radar Altimeters

According to Honeywell, standard radar altimeter systems for U.S. Navy and Air Force missile applications have been in production for the last 30 years. These low-probability-of-intercept altimeter systems feature high immunity to jamming with various special antennas. All hardware is classified.

Space Systems – Launch Vehicles

Atlas V

The Atlas V is a family of medium-lift expendable launch vehicles designed and manufactured by Lockheed Martin Astronautics. The Atlas V is best known as one of two launch vehicles that are part of the U.S. Air Force's Evolved Expendable Launch Vehicle (EELV) Program. Honeywell provides ring laser gyros for the vehicles.

Honeywell

Centaur Upper Stage

The Centaur is a liquid hydrogen/liquid oxygen, propellant-powered upper stage vehicle. Centaur upper stages are used for Earth orbital and interplanetary payloads. Honeywell provides the inertial guidance system. Production is tied to Atlas V production.

EELV

The Evolved Expendable Launch Vehicle is a new class of rocket for medium and heavy payloads. The class consists of the Boeing Delta IV and the Lockheed Martin Atlas V. Honeywell produces the redundant inertial flight control assembly for these systems. ULA announced plans in April 2015 to begin replacing the Atlas V and Delta IV with the Vulcan. Approximately 120 EELVs have been produced for U.S. government missions.

Space Systems – Satellites & Spacecraft

ADEOS/GCOM

The Advanced Earth Observation Satellite-II (ADEOS-II) and Global Change Observation Mission (GCOM) are remote sensing satellites. Mitsubishi Electric Co of Tokyo, Japan, is responsible for overall ADEOS design integration. Honeywell developed the Retroreflector for the program.

Boeing-702

The Boeing-702 (formerly the HS-702) is a communications satellite designed for deployment in geosynchronous orbit. Honeywell produces the satellite's electronic reaction wheel assemblies.

Navstar Global Positioning System

The Navstar GPS system is a constellation of U.S. Navstar (Navigation System Using Timing and Ranging) satellites used for three-dimensional position and velocity determination. Honeywell provides the reaction wheel assembly, the onboard computer, and inertial measurement units for these spacecraft.

SBIRS High/Next-Gen OPIR

The Space Based Infrared System is a satellite system to replace Defense Support Program (DSP) satellites. Next-Generation OPIR is the follow-on to SBIRS High. The primary mission of the SBIRS High is to provide missile defense, technical intelligence, analysis of battle situations, and initial warning of a ballistic missile attack. Honeywell is providing the onboard spacecraft and payload processors. The SBIRS constellation consists of two geosynchronous satellites and two SBIRS High payloads. In June 2014, the Air Force awarded Lockheed Martin a \$1.86 billion contract to produce the GEO-5 and GEO-6 spacecraft. GEO-5 was launched in May 2021; GEO-6 is scheduled for launch in 2022.

Unmanned Vehicle Programs

InView

In September 2017, Honeywell launched its first commercial unmanned aerial vehicle inspection service, Honeywell InView. Honeywell InView combines the Intel Falcon 8+ UAV system and Honeywell's expertise in the aerospace and industrial industries with data-driven software customized to meet the needs of the utility, energy, infrastructure, and oil and gas industries.

RQ-16 T-Hawk

The Honeywell T-Hawk (Tarantula Hawk) is a micro air vehicle developed for the U.S. Army as part of the canceled Future Combat Systems (FCS) program. The circular vehicle, which weighs 17 pounds and is 14 inches in diameter, can fly down to inspect hazardous areas for threats without exposing warfighters to enemy fire. In February 2009, Honeywell received an order via Foreign Military Sales (FMS) for six T-Hawk MAV systems from the U.S. Navy, which is the contracting activity for the U.K. Ministry of Defence for T-Hawk MAV procurement. In November 2009, the Navy awarded Honeywell its first production contract for the T-Hawk MAV. The system was used by Joint Force explosive ordnance disposal (EOD) units in Iraq and Afghanistan, among other locations.

Honeywell**U.S. Contract Awards**

The following is a listing of major contracts awarded to Honeywell from the U.S. government from 2019 through the first half of 2021. Note that the Description section is excerpted directly from U.S. DoD listings. For full details on contracts and their associated modifications, visit <https://www.defense.gov/Newsroom/Contracts/>

Date	Award (USD millions)	Contract #	Description
2019			
1/29/19	85.7	?	HARDWARE & SOFTWARE SUPPORT FOR THE C-5 AIRCRAFT.
2/21/19	150.0	FA8650-19-D-2058	IDIQ CONTRACT FOR ADVANCED TURBINE TECHNOLOGIES FOR AFFORDABLE MISSION-CAPABILITY PHASE I.
3/8/19	7.7	SPRDL1-19-0-099	INERTIAL NAVIGATION KITS.
3/12/19	12.8	SPRDL1-19-C-0116	INERTIAL NAVIGATION SYSTEMS.
4/15/19	10.1	SPRHA4-19-D-0001	IDIQ CONTRACT FOR ADVANCED CENTRAL AIR DATA COMPUTERS FOR THE F-16 WEAPON SYSTEM.
4/30/19	70.5	W56HZV-12-C-0344	TOTAL INTEGRATED ENGINE REVITALIZATION HARDWARE SERVICES.
6/28/19	16.5	W56HZV-19-F-0501	FMS (KUWAIT & SAUDI ARABIA) CONTRACT FOR THE PRODUCTION OF THE J7 DIGITAL ELECTRONIC CONTROL UNIT FOR THE ABRAMS FAMILY OF VEHICLES.
8/15/19	110.9	W56HZV-12-C-034	TIGER HARDWARE TO MEET ANNISTON ARMY DEPOT PRODUCTION OF THE ADVANCED GAS TURBINE 1500 ENGINE FOR THE ABRAMS TANKS & TIGER FIELD REPAIR SITE REQ.
8/29/19	23.5	FA8625-19-F-6803	REPAIR & UPGRADE OF THE C-5M SUPER GALAXY'S VIA/AIU REPAIR & UPGRADE.
8/30/19	11.5	N00383-12-D-003D	PERFORMANCE-BASED LOGISTICS REQ CONTRACT FOR REPAIR, REPLACEMENT & PROGRAM SUPPORT OF AUXILIARY POWER UNITS USED ON F/A-18 A-G, P-3, AND C-2 AIRCRAFT, ALONG WITH PROVIDING COVERAGE FOR THE MAIN FUEL CONTROLS & ELECTRONIC CONTROL UNIT USED ON THE F/A-18 & THE P-3 ENGINE-DRIVEN COMPRESSOR.
9/5/19	37.9	W56HZV-19-D-0082	PROCUREMENT OF THE COMMERCIAL TACTICAL ADVANCED LAND INERTIAL NAVIGATOR 5000.
9/13/19	47.0	W58RGZ-19-C-0051	OVERHAUL & REPAIR OF THE T55-GA-714A ENGINE.
9/19/19	17.1	FA8109-16-D-0016	REPAIR & OVERHAUL CONTRACT TO SUPPORT AIRCRAFT ACCESSORIES & AIRCRAFT INSTRUMENTS TO ENSURE SERVICEABLE ASSETS ARE AVAILABLE FOR THE E-3, E-8, C-130, F-16, C-135, C-5, A-10, AND B-52.
9/24/19	21.2	W912JC-19-C-5716	FMS (KUWAIT & SAUDI ARABIA) CONTRACT FOR ENGINE PARTS FOR THE AGT1500 TANK ENGINE REBUILD.
10/25/19	77.1	SPE4AX-15-D-9409	MODIFICATION FOR AN ADDITIONAL THREE YEARS OF PRICING IN SUPPORT OF THE F/A-18 AIRCRAFT.
11/25/19	?	W912DY-20-F-0005	HONEYWELL WILL COMPETE FOR EACH ORDER OF THE \$1,200,000,000 FFP CONTRACT FOR PROCUREMENT & INSTALLATION OF UTILITY MONITORING & CONTROL SYSTEMS SUCH AS HEATING, VENTILATING & AIR CONDITIONING SYSTEMS. BIDS WERE SOLICITED VIA THE INTERNET, WITH 28 RECEIVED.

Honeywell

Date	Award (USD millions)	Contract #	Description
12/23/19	73.3	W56HZV-12-C-0344	HARDWARE & SERVICES WITH OPTIONS FOR THE TOTAL INTEGRATED ENGINE REVITALIZATION AGT1500 PROGRAM FOR THE ABRAMS TANK FAMILY OF VEHICLES.
2020			
1/17/20	25.7	SPRRA1-20-D-0016	HELICOPTER GENERATORS.
1/31/20	22.4	SPRDL1-20-D-0043	GENERATORS.
2/7/20	3517.0	FA8576-20-D-0001	AN IDIQ CONTRACT WITH ESTIMATED CEILING OF \$3,517,000,000 FOR EMBEDDED GPS INERTIAL NAVIGATION SYSTEM MODERNIZATION (EGI/EGI-M) FOLLOW-ON PRODUCTION & SUSTAINMENT.
3/17/20	72.8	N00383-20-D-WP01	REPAIR, REPLACEMENT & PROGRAM SUPPORT FOR APU's USED ON COMBAT JETS, MARITIME SURVEILLANCE & CARGO AIRCRAFT MODELS (THE F/A-18, A-G, P-3 & C-2).
3/19/20	7.8	FA8750-20-C-0512	RESEARCH, DEVELOP, INTEGRATE, VALIDATE & DEMONSTRATE CONSISTENT LOGICAL AUTOMATED REASONING FOR INTEGRATED SYSTEM SOFTWARE ASSURANCE (CLARISSA) FOR ASSESSMENT OF ASSURANCE CASES.
3/24/20	10.3	N00164-20-F-G001	ENGINEERING SUSTAINMENT SUPPORT SERVICES FOR THE STRATEGIC RADIATION-HARDENED MICROELECTRONICS FACILITY.
4/15/20	?	N00421-20-D-0081	\$7,143,500,000 IN IDIQ CONTRACTS IN SUPPORT OF THE NAVAL AIR WARFARE CENTER, AIRCRAFT DIV. THESE CONTRACTS ARE FOR THREE DISTINCT LOTS, EACH WITH ESTABLISHED VENDOR POOLS SUPPORTING DIFFERENT REQ. WORK WILL BE PERFORMED AT THE CONTRACTORS' LOCATIONS & AT GOVERNMENT FACILITIES. LOT I PROVIDES FULL-RATE PRODUCTION OF MISSION SYSTEM AVIONICS. LOT II PROVIDES FRP OF OTHER AIRCRAFT COMPONENTS, AND PRODUCTION & INSTALLATION OF MODIFICATION KITS. LOT III PROVIDES FRP OF OTHER AIRCRAFT COMPONENTS, AND PRODUCTION & INSTALLATION OF MODIFICATION KITS.
4/20/20	99.1	FA8576-20-C-0001	EMD OF THE EGI-M.
4/30/20	11.0	SPRBL1-20-D-0033	PURCHASE & REPAIR OF ONE SPARE PART SUPPORTING THE TPQ-50 COUNTERFIRE TARGET ACQUISITION RADAR SYSTEM.
5/29/20	?	FA8612-20-D-0014	\$950,000,000 CEILING, IDIQ CONTRACTS FOR THE MATURATION, DEMONSTRATION & PROLIFERATION OF CAPABILITY ACROSS PLATFORMS & DOMAINS, LEVERAGING OPEN SYSTEMS DESIGN, MODERN SOFTWARE & ALGORITHM DEVELOPMENT TO ENABLE JOINT ALL DOMAIN COMMAND & CONTROL (JADC2). THESE CONTRACTS PROVIDE FOR THE DEVELOPMENT & OPERATION OF SYSTEMS AS A UNIFIED FORCE ACROSS ALL DOMAINS (AIR, LAND, SEA, SPACE, CYBER & ELECTROMAGNETIC SPECTRUM) IN AN OPEN ARCHITECTURE FAMILY OF SYSTEMS THAT ENABLES CAPABILITIES VIA MULTIPLE INTEGRATED PLATFORMS.
6/30/20	41.6	FA9453-20-C-0013	COMPACT STRATEGIC GRADE GYROSCOPE.

Honeywell

Date	Award (USD millions)	Contract #	Description
6/11/20	?	HQ0727-16-D-0008	A MAXIMUM \$10,271,000,000 MODIFICATION TO EXISTING IDIQ, ADVANCED TECHNOLOGY SUPPORT PROGRAM IV CONTRACTS. ATSP4 ARE CONTRACTS FOR ENGINEERING SERVICES DESIGNED TO RESOLVE PROBLEMS WITH OBSOLETE, UNRELIABLE, UNMAINTAINABLE, UNDERPERFORMING, OR INCAPABLE ELECTRONICS HARDWARE & SOFTWARE THROUGH DEVELOPMENT OF ADVANCED TECHNOLOGY INSERTIONS & APPLICATIONS TO MEET THE REQ OF THE DEPARTMENT OF DEFENSE FOR A QUICK REACTION CAPABILITY.
6/15/20	27.2	SPRRA1-20-D-0054	AIRCRAFT GENERATOR APU'S IN SUPPORT OF THE BLACK HAWK HELICOPTER.
6/17/20	7.7	W56HZV-12-C-0344	EXERCISE OF OPTIONS FOR THE TOTAL INTEGRATED ENGINE REVITALIZATION AGT1500 PROGRAM FOR THE ABRAMS TANK FAMILY OF VEHICLES.
6/18/20	7.8	SPRRA1-20-D-0038	CLUTCH ASSEMBLIES.
6/24/20	7.1	W31P4Q-20-D-0027	PROCUREMENT OF 66 TACTICAL ADVANCED LAND INERTIAL NAVIGATOR HIGH-ACCURACY NORTH FINDING SYSTEMS.
8/20/20	20.8	FA8538-20-D-0010	REPAIR OF THE ADVANCED DISPLAY CORE PROCESSOR & DIGITAL MAPPING SERVICE IN F-15E'S.
9/25/20	26.2	W56HZV-20-F-0390	PROGRAM MANAGEMENT, FIELD SERVICE, PRODUCTION & SYSTEMS TECHNICAL SUPPORT FOR THE AGT1500 ENGINE.
9/28/20	258.7	W58RGZ-20-D-0098	OVERHAUL/REPAIR OF T55-GA-714A ENGINES FOR THE CH-47 CHINOOK.
9/30/20	67.0	SPRDL1-20-D-0098	M1 ABRAMS TANK PARTS.
10/7/20	11.6	FA9453-19-C-0010	EXERCISE OPTION TWO FOR CRITICAL DESIGN REVIEW, PROVIDING RESEARCH OPTIONS FOR SPACE ENTERPRISE TECHNOLOGIES.
10/22/20	15.9	SPE4A1-17-G-0016	DELIVERY ORDER AGAINST FIVE-YEAR BOA FOR V-22 SPARE PARTS.
11/12/20	72.9	N00383-21-D-XP01	THE REPAIR OF SIX WEAPON REPAIRABLE ASSEMBLIES IN SUPPORT OF THE V-22 AIRCRAFT.
11/17/20	25.7	N00383-21-D-YA01	MANUFACTURE OF FOUR PARTS ASSOCIATED WITH THE WHEELS & BRAKES USED IN SUPPORT OF F/A-18 AIRCRAFT.
12/17/20	1105.1	W56HZV-20-D-0062	AGT1500 ENGINE PROGRAM.
2021			
3/8/21	476.1	W58RGZ-21-D-0027	CONTRACT FOR THE PROCUREMENT OF CH-47 AIRCRAFT T55 ENGINES, ELECTRONIC CONTROL UNITS, AND ENGINE INSTALLATION KITS.
6/29/21	9.9	SPRPA1-21-F-KQ17	V-22 SPARE PARTS.
7/16/21	9.0	N6833521C0675	THIS CONTRACT PROVIDES NON-RECURRING ENGINEERING SUPPORT, TO INCLUDE LABORATORY AND FLIGHT DATA ANALYSIS, ANOMALY RESOLUTION, DEFICIENCY CORRECTION, FLIGHT TEST EQUIPMENT DEVELOPMENT AND INTEGRATION, SOFTWARE MODIFICATION AND SUSTAINMENT, QUALIFICATION TEST SUPPORT, TRAINING AND TECHNICAL SUPPORT, AND INTEGRATION IN SUPPORT OF APN-194A RADAR ALTIMETER MODIFICATION EFFORTS FOR THE NAVY.

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