A CENTURY OF RESEARCH, INNOVATION AND SERVICE

Changing the world one solution at a time
Who we are

Honeywell UOP processes have changed the world. Since the groundbreaking introduction of the Dubbs Process in 1914, Honeywell UOP’s engineers and chemists have excelled in turning laboratory science into industrial reality, establishing the foundation for today’s modern refining industry.

UOP processes produce the gasoline that fuels our cars. The raw materials that ultimately become the clothes we wear are made using UOP technology. Manufacturers use UOP processes to produce the household detergents we use everyday, and plastics would not be possible without technologies developed by UOP.

Today, 85 percent of the world’s biodegradable detergents, 70 percent of its polyester, and more than 60 percent of the world’s gasoline are all made using UOP technologies. The standard of living around the world would simply not be possible without UOP innovation.
For 100 years, Honeywell UOP has been the leading international supplier and licensor for the petroleum refining, gas processing, petrochemical production and major manufacturing industries. As a respected pioneer, we are responsible for developing and implementing some of the most groundbreaking technologies in the world.

In 1914, inventor Jesse A. Dubbs commercialized the thermal cracking process, which was initially used to produce asphalt by demulsifying oil. It was only by accident that Dubbs discovered he was unknowingly cracking crude oil into gasoline with his original thermal cracking process.

J. Ogdon Armour, Chicago meat-packing tycoon and owner of Standard Asphalt & Rubber Company, saw the potential of Dubbs’s discovery as an opportunity to invest in a process that would soon be integral to meeting the growing demand for gasoline from the emerging automobile industry in the 1920s and 1930s.

Together Armour and Dubbs formed the National Hydrocarbon Company in 1914, which became Universal Oil Products Company. Today, it’s UOP, a Honeywell Company.

UOP continued to perfect the thermal cracking process, allowing for greater yields of higher-quality gasoline and kerosene from crude oil. Today, more than 89 million barrels of oil and liquid fuels are consumed daily worldwide, a majority of it processed using UOP technologies.
Named one of Thomson Reuters’ Top 100 Global Innovators, Honeywell UOP continues to be a thought leader and innovator for the industries we serve. We are committed to continuing to commercialize technology that will ensure the long-standing success of our customers and improve products for all mankind.

With more than 3,000 active and pending patents worldwide, and thousands more historically, innovation is the mainstay of the UOP legacy. Our extensive intellectual property portfolio of unique products and processes meet the challenges of today’s evolving markets.

**Industry trends**

The desire for regional energy independence combined with a decline in conventional crude production, drives demand for alternate feedstocks like coal, shale oil and heavy crude. UOP technology maximizes plant profitability by optimizing existing assets and enabling the use of cost-advantaged, abundant feedstocks for power, transportation and chemicals production.

Demand for diesel is growing, and with it, stricter product specifications. UOP’s technology helps refiners optimize existing assets to increase diesel yield while also meeting product specifications.

UOP’s legacy will continue with innovations that provide solutions for the world’s changing demand for generations to come.

For 100 years, Honeywell UOP has developed and implemented some of the most useful and original technologies in the world.
Research and development

Honeywell UOP thrives on its world-class staff of scientists and engineers. With more than 700 researchers around the world, our research and development efforts continue to drive important advances in process technology, profitability consultation and equipment design.

UOP has advanced research and engineering centers in Asia, North America, Europe and the Middle East. We have more than 3,000 patents issued and pending worldwide, and we file an additional 200 distinct patent applications each year.

Our Chicago-area research facilities generate over 3.5 million data points each day, and we have more than 150 pilot plants globally that allow us to create step-changes in technology and commercialize new processes.

Our state-of-the-art research tools give fundamental insights into catalyst discovery. Tools such as the scanning transmission electron microscope (STEM), the highest resolution microscope in the world, can see atoms as microscopic as 500 picometers. If a single strand of human hair was viewed at this scale, it would span 10,000 meters, or approximately 6 miles.

In Gurgaon, India, UOP’s 400,000 square foot research center for refining and petrochemical process technology brings our excellence in research and development closer to our global customer base. Our applications labs in Saudi Arabia and China enable us to more quickly find solutions critical to regional customers.

Today, UOP is focused on developing technologies to:

- **Extend the world’s resources** by converting renewable feedstocks into fuels, chemicals and power
- **Help preserve the environment** by removing contaminants such as sulfur, nitrogen and mercury, producing cleaner-burning fuels
- **Create more efficient processes** to produce important building blocks used for plastics

Honeywell UOP’s groundbreaking research and development identifies industry needs, drives innovation for new and enhanced technologies and creates customizable solutions to meet the world’s changing demand.
Refining

For a century, Honeywell UOP has developed refining process technologies, built refineries to execute them, and trained engineers to operate each unit successfully in every refinery-operating country worldwide. Our reach is vast; our experience unmatched.

UOP has been revolutionizing modern refining since the introduction of the thermal cracking process, launching the modern refining industry and paving the way for a century of innovation.

We offer a number of technologies for contaminant removal, liquids recovery and processing in the refining area. Specifically, our refining technologies specialize in the production of high-quality gasoline and distillate fuels, used for diesel fuel and heating oil.

UOP mobilized the world in the 20th century with advanced technologies that were able to produce advanced fuels. High-octane jet fuel was pumped into military planes during WWII, improving engine performance and increasing fuel economy. High-octane, unleaded gasoline has become the standard today and has kept our cars running more efficiently with cleaner emissions since its introduction.

Today, the demand for diesel fuel is rising, high-octane gasoline is the standard, and growing economies are continuously looking for ways to turn heavy fuel oils into gasoline, jet and diesel fuels efficiently and profitably. UOP is at the forefront of the industry, ensuring we have solutions for the world’s evolving refining needs.

As the demand for diesel increases, oil consumption rises. Honeywell UOP’s technologies and process integration help refiners increase their diesel yield, while minimizing their energy consumption and environmental footprint.
Petrochemicals

More than 85 percent of worldwide biodegradable detergent production uses Honeywell UOP’s petrochemical process technologies. In fact, almost everything we wear, use, or live in is made at least in part from petrochemicals derived from oil, natural gas and, increasingly, from coal. Backed by 70 years of research and development, UOP’s industry-leading petrochemical process technologies have changed the way we live.

Biodegradeable detergents

In the 1960s, many of the world’s rivers and lakes were polluted with harsh chemicals from household cleaners and detergents. Phosphate detergent run-off caused rapid algae growth that choked our waters and killed fish and natural plant life. Change was critical, and UOP had a solution.

UOP developed a suite of biodegradable detergent technologies, meeting the growing consumer needs worldwide for effective and environmentally friendly surfactants and soaps.

Synthetics

UOP’s technologies also produce materials used to make synthetic rubber, plastic bottles, disposable cutlery and foam drinking cups, as well as synthetic fibers like nylon, polyester, spandex and acrylic. UOP also licenses processes that make dozens of other everyday products such as insulation, fiberglass, food containers and carpet backing, herbicides, pharmaceutical drugs, and polycarbonates, used in eyewear lenses.

Plastics

Another important component of today’s plastics is propylene. We are the world leaders in the production of high-value propylene from low-cost and alternative feedstocks such as coal, natural gas liquids (NGLs), or other hydrocarbon sources. Using alternate feedstocks frees up critical crude oil for processing into transportation fuel.

The demand for petrochemicals including polyester, plastics and detergents are on the rise, especially in developing economies; yet, the supply is limited by traditional feedstock availability. Honeywell UOP processes allow customers to utilize stable, low-cost alternative feedstocks to optimize petrochemical production and meet growing demands.
Gas processing

We have entered the golden age of gas. Studies show that by 2035, global gas use will rise by more than 50 percent from 2010 levels and account for more than one-quarter of global energy demand. In order to prepare for this future, it is vital that we develop existing, proven reserves and tap into the world’s vast unconventional gas resources.

Honeywell UOP is committed to continually developing new methods to condition, treat and transport natural gas to enable our customers to monetize gas for global markets. The development of unconventional gas is especially critical to contributing to the world’s natural gas supply. As a global leader in gas processing technologies, UOP continues to create world-class solutions to help meet global demand.

UOP provides effective solutions for both onshore and offshore natural gas conditioning and treating, as well as natural gas liquids (NGLs) recovery such as propane, ethane and butane, used to produce heating and transport fuel, or for further processing into chemicals used in the production of plastics and other consumer products.

Liquefied natural gas, gas that is converted to liquid form for ease of storage and transportation, must be pretreated to remove harsh contaminants before it can enter gas pipelines or transport vessels. We offer a range of tailored, advanced solutions to address processing needs, from straightforward, single-unit operation, to highly-integrated, multiple-technology operations.

UOP is also an industry-leader in the treatment of synthesis gas to produce high-value products that can enter natural gas pipelines or be converted to power, hydrogen or chemicals.

Honeywell UOP’s broad portfolio of gas processing and hydrocarbon management solutions enables natural gas producers to remove contaminants and recover high-value NGLs, allowing customers to monetize gas resources anywhere in the world.
With global energy demands expected to double by 2030, Honeywell UOP continues to identify new alternative energy resources. Fuels and chemicals from renewable sources have the potential to support growing energy needs, while addressing concerns regarding climate change and greenhouse gas emissions.

**Green Diesel**

Global demand for sustainable, high-quality renewable diesel is booming. Honeywell Green Diesel™ is a product of the UOP/EniEcofining™ process. Using feedstocks such as non-edible, second-generation oils, animal fats, green algae, forest residuals and other plant matter, Honeywell Green Diesel™ is chemically identical to petroleum-derived diesel, serving as a drop-in substitute for traditional diesel. This process reduces greenhouse gas emissions by as much as 80 percent.

**Green Jet Fuel**

Honeywell Green Jet Fuel™ converts non-edible sources such as algae and camelina, an oilseed plant often used in crop rotations, into high-quality, renewable jet fuel. Our jet fuel has successfully powered dozens of biofuel demonstration flights using commercial and military aircraft, proving it meets all aircraft specifications. Honeywell Green Jet Fuel™ reduces emissions by up to 80 percent.

**Biomass conversion**

For clean-burning biofuel used to generate heat and power in burner applications, our Rapid Thermal Processing RTP™ technology effectively reduces greenhouse gas emissions by up to 90 percent. Through the joint venture, Envergent Technologies, with our partner Ensyn Corporation, we are able to offer a method to convert biomass into carbon-neutral liquid biofuel for heat and power, or to be upgraded to produce green transport fuels. RTP green fuel is a cost-competitive direct replacement for natural gas or heavy fuel oil, which significantly reduces sulfur emissions and your overall carbon footprint.
Honeywell UOP locations worldwide

North America
- Des Plaines, IL - Headquarters
- Houston, TX
- Mt Laurel, NJ
- Tulsa, OK

South America
- Rio de Janeiro, Brazil

Europe/Russia
- Antwerp, Belgium
- Erkrath, Germany
- Guildford, UK
- Milan, Italy
- Moscow, Russia
- Rolle, Switzerland

Middle East
- Baghdad, Iraq
- Dubai, UAE
- Dhahran, Saudi Arabia

Asia
- Bangkok, Thailand
- Beijing, China
- Delhi, India
- Jakarta, Indonesia
- Kuala Lumpur, Malaysia
- Mumbai, India
- Seoul, Korea
- Singapore
- Tokyo, Japan

Research and Development

North America
- Des Plaines, IL
- Riverside, IL
- Mobile, AL
- Shreveport, LA
- Anaheim, CA
- Tulsa, OK

Middle East
- Dhahran, Saudi Arabia

Asia
- Delhi, India
- Shanghai, China
- Hiratsuka, Japan

*Locations also offering Technical Services
Engineering centers

**North America**
- Anaheim, CA
- Baton Rouge, LA
- Beggs, OK
- Catoosa, OK
- Littleton, CO
- McCook, IL
- Mobile, AL
- Shreveport, LA
- Tonawanda, NY

**Europe**
- Brimsdown, UK
- Reggio, Italy

**Asia**
- Hiratsuka, Japan
- Penang, Malaysia
- Shanghai, China
- Yokkaichi, Japan

Manufacturing centers

**North America**
- Des Plaines, IL
- Houston, TX
- Tulsa, OK

**Europe**
- Antwerp, Belgium
- Guildford, UK

**Asia**
- Delhi, India
- Kuala Lumpur, Malaysia
The majority of Honeywell UOP process technologies rely on UOP-developed and manufactured high-performance catalysts and specialty adsorbents. These materials enable industrially important chemical reactions that allow us to produce valuable products for the refining and petrochemical industries.

UOP leads the industry in inventing refining catalysts, having introduced all of the major refinery processes over 60 years ago. Since that time, UOP has pioneered new catalytic processes that have transformed the refining and petrochemical industries.

In the last five years, we have developed processes for the economic production of propylene and isobutylene, chemicals used for plastics and textiles production. We have also invented over 30 new molecular sieve materials in the past decade, which have been applied to both refining and petrochemical processes.

Further advancements in catalysts have facilitated the economic production of synthetics such as nylon and polyester from crude oil. Similar developments have helped facilitate the production of biodegradable detergents.

Most recently, catalytic innovations have advanced the conversion of renewable feedstocks, such as biomass and algal oils to biofuels for a greener, more sustainable world. Since the first commercial products were introduced, UOP has continued to advance catalytic materials in all key refining and petrochemical technologies, bringing value to our customers by allowing processes to operate more economically and sustainably with higher throughput, yields and stability.

Honeywell UOP is a world-leading catalyst supplier. We manufacture our own proprietary spherical and extruded catalyst bases using novel materials and techniques, offering the highest performance and highest quality products matched to application requirements.
Adsorbents

Adsorbents are a vital part of many manufacturing and process industry applications. For more than 60 years, Honeywell UOP has been a leading contributor in the innovation and development of adsorbent solutions that help our customers protect their assets, produce high-quality products and manage long-lasting, profitable operations.

UOP’s extensive line of high-performance adsorbents are integral to most UOP process technologies in the refining, petrochemical and gas processing industries.

Historically, UOP has led the adsorbents industry since the 1950s. Adsorbents are used to remove contaminants from various gas and liquid streams. Contaminant removal enables the production of low-sulfur, high-performance fuels, an increase in propylene production and the ability to produce diesel fuel. UOP is able to offer custom solutions to meet a wide-range of needs within the refining, petrochemical and gas processing industries.

In 2011, UOP adsorbents were used to clean up radioactive seawater at the Fukushima Daiichi nuclear power plant, after the 9.0 magnitude earthquake severely damaged the plant.

Aside from nuclear waste clean-up, UOP’s adsorbents are used to remove a variety of contaminants from petroleum in refineries, to insulate dual window panes to keep them from fogging up on cold days, to protect refrigeration systems like automobile air conditioners and kitchen refrigerators from corrosion and to purify medical oxygen to meet patient needs more effectively.

Today, UOP offers the broadest portfolio of adsorbent products and offers extensive knowledge on product selection and application to quickly and efficiently meet our customers’ business needs.

Adsorbents have a variety of applications, many that we experience daily. They are used to remove moisture and organic solvents from dual pane windows, allowing clear, fog-free windows, and also help minimize moisture and prevent corrosion in refrigerant systems.
Manufacturing

Delivering the highest-quality products to meet industry demand, Honeywell UOP’s global manufacturing facilities incorporate best-in-class Honeywell Operating System (HOS) principles to ensure our customers receive the highest return on their investment.

UOP owns and operates several International Standards Organization (ISO) certified manufacturing facilities throughout the world for the production of catalysts, adsorbents, and equipment for the natural gas industry.

UOP operates our manufacturing plants under Honeywell Operating System (HOS) principles to bring the highest-quality products to the market, on-time and at a competitive price. HOS employs a systematic approach that incorporates Six Sigma, Lean Thinking, Statistical Processing Control, Total Quality Management and Organizational Design to eliminate variations and improve work processes.

Our manufacturing facilities use manufacturing techniques that originated in UOP’s research and development facilities and were further scaled-up and perfected by our product manufacturing technology group.

Our technology group is dedicated to accelerating product scale-up, finding new raw materials and improving manufacturing technologies that will ultimately yield more return on investment for our customers through the highest value products.
Services

From our engineers to yours, Honeywell UOP’s technical, consulting and training services provide the tools you need to keep your operation running efficiently and profitably. We’ll work with you to deliver practical, cost-effective solutions for all of your operating challenges.

As part of our full-scope technology transfer philosophy, we offer a broad array of services to support UOP process units throughout the plant’s life cycle. Our service offerings aid the following three key areas:

**On-stream**: Ensures UOP process units operate efficiently and deliver products exactly when needed

**On-spec**: Produces the right products to meet the best market opportunities while fulfilling all regulatory requirements

**On-time**: Ensures timely deployment of assets, as well as prompt execution of capital projects to capture profitable market opportunities.

We understand the challenges associated with today’s operating environment and work with our customers to help ensure they utilize the industry’s best practices to maintain a safe and reliable operation. Our services facilitate a knowledge-transfer from our engineers to plant personnel, providing the long-term tools they need to continue operational excellence. From pre-project planning to project implementation and post-start-up optimization, our services include:

- Process design to determine optimal configuration and operating conditions for your application
- Start-up assistance to ensure on-time and effective product implementation
- Performance evaluations to facilitate preventative action
- Troubleshooting to diagnose problems
- Operations analysis to help improve your productivity and profitability utilizing world-class UOP laboratory, pilot plant and simulator resources

Our experience is unmatched.

- Nearly 100 years as the leading developer and licensor of process technology
- More than 6,000 units designed, with 4,000 currently up and running

From our engineers to yours, Honeywell UOP’s technical, consulting and training services provide the tools you need to keep your operation running efficiently and profitably. We’ll work with you to deliver practical, cost-effective solutions for all of your operating challenges.

As part of our full-scope technology transfer philosophy, we offer a broad array of services to support UOP process units throughout the plant’s life cycle. Our service offerings aid the following three key areas:

**On-stream**: Ensures UOP process units operate efficiently and deliver products exactly when needed

**On-spec**: Produces the right products to meet the best market opportunities while fulfilling all regulatory requirements

**On-time**: Ensures timely deployment of assets, as well as prompt execution of capital projects to capture profitable market opportunities.

We understand the challenges associated with today’s operating environment and work with our customers to help ensure they utilize the industry’s best practices to maintain a safe and reliable operation. Our services facilitate a knowledge-transfer from our engineers to plant personnel, providing the long-term tools they need to continue operational excellence. From pre-project planning to project implementation and post-start-up optimization, our services include:

- Process design to determine optimal configuration and operating conditions for your application
- Start-up assistance to ensure on-time and effective product implementation
- Performance evaluations to facilitate preventative action
- Troubleshooting to diagnose problems
- Operations analysis to help improve your productivity and profitability utilizing world-class UOP laboratory, pilot plant and simulator resources

Our experience is unmatched.

- Nearly 100 years as the leading developer and licensor of process technology
- More than 6,000 units designed, with 4,000 currently up and running
Honeywell UOP’s state-of-the-art equipment is specifically designed to maximize process performance and reliability while minimizing project implementation costs.

Just as important as the process technology, adsorbents and catalysts that UOP perfects and produces is the process equipment that ensures optimal performance and profitability.

Our extensive experience in the industry has helped us identify key equipment and systems that are critical to the superior performance of our technology. UOP provides engineering equipment to process plants worldwide, including:

- Modular units
- Customized control systems
- Key mechanical equipment
- High-capacity distillation trays
- Heat transfer tubing
- Specialized equipment
- Burners and flares

The type and manner in which we provide equipment depends on the technology and application being used. In some cases, our technology is best delivered in the form of a fabricated plant. In other cases, we supply key individual pieces of equipment for installation in a field-constructed process unit.

We are committed to delivering high-quality products on time, and in line with our customers’ expectations for the highest level of performance.
Quality and safety

Safety drives everything we do at Honeywell UOP. From process standards to environmental stewardship, we are committed to ensuring we exceed our customers’ expectations of high performance and best practices, while delivering innovative solutions that meet today’s growing business needs.

UOP has successfully met industry, product and customer challenges for 100 years, exceeding performance expectations and benchmarks. Our focus on quality is why we subscribe to Six Sigma methods and philosophy, which allow us to reduce errors, maintain consistent quality and improve processes. Our plants and facilities maintain a level of ISO 9000 for processes and standards, including a certified Schedule A Quality Management System to help ensure customers get the best possible product.

As part of our ongoing commitment to quality and safety, we are a member company of the American Chemistry Council, and Responsible Care® is the foundation for sustainability in our business. The Responsible Care management system supports our full commitment to comply with legal and other health, safety and environmental requirements and also to driving continual improvement in these areas.

We achieve global operational excellence and reliability through the integration of Responsible Care principles into our operations, and work with our commercial partners, including contractors, suppliers and customers to help ensure they uphold the same standards.

UOP consistently ranks in the top quartile of like companies for health, safety and environmental performance. Our management system for driving continuous improvement of our performance is certified by a third-party registrar annually.
Careers with UOP, a Honeywell Company

Honeywell UOP offers a greater number of proprietary products and processes – and more engineering experience and innovative solutions – than any other company of its kind. Significant advances including unleaded gasoline, catalytic converters, biodegradable detergents, economical polymers for clothing and renewable jet and diesel fuel can be attributed to processes developed using Honeywell UOP technology. But our success would not be possible without the caliber of people we employ worldwide.

UOP's talent has developed many of the most significant advances in the hydrocarbon processing industry to date. Nearly every refinery in the world relies on UOP process technology; many of those same refineries have been completely designed by UOP.

A career with UOP is fast-paced and challenging, exposing new and experienced professionals to a global customer-base.

With top research and development offices in the U.S., Saudi Arabia, India, China and Japan, our scientists and researchers work to develop and continuously improve our leading-edge technology in the petroleum refining, petrochemicals, gas processing and renewable fuels industries.

UOP’s world-class sales team operates on a global scale, with opportunities to work and travel within the U.S., South America, Europe, the Middle East and Asia. At UOP, exceptional sales careers happen when you absolutely believe in the products you’re selling, when you share a passion for providing solutions that grow your customers’ success, and when you’re rewarded for making a tangible impact on the bottom line.

Grow your career with a leading technology supplier. We seek entry-level and professional candidates in:

- Engineering and technology
- Finance
- Sales
- Operations
- Marketing/Business Management
- Communications
- Human Resources
- Information technology
- Law and government relations

At UOP, we are innovators, problem-solvers, strategic thinkers and planners; we are leaders who are creative and passionate, intelligent and impactful. We invest in our people because our people are the most important part of our business. Together we will work with you to develop your career. We provide opportunities for advancement and options for competitive wages, rewards and benefits. Join us. Your future begins now.

For more information on careers with UOP visit www.uop.com.
Find out more
If you are interested in learning more, please contact your UOP representative or visit us online at www.uop.com