



UOP **OVERVIEW**

26 October 2023

Honeywell
UOP



THE FUTURE IS WHAT WE MAKE IT

Forward Looking Statements

This presentation contains certain statements that may be deemed “forward-looking statements” within the meaning of Section 21E of the Securities Exchange Act of 1934. All statements, other than statements of historical fact, that address activities, events or developments that we or our management intends, expects, projects, believes or anticipates will or may occur in the future are forward-looking statements. Such statements are based upon certain assumptions and assessments made by our management in light of their experience and their perception of historical trends, current economic and industry conditions, expected future developments and other factors they believe to be appropriate. The forward-looking statements included in this presentation are also subject to a number of material risks and uncertainties, including but not limited to economic, competitive, governmental, technological, and COVID-19 public health factors affecting our operations, markets, products, services and prices. Such forward-looking statements are not guarantees of future performance, and actual results, and other developments, including the potential impact of the COVID-19 pandemic, and business decisions may differ from those envisaged by such forward-looking statements. Any forward-looking plans described herein are not final and may be modified or abandoned at any time. We identify the principal risks and uncertainties that affect our performance in our Form 10-K and other filings with the Securities and Exchange Commission.

HONEYWELL OVERVIEW

NASDAQ: HON | ~750 sites | ~99,000* employees | Charlotte, NC headquarters | Fortune 500

Aerospace



Our products are used on virtually every commercial and defense aircraft platform worldwide and include aircraft propulsion, cockpit systems, satellite communications, and auxiliary power systems.

Honeywell Building Technologies



Our products, software, and technologies are in more than 10 million buildings worldwide, helping customers ensure their facilities are safe, healthy, energy efficient, sustainable, and productive.

Performance Materials and Technologies



We are positioned to serve customers with high-quality performance chemicals and materials, process technologies, and automation control. By supporting the global transition towards renewable energy and a low-carbon economy, we're accelerating a more sustainable future and changing the world.

Safety and Productivity Solutions



We develop and deploy an innovative range of solutions, software, and services that help keep people healthy, workers and workplaces safer and more productive, and supply chains and assets more efficient, accurate, and reliable.

Honeywell Connected Enterprise

Across our segments, we accelerate our customers' digital transformation via our enterprise performance management solution, Honeywell Forge, which brings together the data, processes, and systems into a cloud-based solution to help customers make sense of it all, creating the OT system of record. HCE's focus is software development, from the gateway to end-user applications, bringing scale and capability across all of Honeywell.

Shaping the Future Across Industries

PERFORMANCE MATERIALS AND TECHNOLOGIES



As a global technology leader, the mission of PMT is creating future-forward solutions that change the way the world works. The inventors, chemists, and engineers of PMT are continually pushing technological frontiers, literally bringing the future forward.

Business Portfolio

- Honeywell Advanced Materials
- Honeywell Process Solutions
- **Honeywell UOP**
- Honeywell Smart Energy

Headquarters:

Houston, Texas

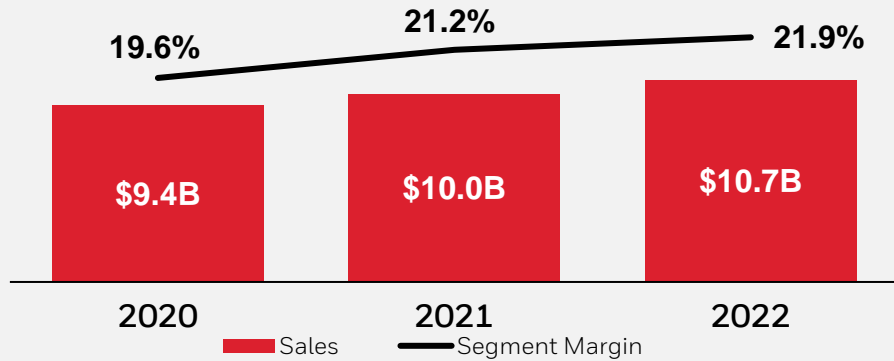
\$10.7B
2022 Sales

Technologies

- Advanced Fibers and Composites
- Chemicals and Electronic Materials
- Specialty Films and Additives
- Low-Global-Warming Potential Refrigerants, Foam Blowing Agents, Aerosols, and Solvents
- Process Technologies, Equipment, Catalysts, and Services for Fuels and Petrochemicals
- Industrial Automation and Controls and Services
- Safety Systems and Instrumentation
- Software Solutions and Industrial Cybersecurity
- Connected Utility Solutions and Services, and Metering Solutions
- Sustainable Aviation Fuel and Other Renewable Fuels
- Renewable Energy Storage and Distribution
- Plastic Waste Circularity
- Blue and Green Hydrogen Solutions
- Carbon Capture
- Biodegradable Detergents

PMT BUSINESS OVERVIEW

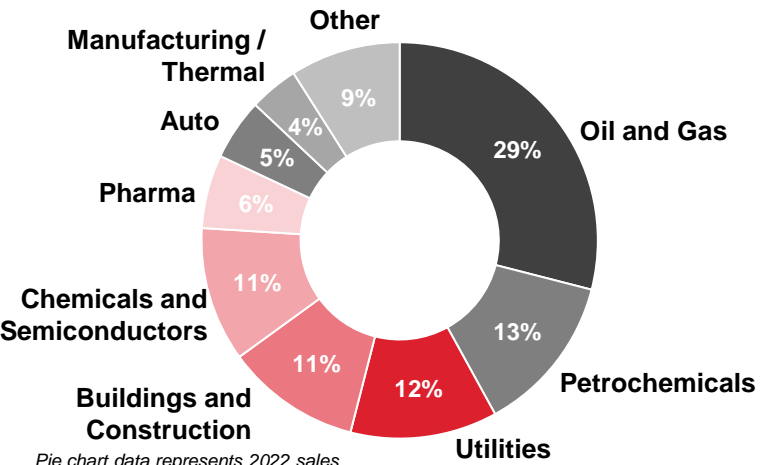
FINANCIAL OVERVIEW



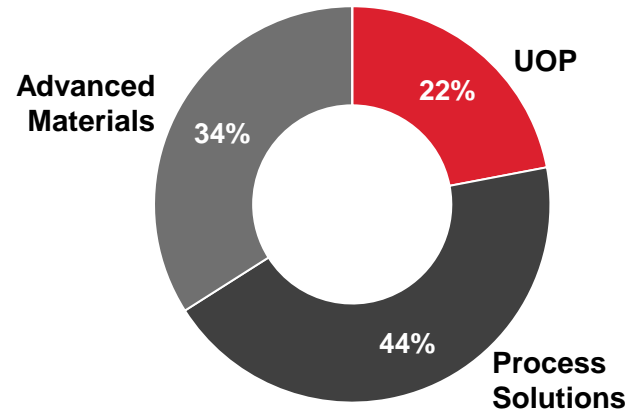
GROWTH DRIVERS

- ✓ Broad diversified portfolio, leader across segments, and positioned to capitalize on growth across a range of industrial end markets
- ✓ Execution discipline, innovation for greater value capture of installed base, and outcome-based recurring revenue and services focus of core growth
- ✓ Build upon customer investments and transformation in sustainability, digitalization, and life sciences

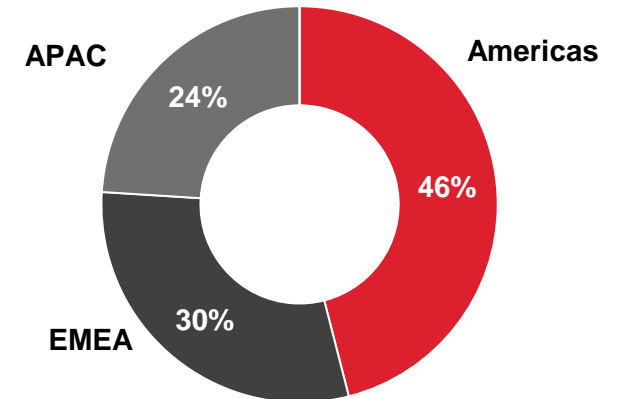
BUSINESS BREAKDOWN



BUSINESS OVERVIEW



GEOGRAPHIC SALES



Diversified Portfolio

PMT | **BROAD INDUSTRY APPLICATIONS**



Oil & Gas



Pipeline & Terminals



Refining & Petrochemical



Chemicals



Refrigeration & Air Conditioning



Healthcare & Electronics



Films, Fibers & Packaging



Minerals, Metals & Mining



Utility Solutions

HONEYWELL UOP AT A GLANCE

100+ Years of Global Expertise and Leading Technology Development



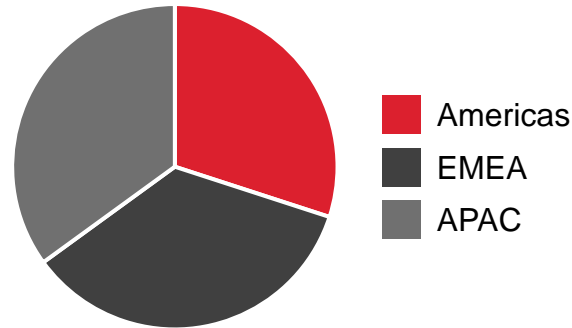
UOP TECHNOLOGY POWERS

- 90% of biodegradable detergents
- 70% of the world's polyester
- 60% of the world's gasoline
- 60% of the world's on-purpose propylene
- 60% of the world's paraxylene
- 50% of the world's renewable fuels
- 40% of LNG processed
- 15 tons of captured CO₂



GLOBAL REACH

Diversified regional presence that can effectively react to changes in demand



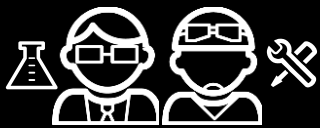
NEW TECHNOLOGIES

Honeywell UOP creates new technologies that convert oil and natural gas into transportation fuels, energy, and petrochemicals



EXPERTISE

Broadest range of downstream refining and petrochemical technologies; leading process technology licensor



2,000

Engineers and scientists



4,900

Active patents and applications



LARGEST
process licensing organization
in the world

31 out of **36**
refining technologies in use today were developed by
UOP

OUR PORTFOLIO UOP SOLUTIONS FOR THE ENERGY TRANSITION



UOP Process Technologies

Process technologies, engineering, and equipment for the refining, petrochemicals, and gas processing industries

- Chemical feedstocks
- Transportation fuels
- Hydrogen recovery and purification
- Burners and flares
- Natural gas purification



Sustainable Technology Solutions

Ready-now technologies for renewable low-GHG fuels, targeted solutions for a majority of the world's GHG emitters, H₂, and plastic waste recycling

- Renewable fuels, Ecofining™, SAF
- Blue and Green hydrogen
- Carbon capture
- Plastics recycling – UpCycle technology
- Energy storage – Flow battery



Lifecycle Solutions and Technologies

Serving customers in the operational phase with catalysts, adsorbents, aftermarket equipment, and services

- Catalysts for refineries and petrochemical plants
- Adsorbents for separations and purification
- Field services
- Equipment aftermarket
- Software-enabled services to advance project execution and improve plant operations

UOP POSITIONING IN ENERGY SUPPLY CHAIN

Upstream

Exploring, drilling and producing crude oil and natural gas



Technology and Materials for Wellhead Treating and Sulfur and Liquids Recovery

Midstream

Processing, storage and transportation



Technology and Materials for Natural Gas Processing and Production of Petrochemical and Polymer Feeds

Downstream

Refining oil, gas, and biomass into fuels and chemicals



Process Technology, Equipment, Materials, Services and Connected Plant

PETROCHEMICALS & REFINING TECHNOLOGIES

Single source for modern integrated refinery and petrochemicals complexes



Leader in process technology

- Ultra-clean gasoline, diesel, jet fuel
- Aromatics and olefins
- Hydrogen recovery and purification
- Licensed technology designs
- Fabricated plants, process equipment, thermal combustion

Integration of processes with materials, design and equipment to meet production requirements



Key processes:

- FCC
- Hydroprocessing
- Bottoms upgrading
- Ionic liquids alkylation
- Renewable fuels and chemicals
- Isomerization
- Treating
- Catalytic reforming
- Paraxylene
- LAB
- Propane dehydrogenation
- Methanol to olefins
- Hydrogen purification and recovery

GAS PROCESSING TECHNOLOGIES

Processing for single-unit to large integrated technology facilities



Broad portfolio of technologies

- Wellhead treating
- Sulfur and liquids recovery
- Upgrade of natural gas liquids to olefins, aromatics and more
- Modular midstream gas processing solutions
- Membrane Systems



Key processes:

- Bulk CO₂ removal
- Acid gas removal
- Mercaptan removal
- Sulfur Recovery

SUSTAINABLE TECHNOLOGY SOLUTIONS



Renewable Fuels

- Ecofining™
- Sustainable Aviation Fuel (SAF)
- Rapid Thermal Processing



Hydrogen Economy

- Blue H₂ - Production & purification
- Green H₂ Catalyst Coated Membrane (CCM)



Energy Storage and Distribution

- Energy Storage Systems – Flow battery
- Renewable Distributed Assets



Carbon Capture

- CO₂ Capture & Sequestration
- Advanced Solvent



Plastics Circular Economy

- Chemical Recycling Technologies
- UpCycle™
- Plastic Waste Reduction

LIFECYCLE SOLUTIONS & TECHNOLOGIES

SERVING THE LONG - TERM OPERATIONAL NEEDS OF CUSTOMERS



Leading Catalysts, Adsorbents and Molecular Sieves

- Portfolio of **300+** catalysts for refining and petrochemical technologies; reloads represent 80% of catalyst sales
- **150+** adsorbents and molecular sieves for drying, purification, gas processing, refrigerants, insulation, pollution abatement and separations
- Manufacturing in U.S., Italy, Japan and China



Services and Support

- Outcome-based services
- Technical training, inspection, start-up and product reload services
- Optimization and energy studies and on-going technical support
- Equipment aftermarket



Connected Plant

- Software-enabled services to advance project execution and improve plant operations

RESEARCH & DEVELOPMENT

CONTINUOUS INNOVATION TO RENEW CORE TECHNOLOGIES AND DISCOVER BREAKTHROUGH CHEMISTRIES



Experienced Team

- 2,000 scientists and engineers from more than 50 countries
- 330 employees have at least one patent, 20 have more than 50 patents
- Most engineers have field service experience operating customer units



Cutting Edge Tools

- 150 pilot and semi-works plants in 8 sites globally
- 3.5 billion data points and 1000 off-line samples per day
- Proprietary CombiChem tools for high-throughput experimentation
- Advanced microscopy and materials characterization



Unique Capability Set

- Materials discovery and catalyst invention
- Adsorptive and membrane separations
- Process optimization and scale-up
- Proprietary equipment designs
- Modular plant delivery

A CENTURY OF INNOVATION

For more than **100 years**, UOP has developed technology and business solutions for the world's leading oil and gas companies

UOP licenses more than 70 processes and sells 300 catalysts and adsorbents to 6,000 refineries and plants



BUILT OFF A CENTURY OF TRANSFORMATIONAL HISTORY



THE TRANSPORTATION REVOLUTION

Dubbs Cracking Process (1914)
Clean Circulation (1919)

THE AGE OF POWER

Alkylation, Isomerization, Polymerization (1938)
Fluid Catalytic Cracking (1944)



BIRTH OF PETROCHEMICALS

Synthetic Zeolites (1953)
Parex™ for Polyesters (1970)
CCR Platforming™ Process (1971)
Olefex™ for Propylene (1990)
Methanol to Olefins (2008)



THE DRIVE FOR YIELD

Platforming™ Process (1949)
Unicracking™ Process (1955)
Solvent Deasphalting (1983)
Uniflex™ Process (2011)



NATURAL GAS REVOLUTION

Molsiv Adsorbents (1965)
Separex™ Membranes (1979)
UOP Russell (2012)
Modular LNG (2019)

A BETTER ENVIRONMENT

Unleaded Gasoline (1960)
Biodegradable Detergents (1968)
Honeywell Renewable Diesel™ (2006)
Honeywell Ecofining™ / SAF (2008)
Carbon Capture and Sequestration (2021)
UpCycle Process Technology (2022)
Flow Battery Technology (2023)

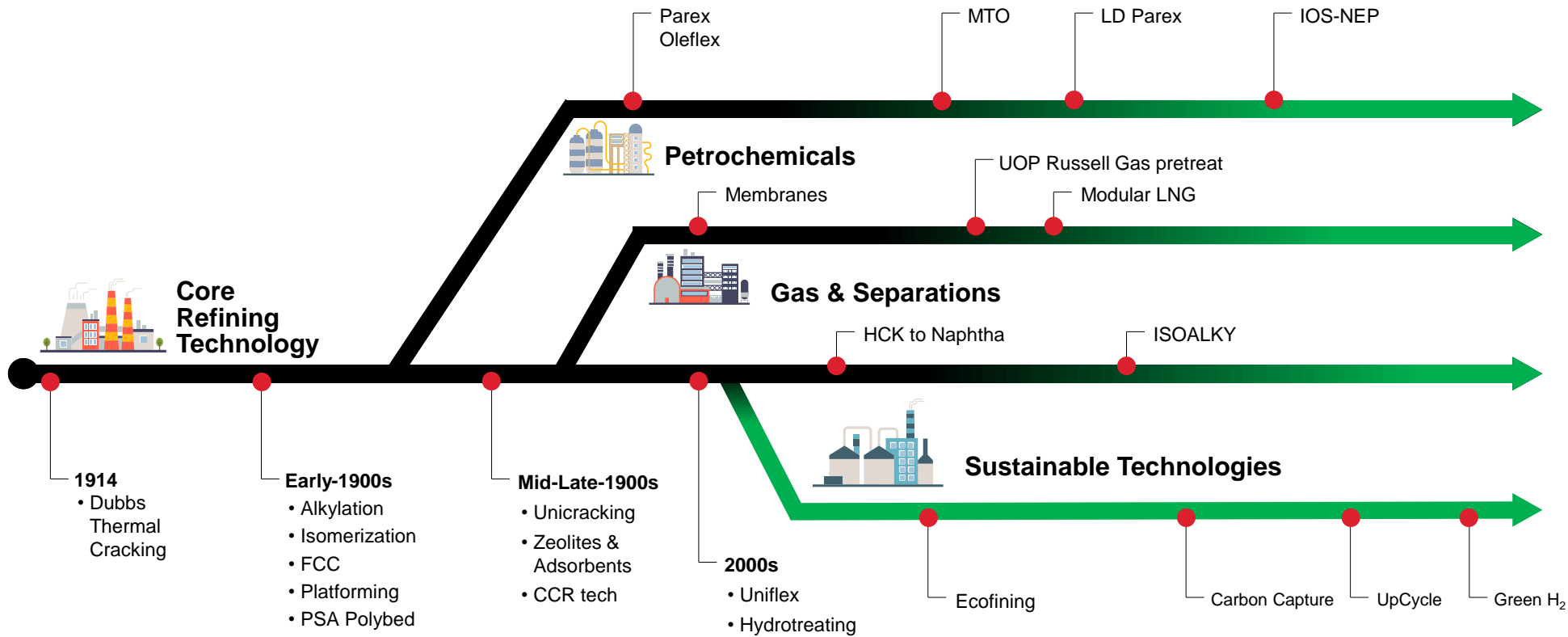


BUILDING ON A STRONG CORE FOUNDATION

UOP Core Foundations

Enabling the Future of Sustainable Energy Technologies

UOP technology enhanced by services and digital offerings



Enabling the Energy Transition with end-to-end energy technology portfolio

HONEYWELL UOP GLOBAL LOCATIONS

Sales & Service



Americas

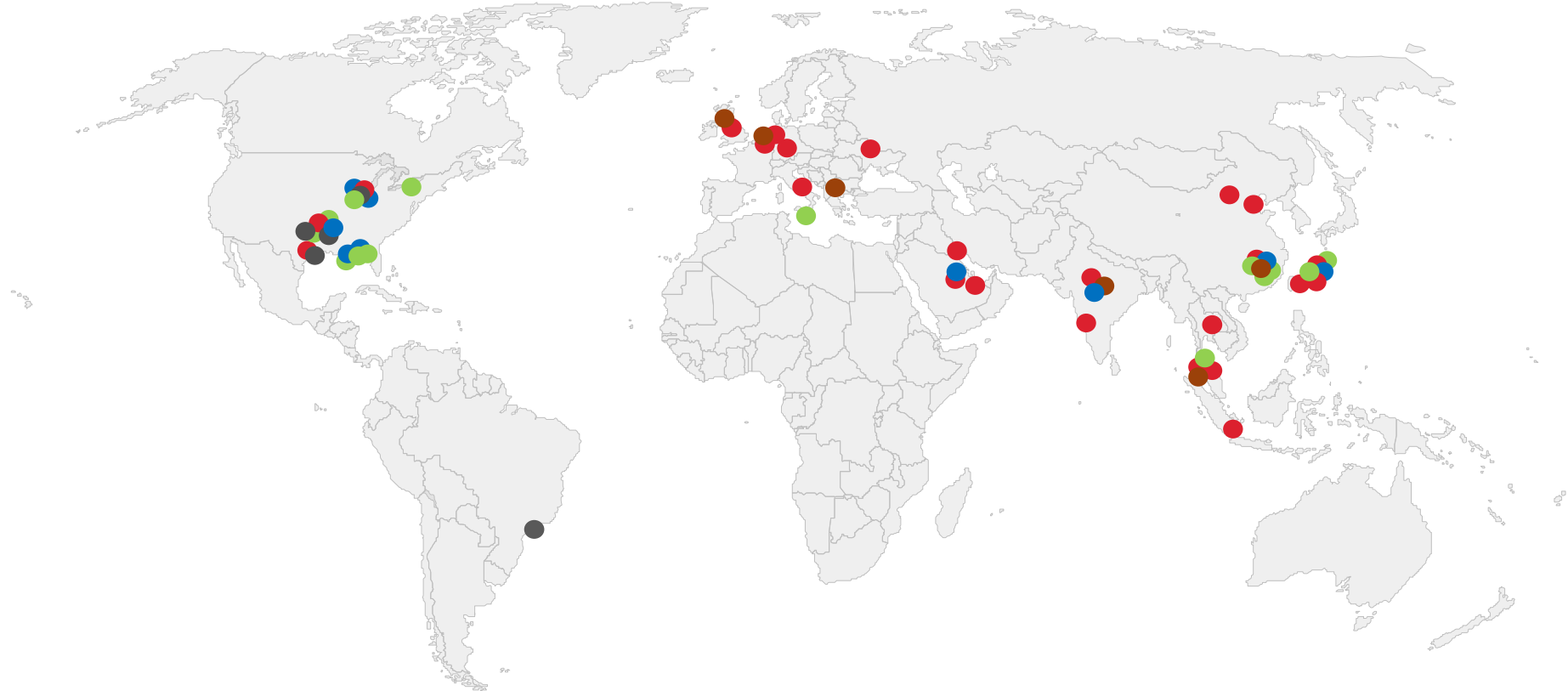
Des Plaines, IL
Houston, TX
Tulsa, OK
Mexico City, Mexico
Buenos Aires, Argentina

Europe

Erkrath, Germany
Bracknell, UK
Assago, Italy

Asia/Middle East

Delhi, India
Chonburi, Thailand
Singapore
Seoul, South Korea
Tokyo, Japan
Beijing, China
Shanghai, China
Kuala Lumpur, Malaysia
Jakarta, Indonesia
Baghdad, Iraq
Dubai, UAE



Research & Development



North America Middle East

Baton Rouge, LA
Beggs, OK
Des Plaines, IL
Mobile, AL
Houston, TX
Riverside, IL
Shreveport, LA

Asia

Gurgaon, India
Luoyang, China
Zhangjiagang, China

Manufacturing



North America

Baton Rouge, LA
Catoosa, OK
McCook, IL
Mobile, AL
Shreveport, LA
Tonawanda, NY

Europe

Reggio Calabria, Italy

Asia (and JVs)

Shanghai, China
Zhangjiagang, China
Penang, Malaysia
Hiratsuka, Japan
Yokkaichi, Japan

Engineering Centers



North America

Des Plaines, IL
Houston, TX
Midland, TX
Tulsa, OK

Europe

Bracknell, UK

Asia

Delhi, India
Kuala Lumpur



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THANK YOU