

Honeywell



\$38.6B
in sales*

53%
sales outside U.S.

- **1,300** sites
- **70** countries
- More than **129,000** employees
- **Morris Plains, NJ, USA** headquarters
- **Fortune 100**



Aerospace



**Performance Materials
and Technologies**



**Automation and
Control Solutions**

*2015

Honeywell

Honeywell's innovative technologies are making our world cleaner and more sustainable, more secure, connected, energy efficient, and productive.



Energy efficiency and clean energy generation



Safety & security of people, plants, assets, and data



Rapid global urbanization and resource development



Productivity and connectivity

PMT and all Honeywell businesses, products and services address these major global issues.

Recognition & Media Highlights in 2015

Honeywell received more than **155** business and industry awards



Honeywell Chairman and CEO Dave Cote Discusses Sustainable Urbanization During CEO Council in Beijing



Dave Cote Appears on Mad Money From Honeywell's 2016 Annual Investor Conference



Honeywell Growth & Performance Highlighted by Barron's Magazine



Honeywell Chairman and CEO Dave Cote Featured on Yahoo! Finance to Discuss Acquisition Strategy

Technology & Innovation

22,800

Technologists
worldwide

~50% focused on software

118

Research, engineering
and design facilities

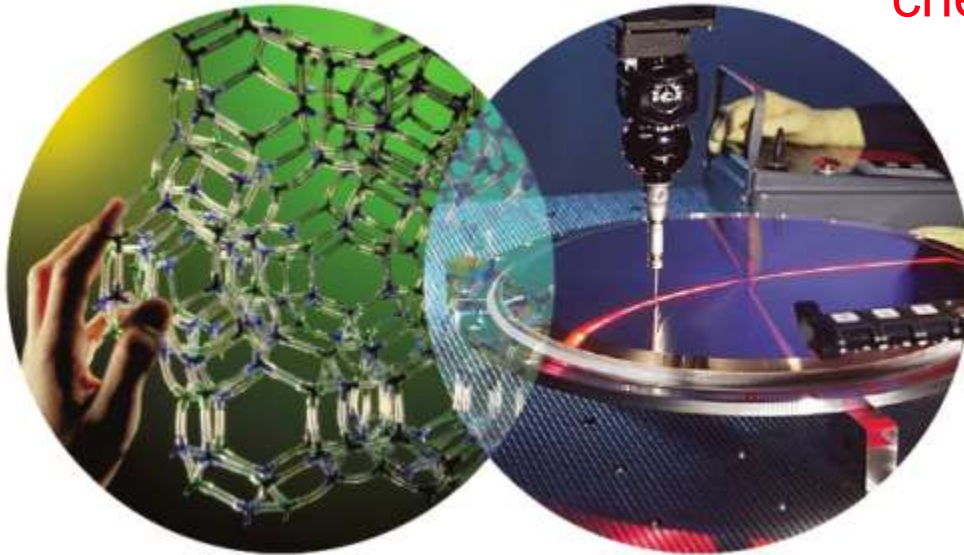
37,000

Patents granted or
pending

Developing solutions
for the world's
toughest challenges

Honeywell Electronic Materials (HEM)

Bringing together expertise in
chemistry and metallurgy...



- ~1200 employees across the United States, Europe and Asia
- ~ a half billion dollar business
- nearly 400 granted and pending patents
- over a half century experience serving the electronics industries

...to develop advanced materials for
electronics manufacturers worldwide

Why HEM?

Industry Leadership

- Half century experience supporting the Semiconductor Industry
- Direct sales and technical service in all regions
- Advanced quality systems: ISO9001:2008 and TS16949:2009
- **Focused Experience and Expertise, Quality and Service**

Materials Development Leadership

- Advanced material set development, leveraging chemical and metallurgical expertise
- Partnerships with OEMs for advanced tool and process development
- **Technology and Applications Knowledge to Support Customer Roadmaps**

Engineering Leadership

- Innovations to improve cost of ownership (CoO) of existing products
 - Higher customer yields through product and process improvements
 - Increased tool up-time through longer life products
- **Creative Solutions Delivering Superior Value**

Supply Chain Leadership

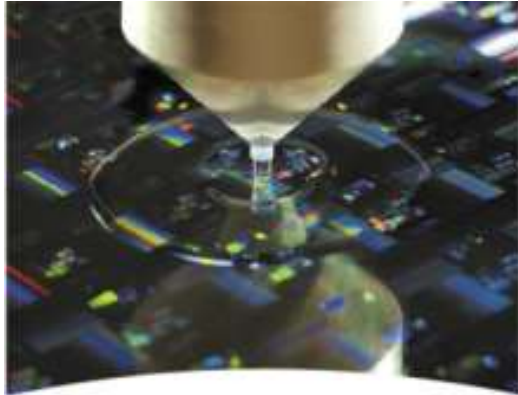
- Industry leading vertical integration
 - Metals - Ti, Cu, Al, W, Co
 - Chemicals – HF, solvents
- **Supply Stability, Material Control and Flexible Response to Demand Changes**

Strength

- Backed by the global strength of Honeywell
- **Financial Stability, Investment Capabilities, Global Infrastructure, Technology Resources**

Offerings and Applications

Electronic Polymers



Ongoing Customer Partnerships for Technology Roadmap Challenges

- Materials for a variety of wafer fabrication processes, such as spin-on glass, low-k, planarization, gap-fill, chemical doping and anti-reflective coatings for lithography
- Planarization materials for flat panel displays



Targets

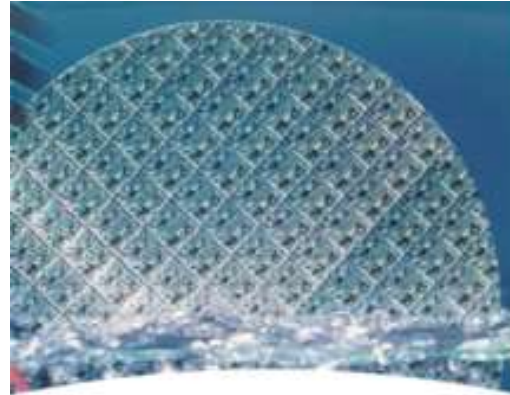


Expertise in High-Purity Metal Supply and Fabrication

- PVD sputtering targets for wafer fabrication, including 200mm and 300mm; 450mm currently in development
- Targets and coil sets for most configurations
- Vertical integration of high-purity source metals



Chemicals & Heat Spreaders, Thermocouples

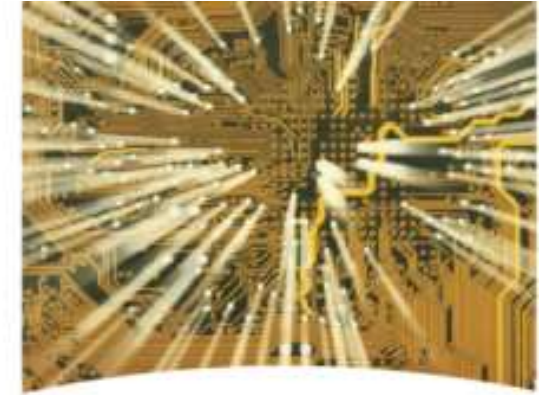


Security of Supply; Perfect Quality and Delivery

- High-purity and ultra high-purity chemicals such as straight acids and bases, selective etchants and blends, solvents and wafer thinning materials
- Precious metal thermocouples
- Heat spreaders and mechanical stiffeners



Advanced Metals & Polymers



Fast Cycle and Rapid Prototyping

- Electrical interconnect materials, including solders, evaporation, die attach wire and preforms, and plating anodes
- Industry-leading low alpha measurement and control, and RoHS compliant Pb-free materials
- High reliability phase change materials for thermal management



Honeywell Electronic Materials Locations

Worldwide Development, Manufacturing and Support

United States

Santa Clara, California
Sunnyvale, California
Spokane, Washington
Chandler, Arizona
Salt Lake City, Utah
Bryan, Texas
Houston, Texas
Mansfield, Texas
Fombell, Pennsylvania
Morris Plains, New Jersey

Europe

Seelze, Germany

Asia

Shanghai, China
Jincheon, Korea
Tokyo, Japan
Yaita, Japan
Chonburi, Thailand
Hsinchu, Taiwan
Singapore



▲ Research & Development Site ● Manufacturing Site ■ Support Site

Responsible Care®

Honeywell Performance Materials and Technologies, as a member of the American Chemistry Council, has adopted Responsible Care as the foundation of health, safety, and environmental (HS&E) excellence in our business.

Responsible Care is the chemical industry's global voluntary initiative under which companies, through their national associations, work together to continuously improve their health, safety and environmental performance, and to communicate with stakeholders about their products and processes.

Our commitments:

- The safety of our employees
- The quality of our products
- Being responsible stewards for the protection of the environment, the communities in which we operate and our customers



Honeywell

www.honeywell.com
www.electronicmaterials.com