Gary S. Calabrese, Ph.D.

Vice President and Chief Technology Officer
Rohm & Haas

Biography

Dr. Calabrese earned his bachelor of science in Chemistry from Lehigh University, and his Ph.D. in Inorganic Chemistry from the Massachusetts Institute of Technology. Dr. Calabrese began his industrial career at Polaroid Corporation in 1983 as a research chemist. Two years later, he joined Allied-Signal at its Massachusetts-based Allied Health and Scientific Products Division as a research group leader. His interest in the high growth markets of electronics and semiconductors led him to the Shipley Company in 1989. In 1994, Dr. Calabrese was named Shipley's North American director of Engineering, responsible for scaling up manufacturing processes for new products, customer technical support and plant engineering. He returned to research in 1997 as global director of R&D for the Microelectronics Materials business, and was named vice president and chief technology officer for Shipley two years later, which is now known as Rohm and Haas Electronic Materials. Dr. Calabrese became the first director of Rohm and Haas Company's new Emerging Technologies Group in 2002, a department focused on uncovering step-out innovations and technology platforms for new products. He was appointed a vice president of Rohm and Haas and the company's chief technology officer in early 2003.

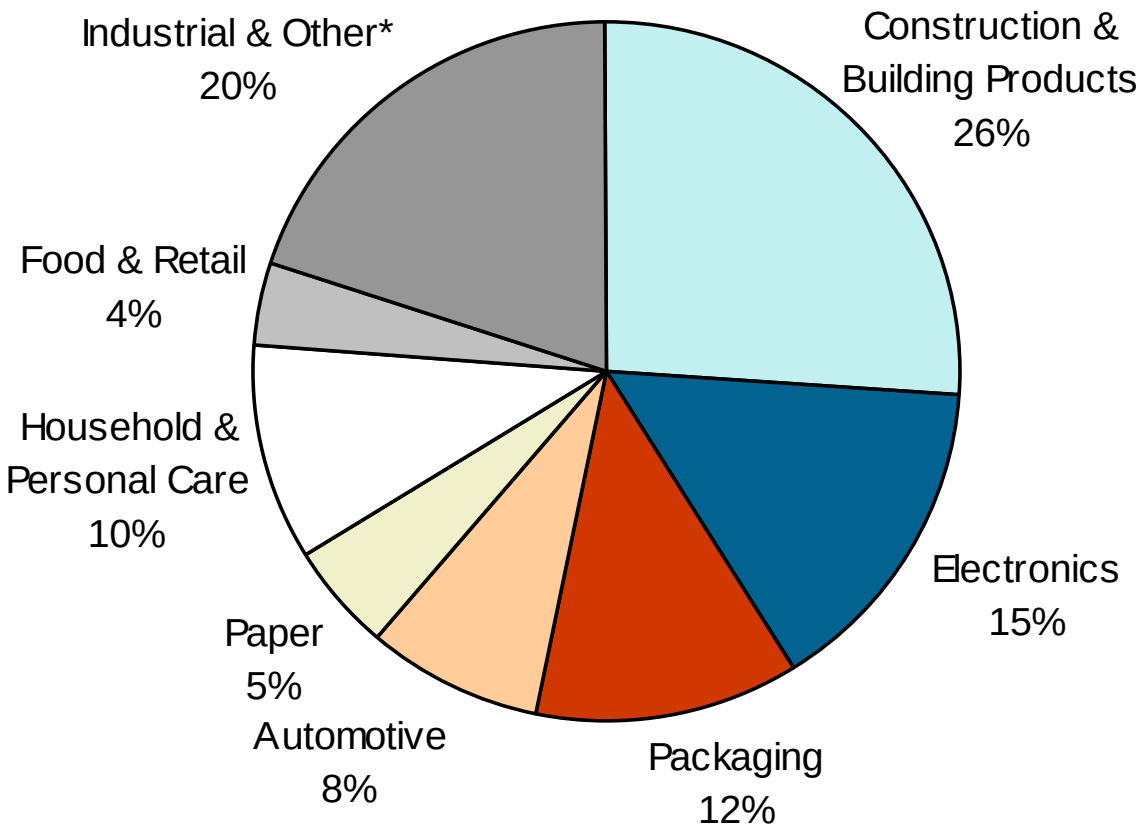
Innovation@RohmandHaas

Dr. Gary S. Calabrese
Vice President
Chief Technology Officer

Who We Are

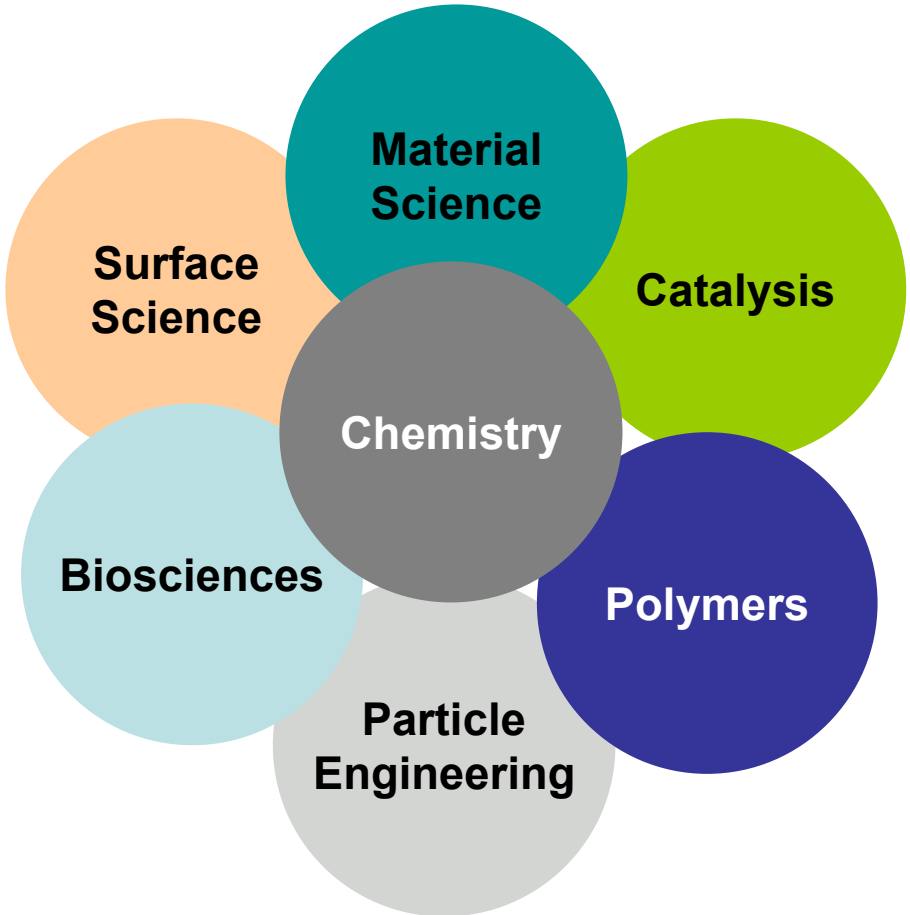
- A specialty materials company with sales of ~$8 billion
- Focused on delivering technically advanced products and services to customers in more than 100 countries
- Approximately 17,000 employees
- More than 100 manufacturing sites and technical centers around the world

Markets We Serve



** Industrial and Other includes monomers, biocides, healthcare, paper*

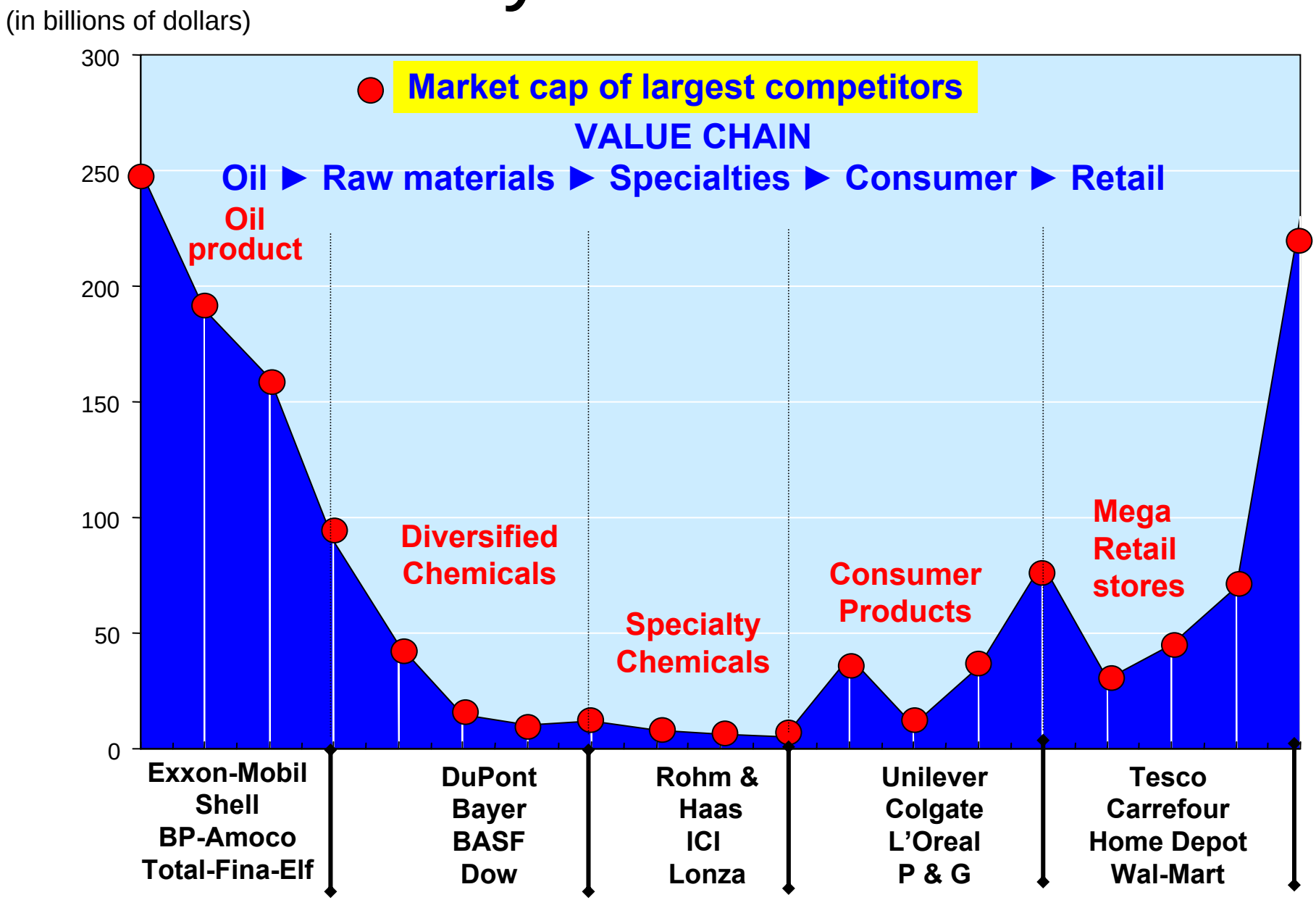
Our Products Draw from Many Disciplines



The Challenge for the Future

Profitable Growth

Why this is Hard!

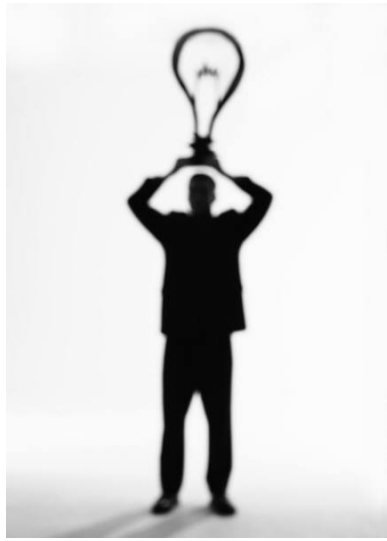



We Must
Decommoditize Chemistry
Through
Innovation

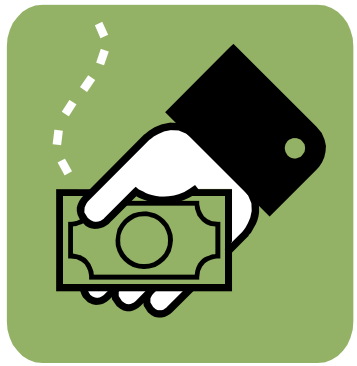
What is Innovation?

Want, Need, Desire, etc

+



Idea or Invention

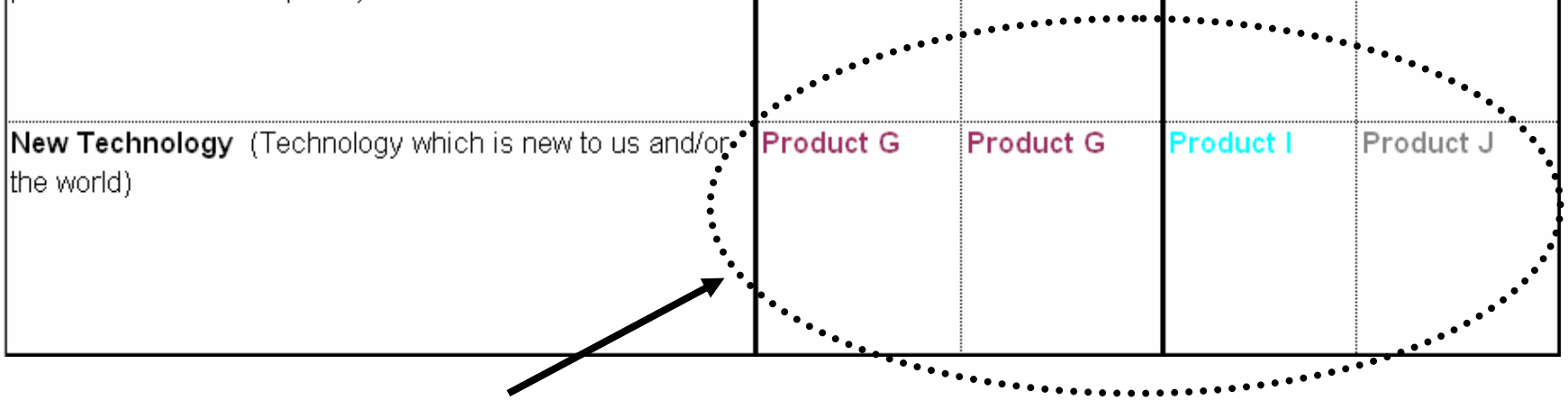


Something of Value

In other words…a valuable invention!

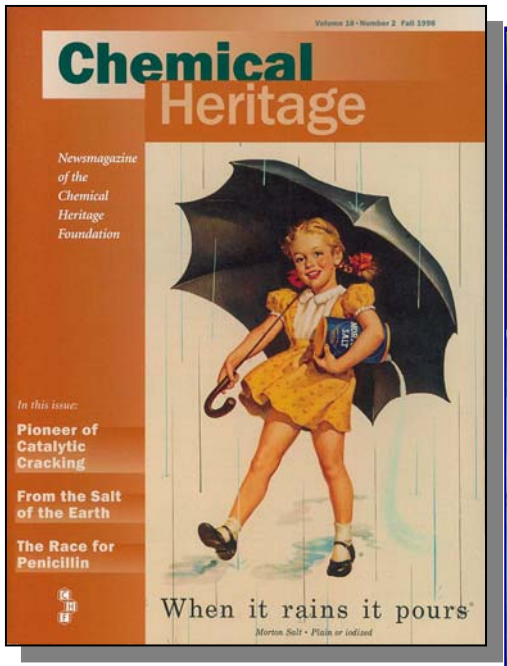
Many Types of Innovation

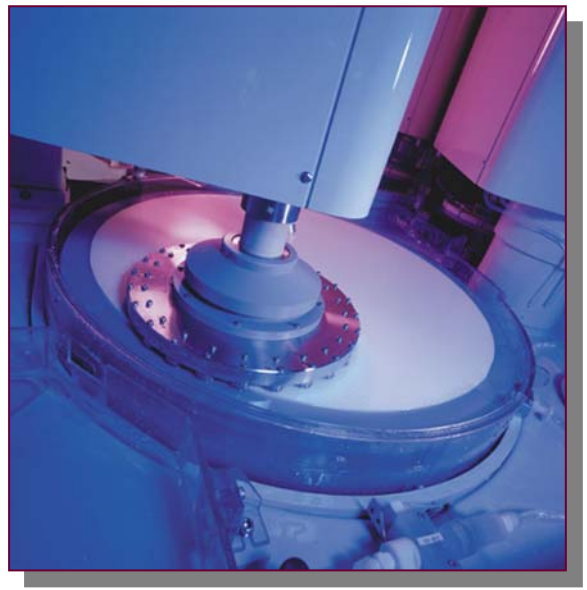
	Current Applications--------->		New Applications---------->	
Levels of Innovation	Current Customers	New Customers	Existing	Emerging
Current Product Technology and/or Minor Extensions (Existing molecules/materials used with minor changes in formulation or manufacturing processes)	Product A Product B Product C	Product B	Product C	Product B
Significant Extensions of Current Product Technology (Significant molecular, formulation or manufacturing process inventions required)	Product D Product E Product F	Product D	Product F	Product E
New Technology (Technology which is new to us and/or the world)	Product G	Product G	Product I	Product J

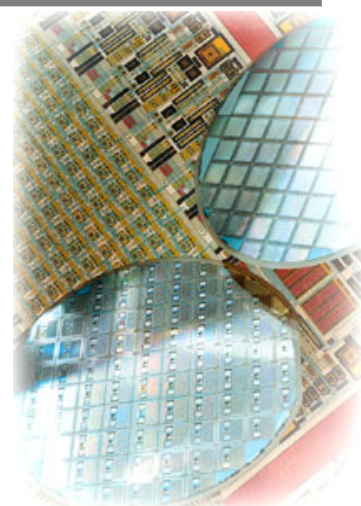


More sustainable “bang for the buck”
In these regions, but riskier

Our Heritage of Innovation

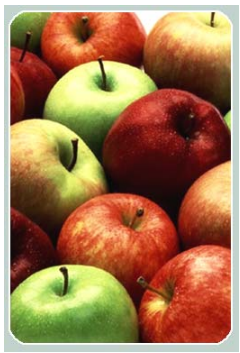






Our Mission

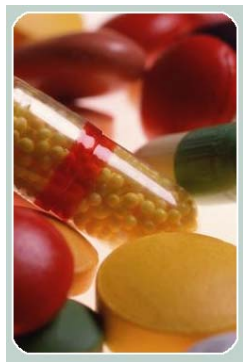
"Keep coming up with cool stuff on a regular basis"



SmartFresh™

LoVo Technology

Formaldehyde-free Technology



Drug Purification Technology

The Foundation

- **Everyone** energized about growth through new technology
- **Enthusiasm** and **passion** among scientists, engineers, and technicians
- The right **leadership** and **talent** depth to execute
- Steady stream of **bold** **ideas** for creating new businesses

Going Beyond the Foundation

- Management involvement and intimacy
- Have a compelling vision
- Make BIG decisions
- Break down silos
- Outside-in/customer focus and intimacy

Role of Leaders

- Understand the reality
- Provide a compelling vision and resources to succeed
- Play an active role in acquiring and growing talent
- Help clear obstacles
- Cheer the troops

Executives@Rohm and Haas Spend Time on Innovation

- CEO-chaired growth board
- Frequent review of top projects
- High degree of visibility and interact frequently with members
- Provide tangible “help” on many top projects

Vision

- Need to get folks excited!

Cool iPod

VS.

everyone else's mp3 players

Boring!

- Be a $20 Bn company by 2010
- Be #1 in our market
- Be better than the competition
- Put the quality and the customer first

Some Good Ones

SONY

“Be the pioneers with our products--out front leading the market. Lead the public with new products rather than asking them what kind of products they want."

L.L.Bean

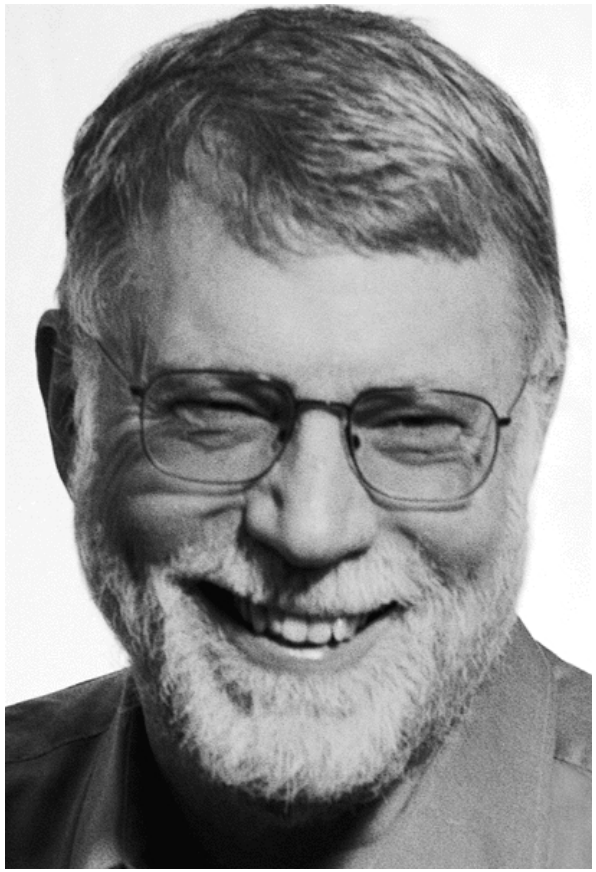
"Sell good merchandise at a reasonable price; treat your customers like you would your friends, and the business will take care of itself.“

WAL★MART®
ALWAYS LOW PRICES. Always.

“Provide one stop shopping for people in rural areas, and overwhelm Mom and Pop stores with volume buying and discounting”

What's Ours?


Hire the very best scientists and engineers, and let them solve problems that customers really care about
ROHM AND HAAS

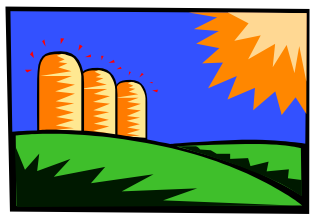


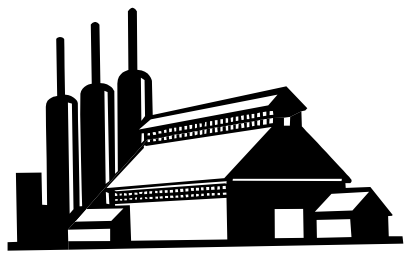
“If we only knew what we know, we’d be more effective”

John Seely Brown
Chief Scientist, Xerox

Silos, They're Everywhere!

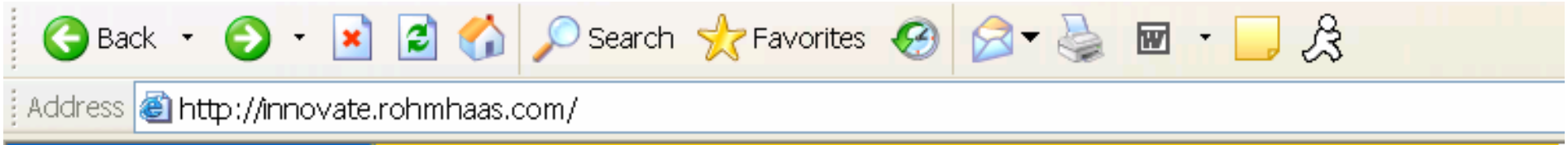
- Between business units
- Within business units
- Within programs & functions





Learning What We Already Know!

- SWAT teams
- Cross-BU idea generation workshops
- In-house seminar series
- On-demand webcasts of new innovations
- CTO-hosted telecons on new technologies
- Website for technology community



innovate!

the web site for technology employees -worldwide

ROH Jul 13 45.12 Chg 0.00 (0.00%)

Internet | INTRAnet | What's New | Innovate! Home | Phone Book

Businesses | Education | Engineering | Ext. Organizations | HR | Knowledge Center | Technology Center | Research Webs | Tools

Spotlight Site:
Visit the !nVent website

The Otto Haas AWARDS

NEW! China Research and Development Center
ChinaRDC.rohmhaas.com

My Innovate! new profile

- Knowledge Center Home
- Electronic Subscriptions
- MicroPatent
- WROH Webcast Network
- Maps & Directions
- Collaborate

ROHM AND HAAS NEWS

July 14, 2005

Search

TECHNOLOGY COMMUNITY NEWS archives

Inventive young engineers selected to participate in NAE's 2005 U.S. Frontiers of Engineering Symposium (07/13) *more...*

Charlotte Technical Center receives "Carolina Star" Certification (07/11) *more...*

ROHM AND HAAS ANNOUNCEMENTS archives

All Rohm and Haas employees accounted for in London (07/07) *more...*

Carter leaves Rohm and Haas; Wallace named director for EITS (07/06) *more...*

PRESS RELEASES & "IN THE NEWS" archives

Rohm and Haas Vice President Nick Gutwein speaks at Goldman Sachs Electronics Forum (07/13) *more...*

Rohm and Haas announces Second Quarter 2005 earnings release date and conference call details (07/08) *more...*

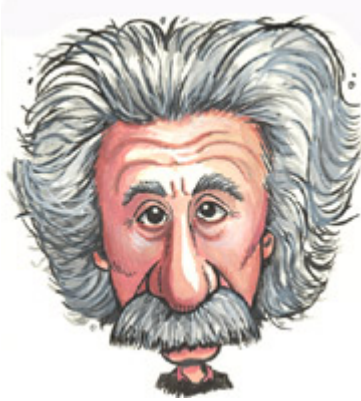
Rohm and Haas Advanced Materials and Asahi Glass Electronic Materials announce a joint development agreement (07/08) *more...*

INDUSTRY NEWS

CHEMICAL INDUSTRY HEADLINES all stories archives


Visit the
Innovate!
Website
View the
Annual Meeting
Webcast Replay
Take the
5-Question
Viewer Survey
THE Rohm and Haas
TECH REPORT

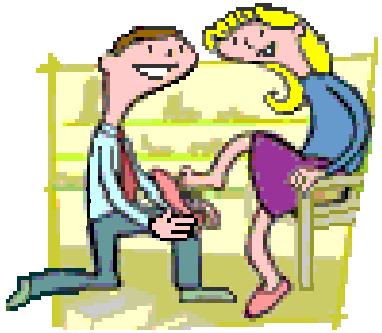
We use the 3-C's for our "Einsteins"



- Coddle, Coach and Challenge them!
  - Responsibilities as technology leaders clearly defined
  - Make them the stewards of knowledge transfer
  - Give them special funds to encourage innovation
  - Hold them accountable by yearly review of each member outside the context of what they do in their individual business units

Big Decisions

- Kill “walking dead” projects to reassign resources
- Buy things we need
  - Companies, technology licenses
- Sell or write-off things we don’t need
  - Commoditized product lines
  - technologies

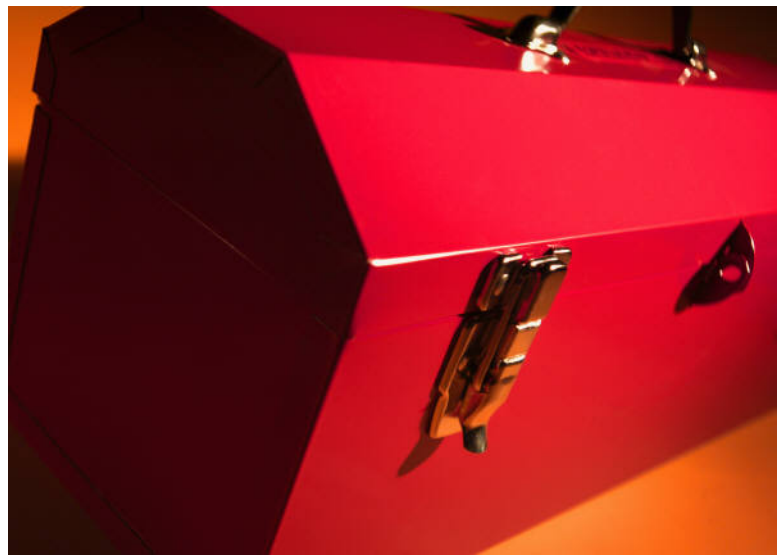


Outside-in/Customer Intimacy

- Important to have technical people engaged at the “front line”
- We must get prototypes to hungry potential customers with utmost urgency
- Talk to the customer’s customer, not just our customer!

Tools & Procedures

- Are important accelerators of innovation, but do not drive it
- Easy to spend “all your time” improving these!



Using the Computer to Cut Down on Lab Work And Get to the Right Product Faster

Business Needs

- Operational consistency, new value-added products, faster customer response

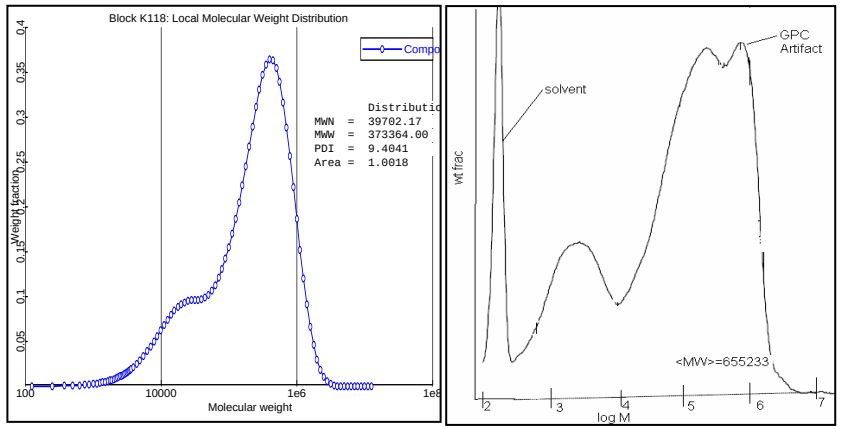
Features

- 1st principles tools – handles complex phenomena
- Scope window of operation, guide new product engineering

Advantages

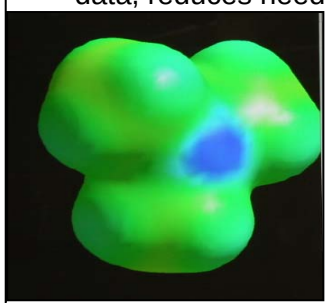
- Speed time to market
- More efficient R&D, more discovery options, lower costs

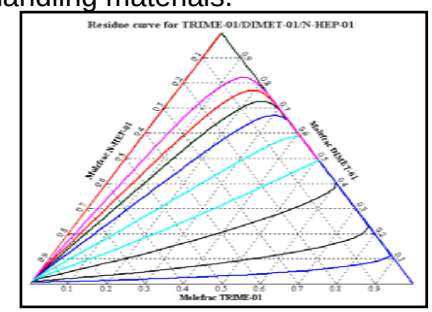
Polymers Plus – Model polymerization kinetics and product properties. Design new products, speed development and scale-up



MWD predicted vs actual

COSMO – Predict VLE, electrolyte properties based on electron distribution. Speeds initial screening with limited data, reduces need for handling materials.





VLE Prediction for Metalorganic Compounds

Chrom – Rigorous modeling of IX processes, design of new resins, optimization of bed operation.

InVent
Internal Venturing

"To *imagine the unimaginable* is the highest use of the imagination."
- Cynthia Ozick, US novelist, short story writer




- Success Showcase
- Aspiring Inventors
- Innovation Tools
- Submit Ideas
- Markets

Welcome to !nVent

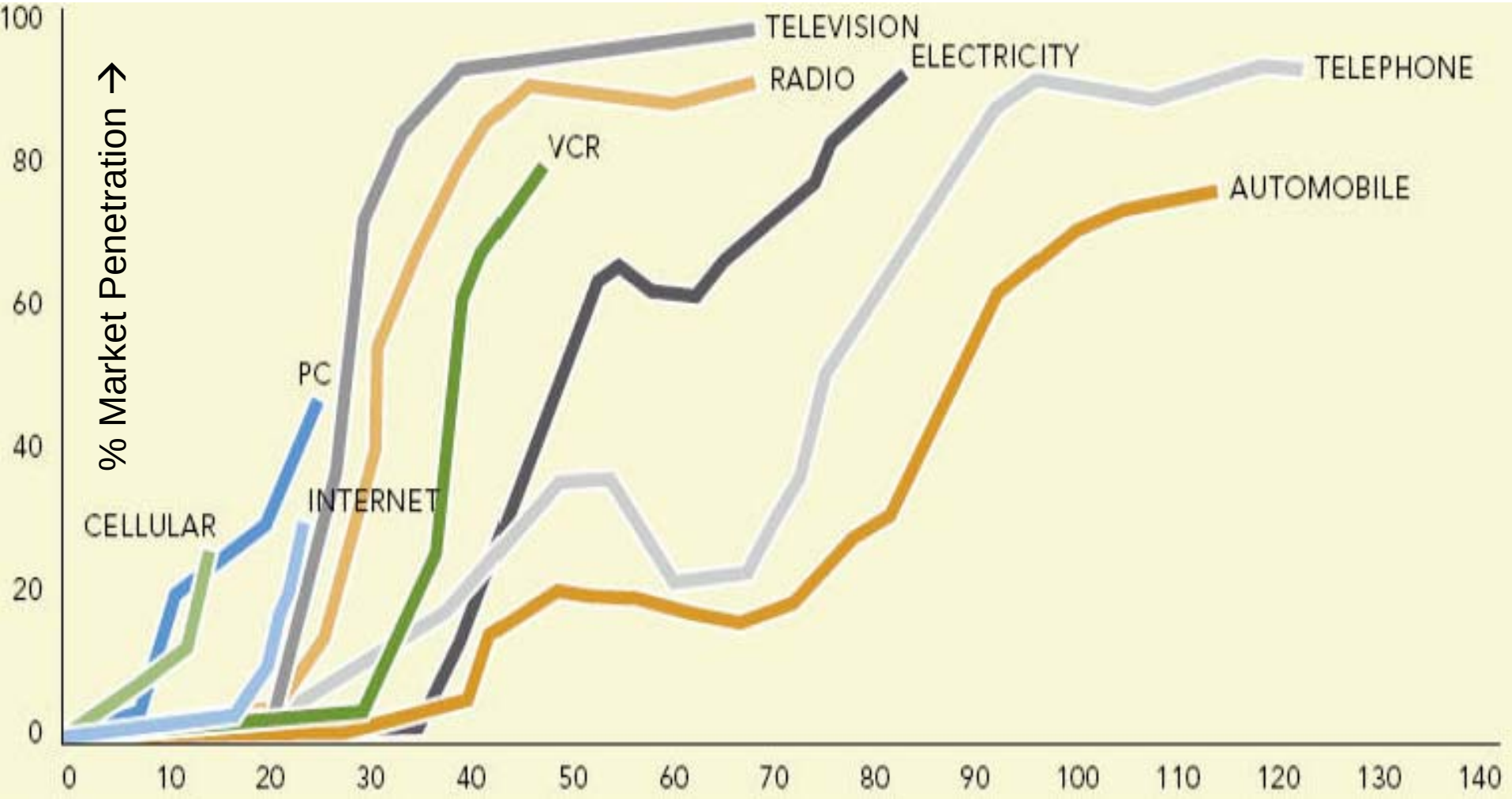
Internal Venturing for Rohm and Haas Employees

Welcome to **!nVent**, an exciting new venture designed to nurture and support your innovations! Do you see ordinary products and envision extraordinary possibilities? Have ideas to improve a service or revolutionize a business? You don't have to be an inventor to **!nVent**!

Submit your ideas and insights to **!nvent** by downloading a submission form which may be completed away from the site at your convenience. The brightest new ideas will then be selected for development into brilliant new innovations. All contributors will receive an **!nVent** pen, glowing green with the power of your ideas, as a token of the **!nVent** team's appreciation. Ideas chosen for development will be further rewarded, gaining recognition, exposure, and the potential to revolutionize the way business is done! Contributing to **!nVent** provides you with a unique opportunity to be a part of the evolution of innovation.

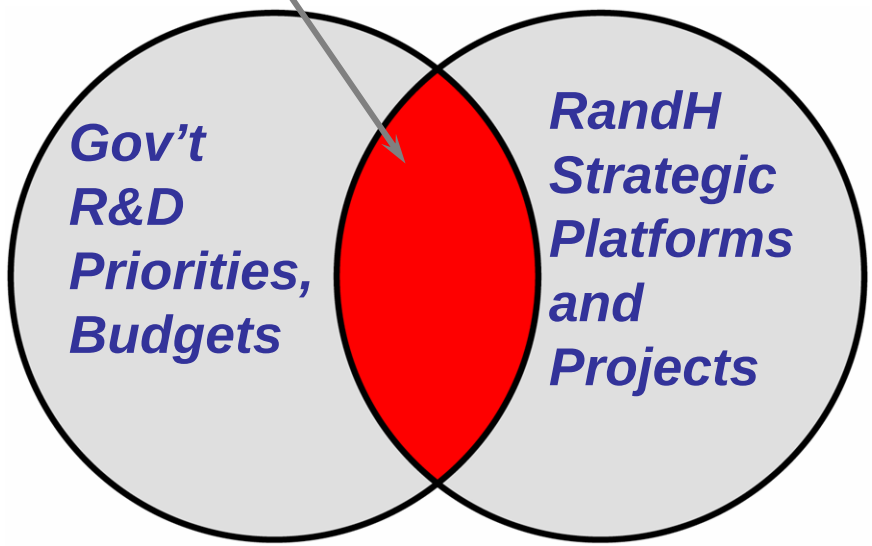
ROHM AND HAAS

Why? Because we have less time!



Technology Partnerships:
Leveraging External Resources to Accelerate Our Programs

Find, Create and Leverage this intersection



Partnerships

Press Release

RODEL PARTNERS WITH NANOPHASE TECHNOLOGIES TO DEVELOP AND MARKET NANOPARTICLES IN CMP SLURRIES FOR SEMICONDUCTOR APPLICATIONS

June 26, 2002 - Phoenix, AZ - Rodel, Inc., an innovator of integrated materi
the microelectronics industry, today announced a strategic partnership and
exclusive long-term supply agreement with Nanophase Technologies Corpo
(Nasdaq:NANX). Under the terms of the relationship, Rodel will combine its
patented chemistries with Nanophase's new nanoparticle technology to de
and market new chemical mechanical polishing (CMP) slurries for the

U.S. Department of Energy
Energy Efficiency and Renewable Energy

Industrial Technologies Program

Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable

Featured Partner

Allied Partner

Rohm & Haas Company

Press Release

SHIPLEY COMPANY AND SAMSUNG ELECTRONICS TO DEVELOP NEW 193NM PHOTORESISTS

December 20, 2000 - Marlborough, MA - Shipley Company and Samsung Electronics Company, Ltd. have launched a research and development partnership to speed development of a leading-edge lithography process for

Rohm and Haas News Room

News Releases | In the News | Media Contacts | Additional Resources | Company Overview

Rohm and Haas Company Awarded $3.75 Million Grant to Develop New Technology for Low VOC Paint and Coatings

Spring House, PA, October 18, 2004 —Rohm and Haas Company (NYSE:ROH) has been awarded a $3.75 million grant from the Department of Energy's (DOE) Industrial Technologies Program to develop new polymer technologies that can remove as much as 30 percent of raw materials used to manufacture a variety of paints and coatings.

Working together with Archer Daniels Midland (ADM), the University of Minnesota and DOE, Rohm and Haas will match its novel water-based polymeric binders with new biomass-derived coalescing agents to deliver architectural paints and coatings that offer breakthrough performance, environmental friendliness and cost efficiencies.

Press Release

DUPONT ITECHNOLOGIES AND SHIPLEY ANNOUNCE JOINT DEVELOPMENT AGREEMENT TO PRODUCE 157 NANOMETER PHOTORESISTS FOR THE MICROELECTRONICS INDUSTRY

anuary 15, 2001 - WILMINGTON, Del., and PHILADELPHIA, Pa., - DuPont
Technologies and Shipley, a wholly owned subsidiary of Rohm and Haas
Company, today announced that they have signed a joint development
agreement to produce fully formulated 157 nanometer photoresists and anti-

Press Release

ROHM AND HAAS ELECTRONIC MATERIALS AND XAAR TO JOINTLY DEVELOP DIGITAL INKJET PRINTING SYSTEMS

June 17, 2004 - Marlborough, Massachusetts and Camb
Rohm and Haas Electronic Materials today announced a
agreement with Xaar, plc. The companies are working t

Press Release

3M AND RODEL ANNOUNCE ALLIANCE TO MARKET AND DEVELOP POLISHING SYSTEMS FOR SEMICONDUCTOR AND MEMORY DISK PRODUCTS.

Alliance Will Lead To Rapid Commercialization and Development Based On Rodel's Market Leadership and 3M's Advanced Technologies.

February 18, 1998 - St. Paul, Minnesota and Phoenix, Arizona - A new alliance

Innovation Ventures - News

Innovation Ventures (NLP) announces a $5 million dollar investment from Rohm and Haas Company
Philadelphia, PA - July 2004

Rohm & Haas Company (NYSE:ROH) announced today that it made an investment of $5 million in Innovation Ventures, L.P., a newly established venture capital firm.

Innovation Ventures t
chemicals and mater
information technologies

Rohm and Haas News Room

News Releases | In the News | Media Contacts | Additional Resources | Company Overview

SHIPLEY COMPANY AND THERMA-WAVE ANNOUNCE ADVANCED NANO-METROLOGY JDA

Marlborough, Massachusetts, December, 19, 2002 – Shipley Company, a world leader in electronic materials and process innovations for advanced circuit board technology, semiconductor manufacturing and advanced packaging today announced it signed a joint development agreement with Therma-Wave, Inc.

Rohm and Haas News Room

News Releases | In the News | Media Contacts | Additional Resources | Company Overview

ROHM AND HAAS COMPANY BUILDS PARTNERSHIPS IN CHINA, DEEPENS COMMITMENT TO EMERGING TECHNOLOGIES

Philadelphia, PA, May 9, 2003 – Rohm and Haas Company (ROH:NYSE) has furthered its investment in and commitment to China through entering into a unique partnership with Fudan and Sichuan Universities.

According to the agreement, Rohm and Haas Company's emerging technologies group will work with these universities on patents in the development of polymer nanotechnology. Gary Calabrese, vice president and Chief Technology Officer at Rohm and Haas Company, said "Important, groundbreaking technology is being

Rohm and Haas News Room

News Releases | In the News | Media Contacts | Additional Resources | Company Overview

DOW CORNING AND ROHM AND HAAS FORGE STRATEGIC ALLIANCE

~ An Exciting Alliance Between Industry Leaders ~

Joint Press Release From Dow Corning And Rohm And Haas

MIDLAND, MI and PHILADELPHIA, PA, October 20, 2003 – Dow Corning Corporation and Rohm and Haas Company today announced the formation of a strategic alliance that will create innovative materials and services to address unm
med

ROHM iHAAS

NEWS RELEASE

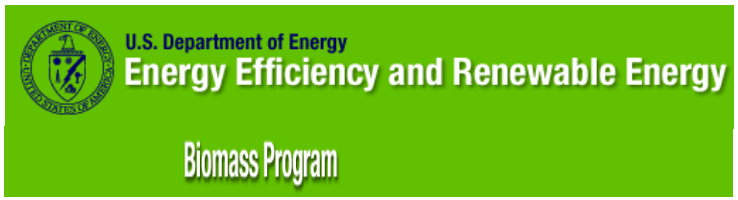
Rohm and Haas Company 100 Independence Mall West Philadelphia, PA 19106-2399

Rohm and Haas Company and Engelhard Corporation Awarded $5.2 Million Grant to Develop New Technology to Produce Acrylic Acid from Propane

Spring House, PA, and Iselin, NJ, December 2004—Rohm and Haas Company (NYSE:ROH), with support from Engelhard Corporation (NYSE:EC), has been awarded a $5.2 million grant by the U.S. Department of Energy's (DOE) Industrial Technologies Program to develop a major new manufacturing process that will use propane instead of propylene to manufacture acrylic acid. The novel technology, if adopted worldwide by acrylic acid and other propylene derivative manufacturers, could save up to 37 trillion BTUs per year, eliminate 15 million pounds of environmental pollutants annually, and potentially save U.S. industry nearly $1.8 billion by the year 2020.

New Sustainable Chemistries:
Adhesives, Foams & Elastomers

Develop a new generation of adhesives and sealants derived from soybeans and other renewable resources.



EASTMAN

ROHM AND HAAS

imagine the possibilities™

Virginia Tech VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

$2 million from DOE, plus industry cost share
2 years

New Sustainable Chemistries:
Low-VOC Coatings

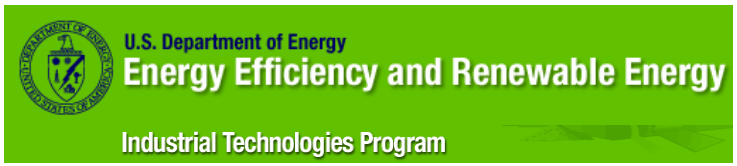
Develop novel water-based polymeric binders with new biomass-derived coalescing agents

imagine the possibilities™

$3.75 million from DOE, plus industry cost share
5 years

New Sustainable Chemistries:
Millisecond Catalysis

Develop new catalyst technologies to produce acrylic acid from propane.



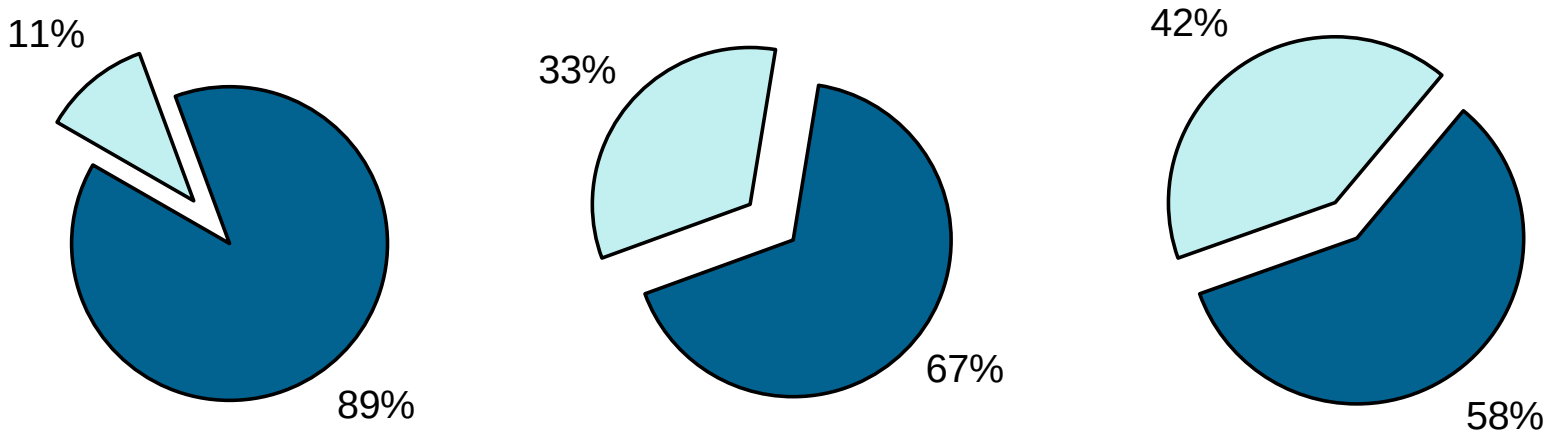
imagine the possibilities™

$5.2 million from DOE, plus industry cost share
5 years

“Decades of research agree--growth ultimately means starting **new** businesses.”

David Garvin, Harvard Business School

Shift to New Product Line Creation

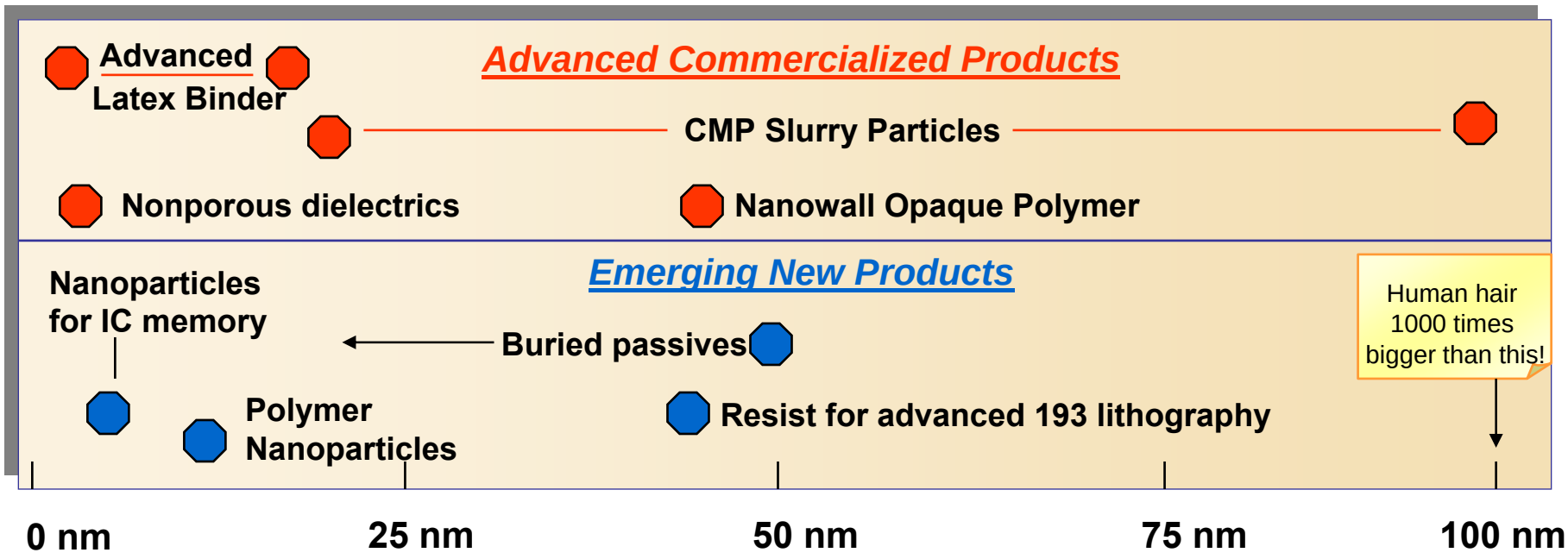


1997	**2000**	**2003**
$147 MM	$223 MM	$238 MM
4.2% of Sales	4.1% of Sales	4.2% of Sales

- Spending for new products, new technology, step-out opportunities
- Regulatory, cost reduction, quality, and incremental product improvement

Statistics adjusted to remove influence of Agricultural Chemicals and Salt

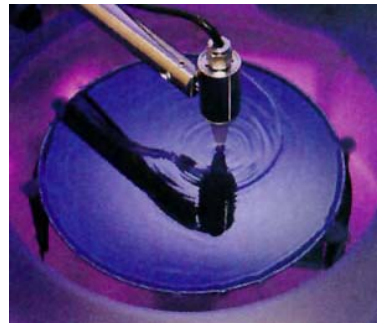
Nano is “Business as Usual” For Rohm and Haas



Leveraging Key Platforms for Growth

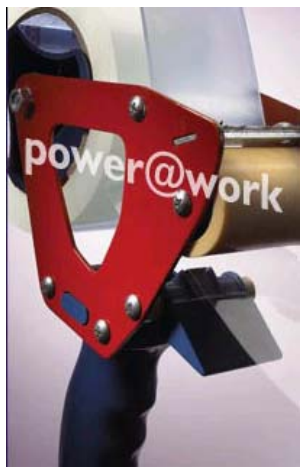
Hollow Core Polymers

AcryJet®



193 nm Photoresists

Acrylic Platform

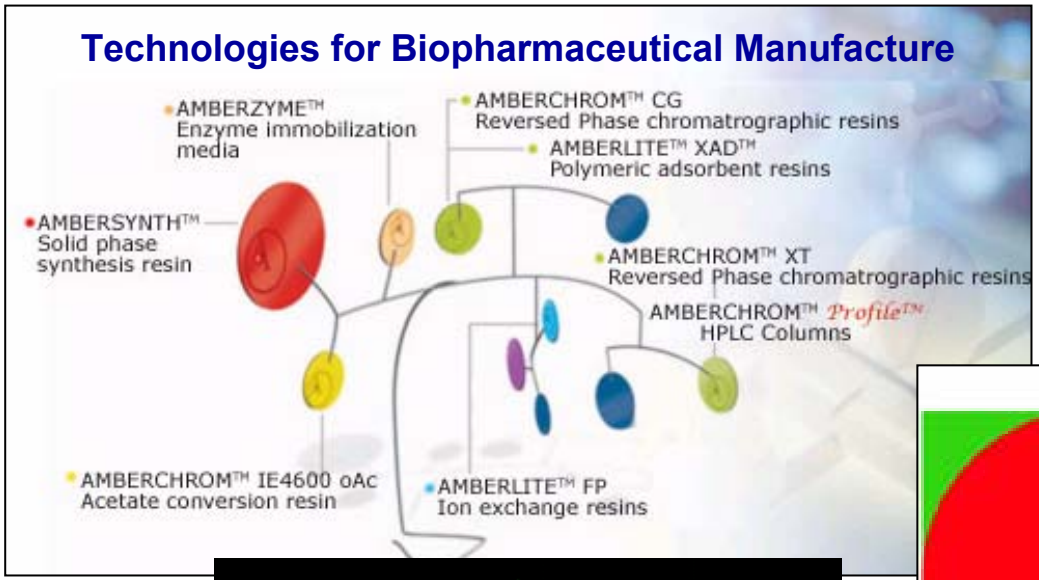


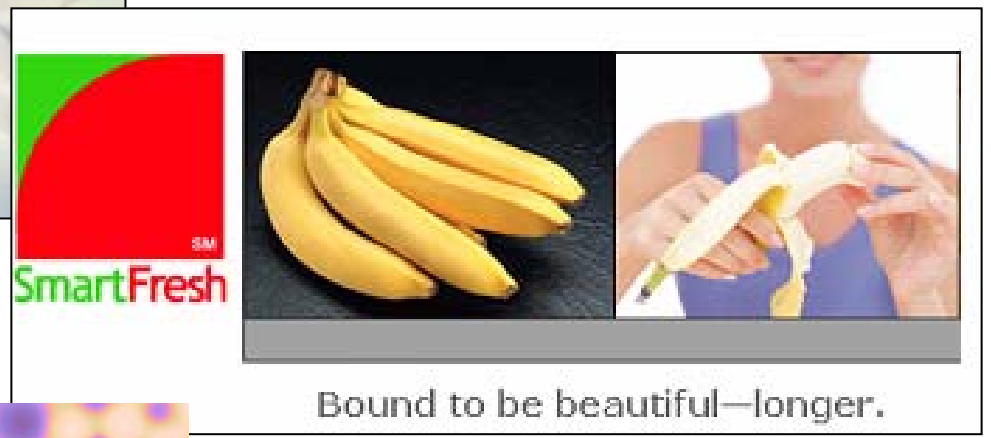
Advanced Adhesives

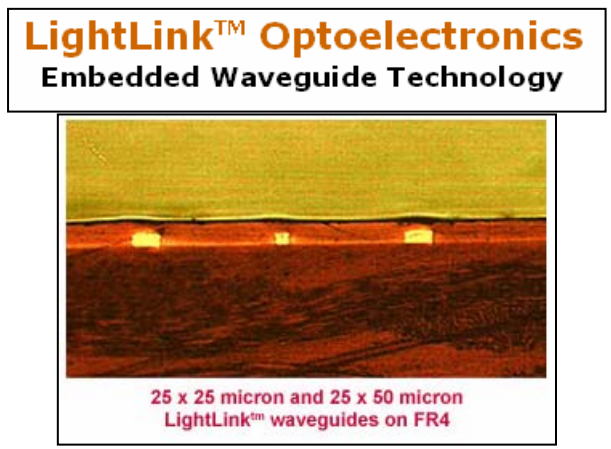
LoVo Coatings

Formaldehyde-free Insulation

Creating New Product Lines







Rohm and Haas Example

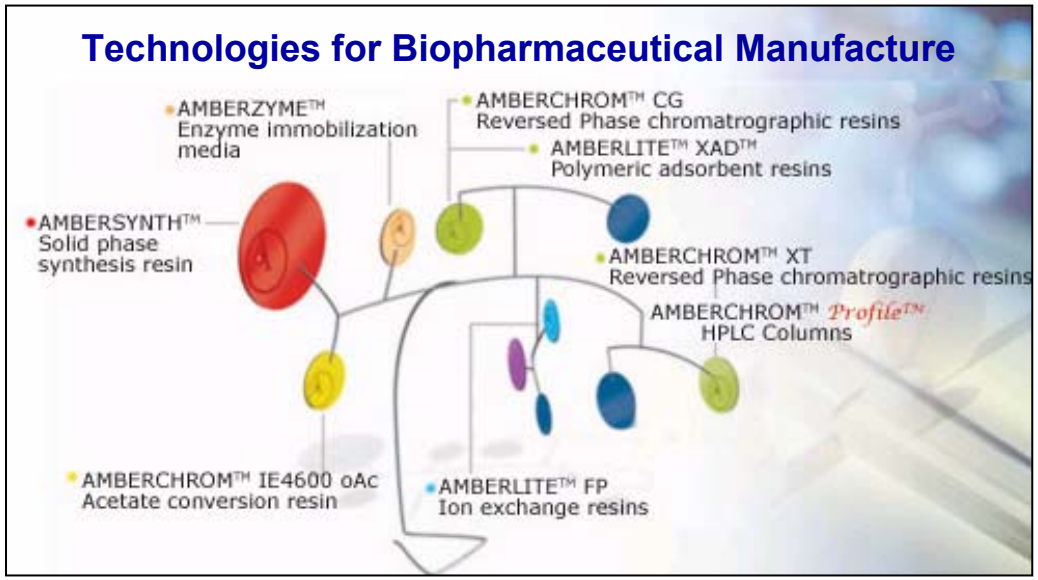
- Creation of new product line and new business model!
- External connections were key - “brainchild” of an external “Einstein”
- Senior management was actively involved and helped secure extra resources fast enough for the team’s needs

Rohm and Haas Example

- Creation of new product line
- Lived at customer site to “make this work”
- Senior leaders actively involved in helping team to secure needed partners
- Brainchild of a Rohm and Haas “Einstein”

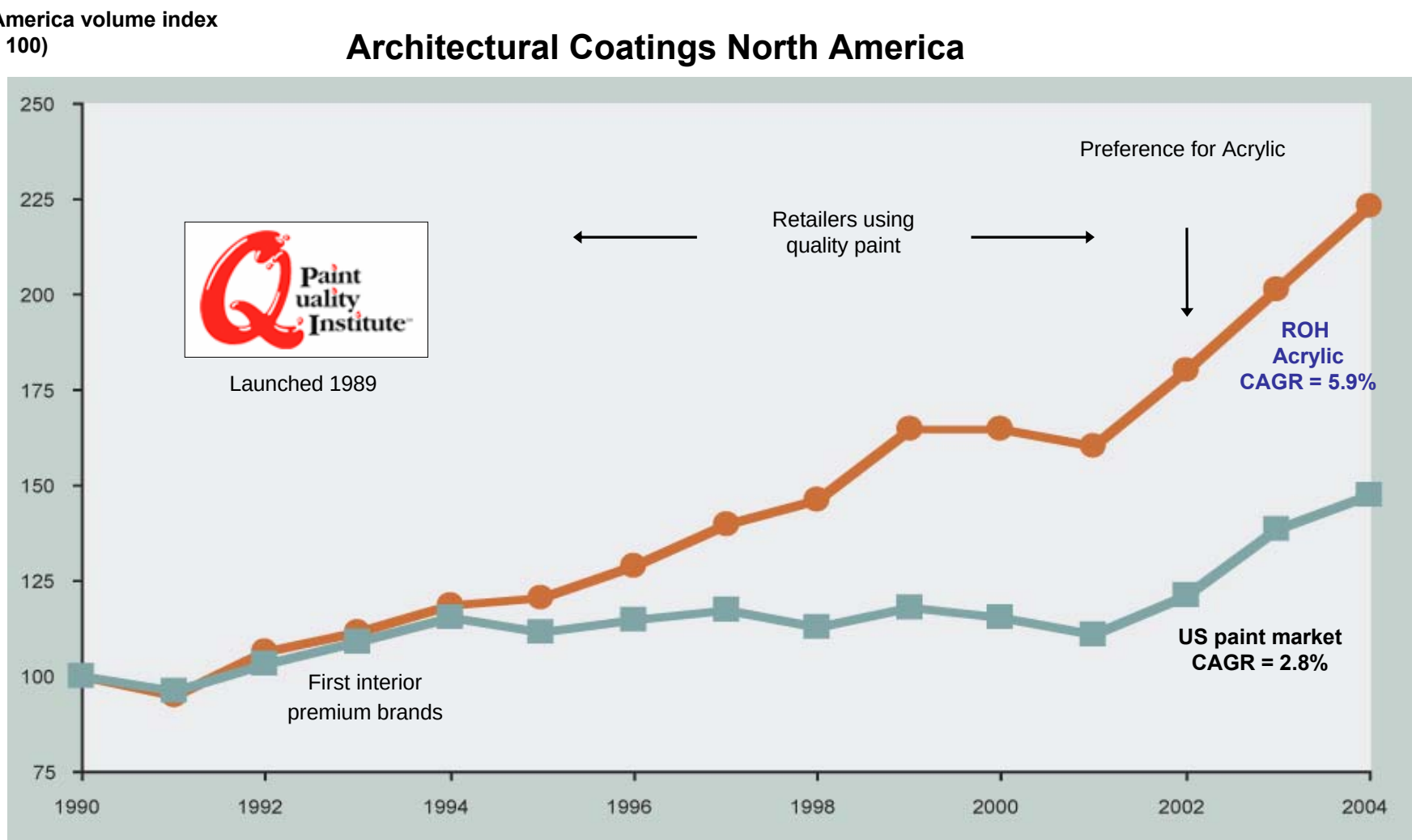
Thermosetting Resins

Rohm and Haas Example



- Creation of new product line
- Tremendous number of “cycles of learning” through customer intimacy…”wormed” our way into our customer’s R&D to become the dominant design

Innovation Comes in Many Forms!

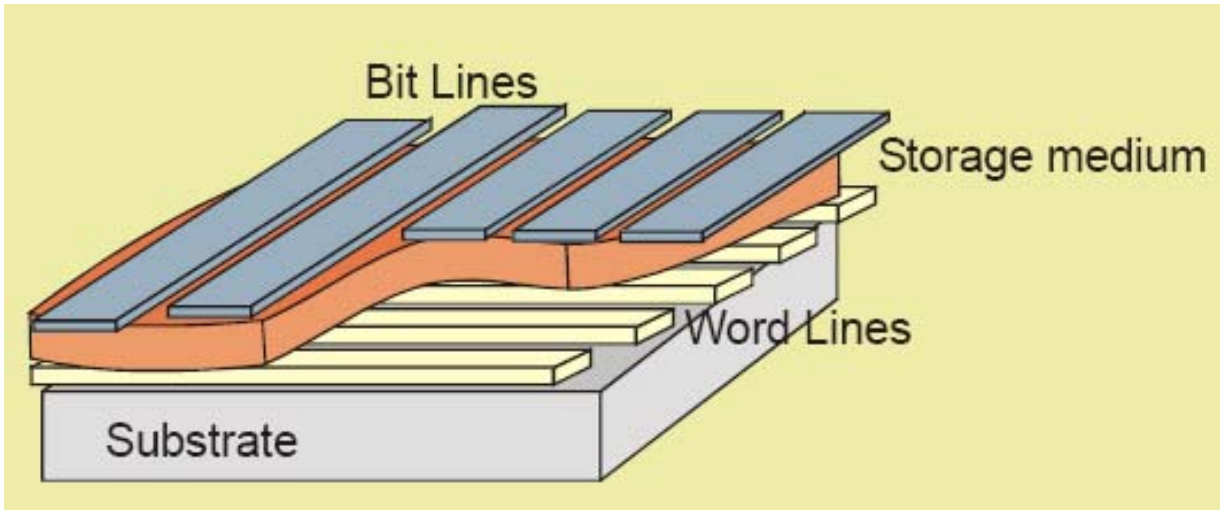


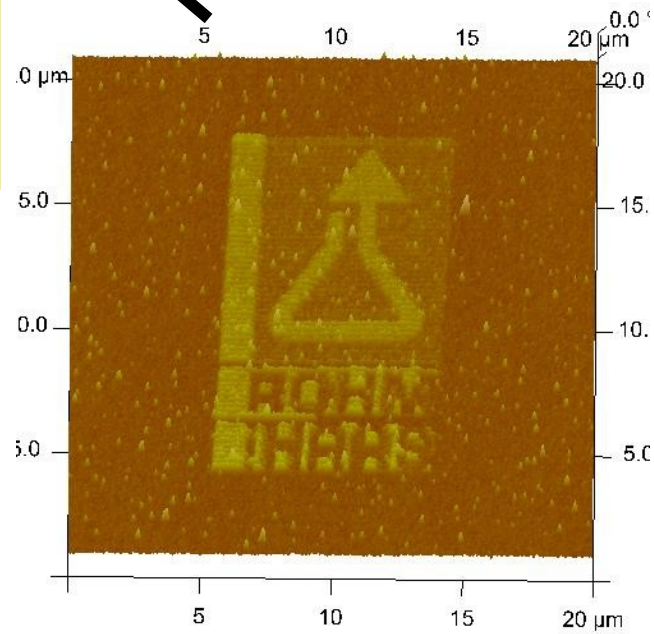
Source: US Census Bureau, Company data, 2004 is estimated

Some Trends Driving New Product Lines

- Energy (portable power, and infrastructure)
- Clean Water
- Homeland security
- Aging Population – Human Health
- Greener Alternatives to today's products
- End of CMOS scaling in Electronics

Working on the Next Big Things





Advanced Polymer
Nanocomposite Memory
Storage Medium

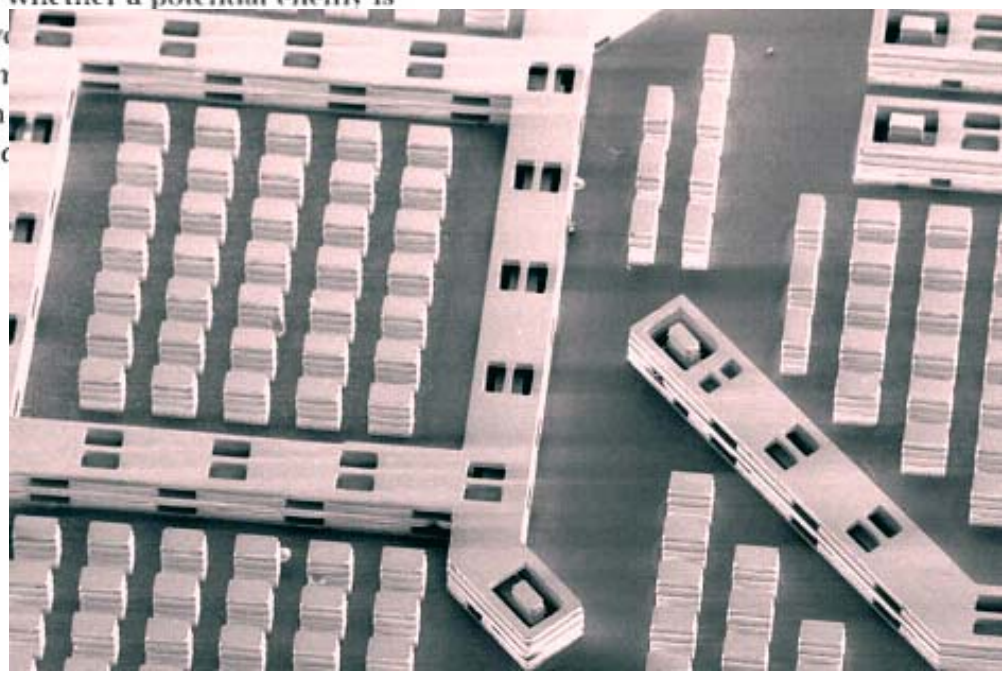
HARDWARE

Radio Communications

Fabrication tricks promise handheld radar

SECURE WIRELESS-COMMUNICATIONS systems and sophisticated radar have transformed warfare. But manufacturing them is costly and time consuming: the delicate radio components must be connected manually, increasing the systems' size and decreasing their reliability. In an effort to make such systems smaller, cheaper, and more dependable—for example, shrinking a TV-size military radio down to walkie-talkie size—military contractors are developing a sort of "circuit board" into which designers could simply plug radio components, much as engineers lay out chips on computers' familiar green motherboards.

Many radar and radio communications systems under development use millimeter-wavelength transmissions; such systems enable long-range communications and image resolution high enough to let soldiers easily discern whether a potential enemy is concealing a gun or bomb. While some millimeter-wav
they are too bulky and expensive for widespread deployn
to be able to have things like a millimeter-wave radar on
Kruglick, a consultant for the U.S. Defense Advanced



The Nuggets

- Innovation is key to our growth: past, present and future. Entire company energized by this!

- Our “formula for success”:
  - Recognition that we must continually create new product lines.
  - Highly involved management, right up to the top...they simply spend the time on innovation!
  - Relentless drive for customer intimacy, making important decisions quickly, and breaking down silos.
  - Coddle, Coach and Challenge the top innovators.

- We believe tools are important accelerators, but do not themselves drive innovation

Thank You!