



# Lehman Brothers Global Chemical Industry Leaders Conference

Becoming **The** Investment In Industrial Gases,  
Surface Technologies, and Services

April 4th, 2003



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[www.praxair.com](http://www.praxair.com)

# Forward Looking Statements

**The forward-looking statements in this presentation concerning revenue, earnings, return on capital, volume, growth, economic growth rates, stock price performance, and the value of future product and service offerings involve risks and uncertainties, and are subject to change based on various important factors. These include the impact of changes in worldwide and national economies, availability and cost of power and other energy materials and the ability to recover these costs, pricing fluctuations in foreign currencies, changes in interest rates, the continued timely development and acceptance of new products and processes, the impact of technologies, competitive products and pricing, and the impact of tax and other legislation and regulation in the jurisdictions in which the company operates.**

# Outperformance

## Operating Model $\Rightarrow$ Earnings and Shareholder Return

### ◆ Comparative EPS Growth

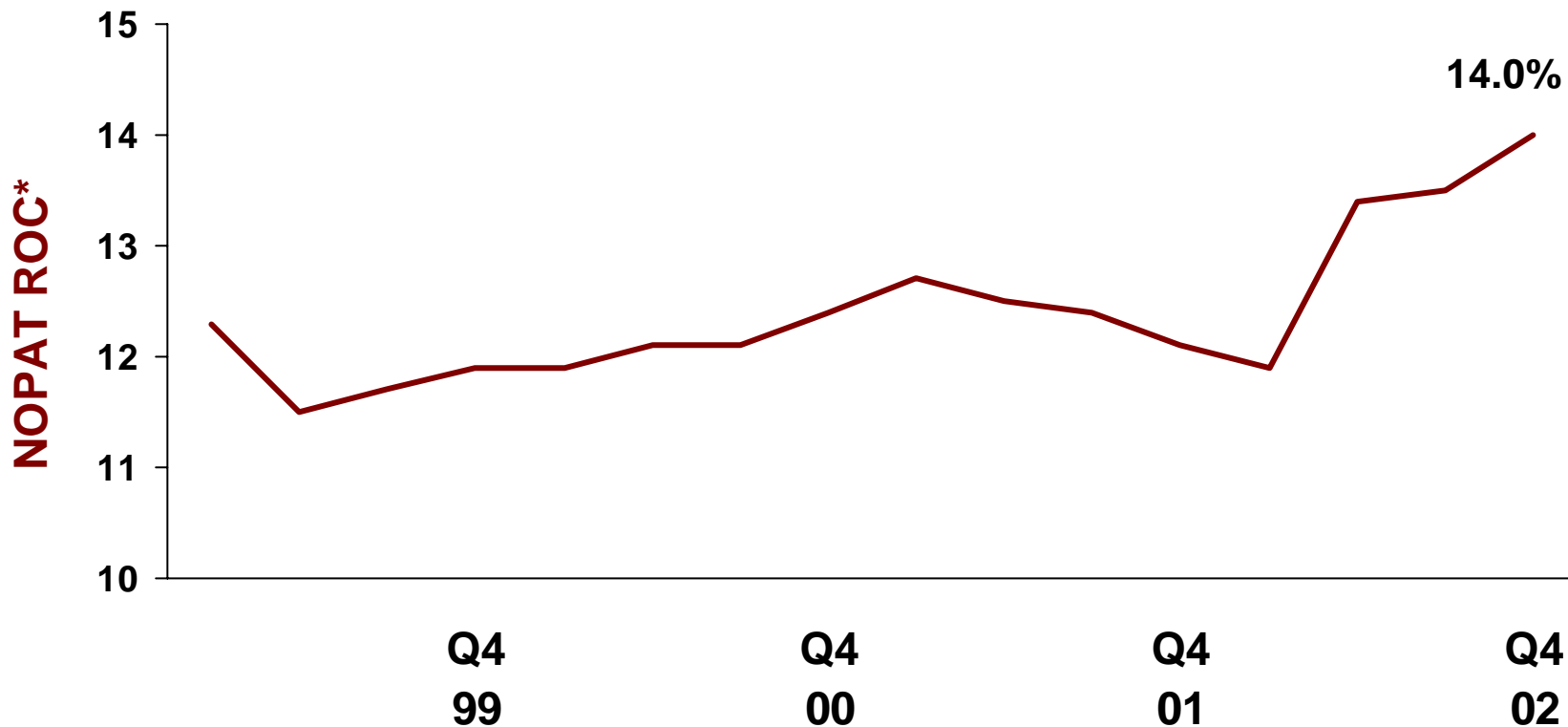
	<u>2001</u>	<u>2002</u>	<u>Ex GW</u>
Praxair	0%	11%	4%
S&P 500	-20%	5%*	1%*

### ◆ Comparative Stock Total Return

Praxair	6%
Basic Materials Index	-5%
S&P 500	-22%

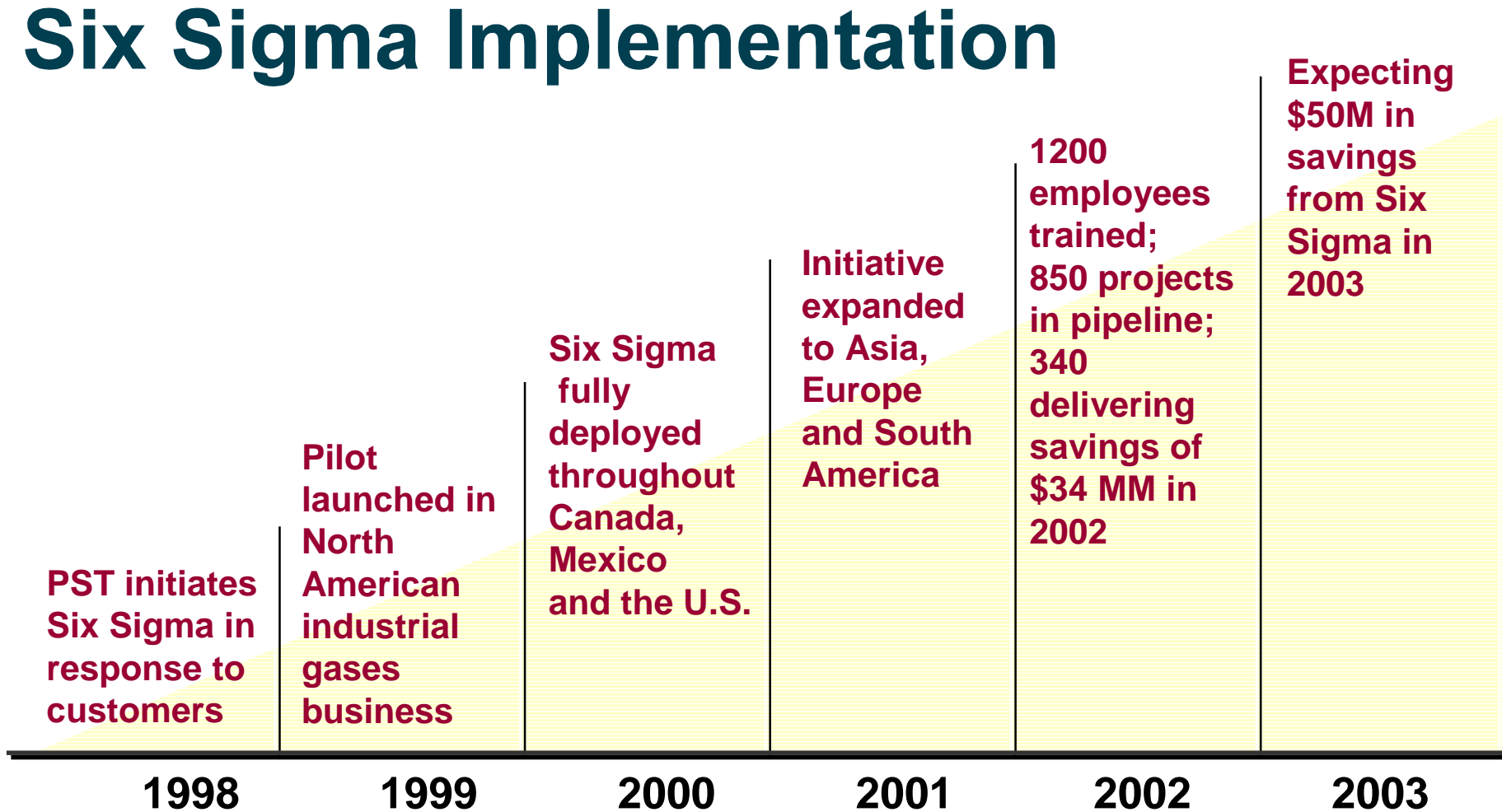
\*Praxair estimate

# Improving Return on Capital



\* Ex gains, Ex goodwill, Ex special charges

# Six Sigma Implementation

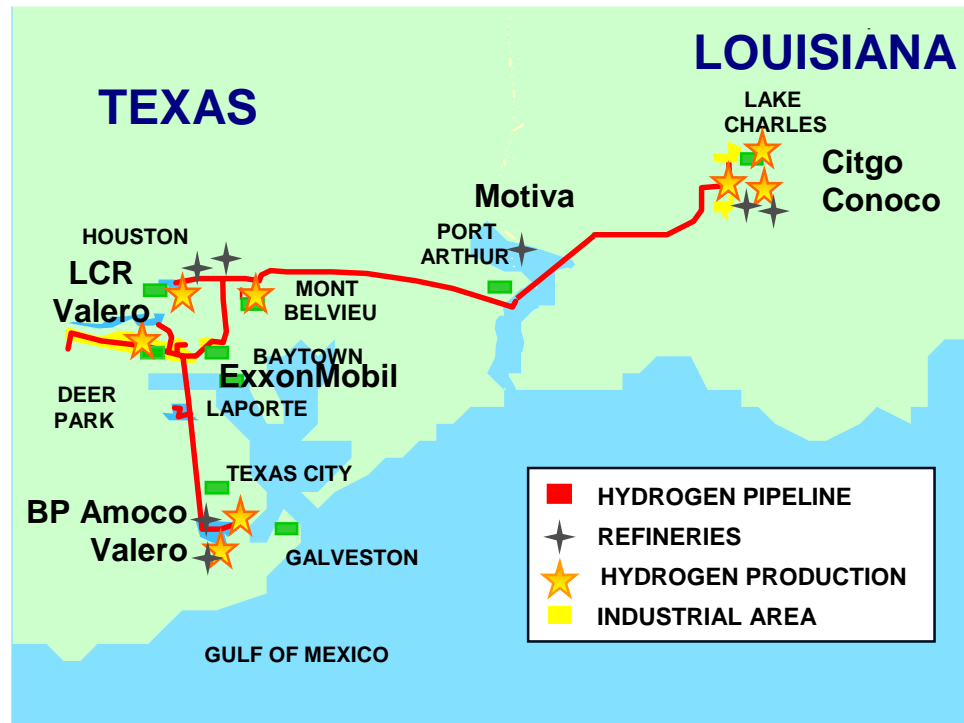


*Now a key driver of \$100MM per year productivity goal*

# Praxair Strong Number One Position

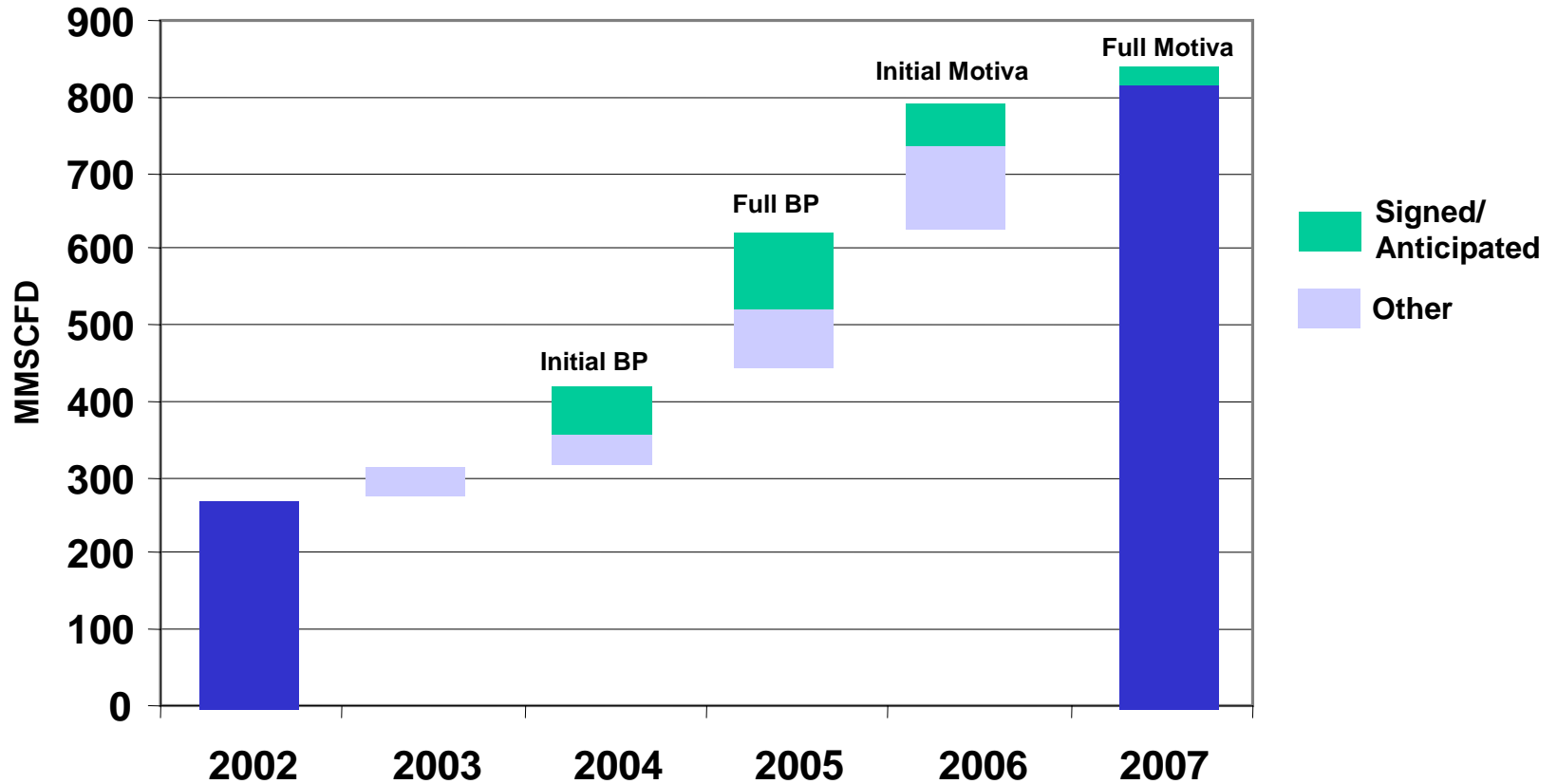
## Texas City to Lake Charles (3.8 MMBPD Refining Capacity)

Praxair H2		Competitive H2	
Connect	Primary Supplier	Connect	Primary Supplier
86%	55%	57%	18%



***Praxair has won over 80% of the new hydrogen supply awarded in this area in the last year***

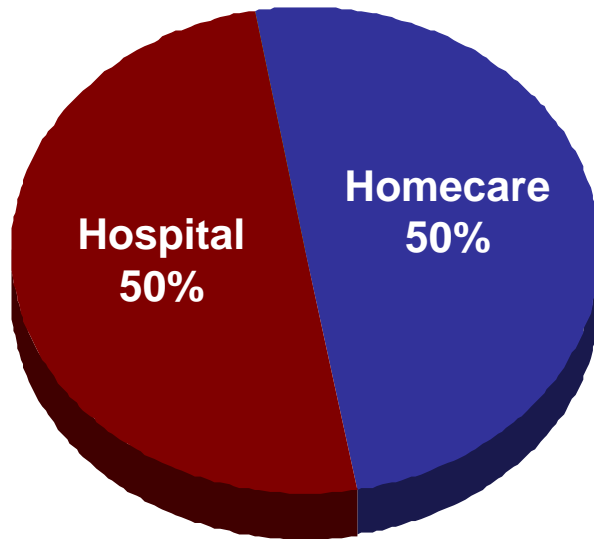
# Praxair Gulf Coast Hydrogen Growth



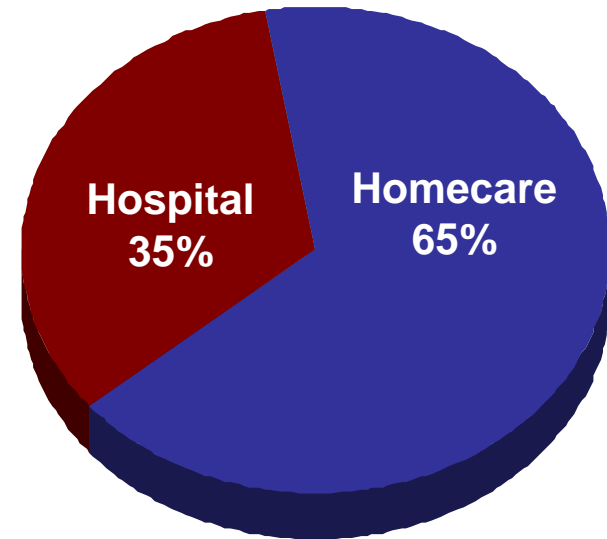
**300 MMSCFD Signed - 200 MMSCFD Anticipated**

# Praxair Healthcare Sales

**Global \$550MM**



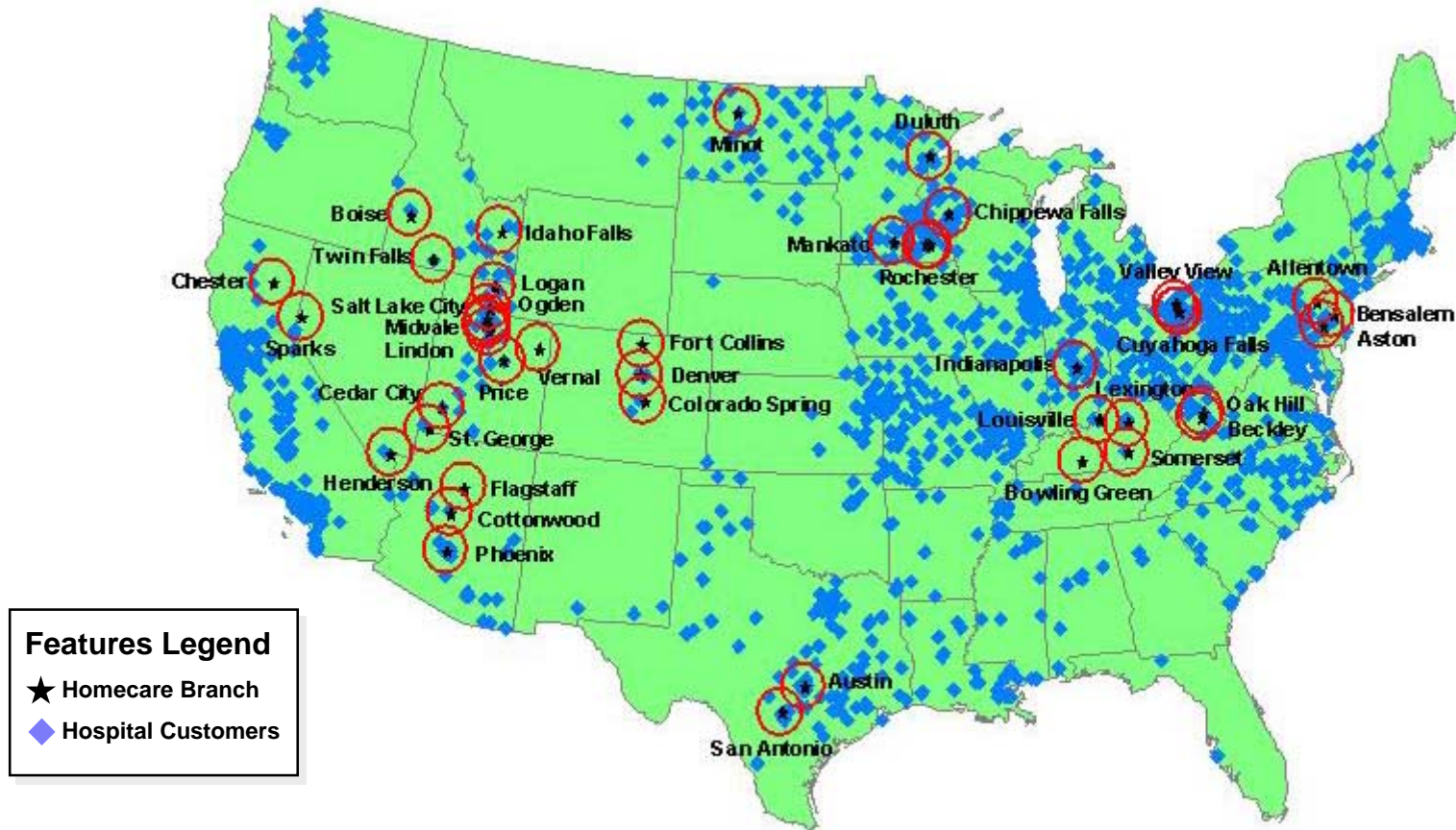
**North America \$350MM**



*In North America homecare sales are expected to have an 8% organic growth rate*



# Hospital To Home Strategy

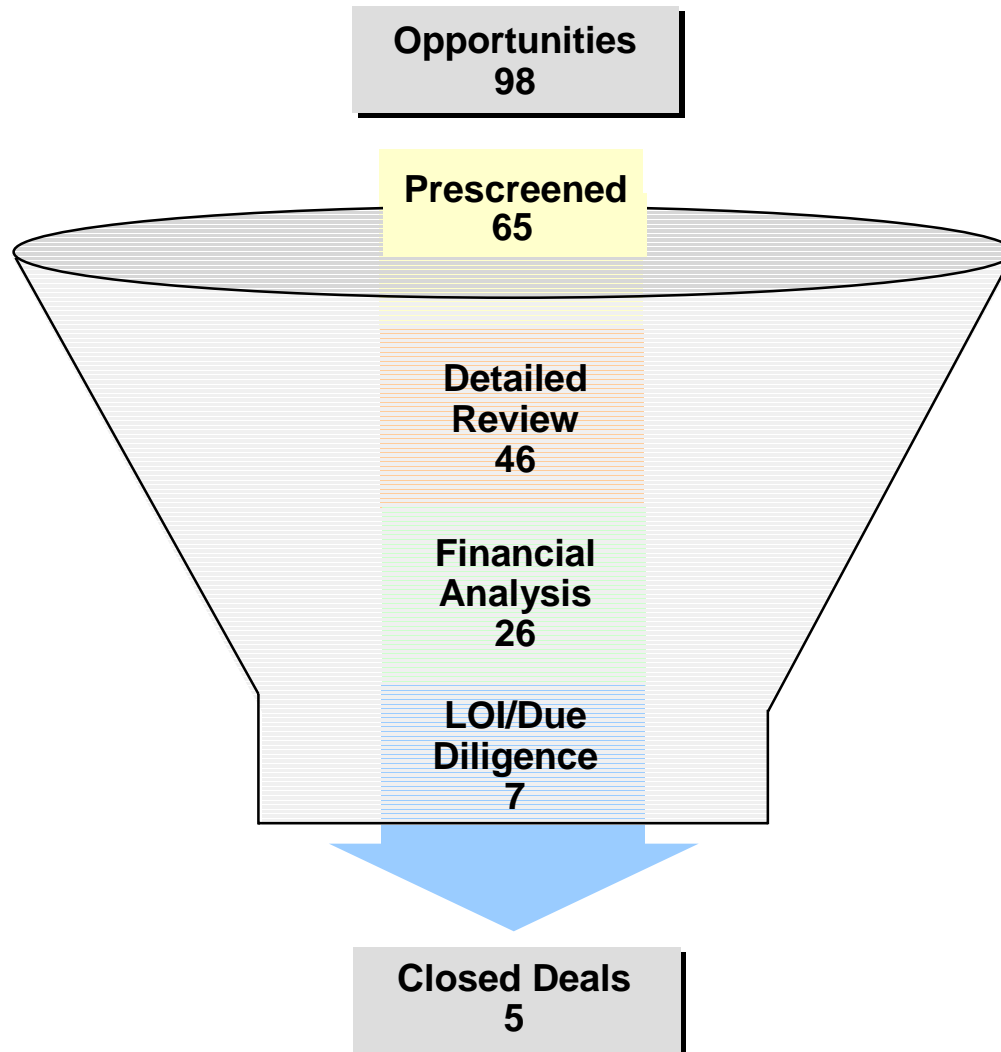


**Features Legend**

- ★ Homecare Branch
- ◆ Hospital Customers

***Leverage #1 hospital position to increase share of homecare patient referrals***

# U.S. Homecare 2002 Acquisition Funnel



# Electronics

	1995	2000	Today
<b>Process Consumables</b>	<ul style="list-style-type: none"> <li>● Specialty Gases</li> <li>● Disk Polish</li> </ul>	<ul style="list-style-type: none"> <li>● Specialty Gases</li> <li>● Disk Polish</li> <li>● PVD Targets (MRC)</li> </ul>	<ul style="list-style-type: none"> <li>● Specialty Gases</li> <li>● Disk Polish</li> <li>● PVD Targets</li> <li>● CMP Slurries</li> <li>● CMP Polishing pads/belts</li> <li>● CVD Precursors</li> </ul>
<b>Facilities Infrastructure</b>	<ul style="list-style-type: none"> <li>● Bulk and Onsite Gases</li> <li>● Gas Delivery Systems</li> <li>● Site Services</li> </ul>	<ul style="list-style-type: none"> <li>● Bulk and Onsite Gases</li> <li>● Gas Delivery Systems</li> <li>● Total Gas &amp; Chemical Management.</li> </ul>	<ul style="list-style-type: none"> <li>● Bulk and Onsite Gases</li> <li>● Gas Delivery Systems</li> <li>● Total Gas &amp; Chemical Management.</li> <li>● Bulk Specialty Gas Systems</li> <li>● Infrastructure Services</li> <li>● Uptime™ Delivery System</li> </ul>
<b>Chamber Components</b>		<ul style="list-style-type: none"> <li>● Ceramic Coatings</li> <li>● Anodized Components</li> </ul>	<ul style="list-style-type: none"> <li>● Ceramic Coatings</li> <li>● Anodized Components</li> <li>● Electrostatic Chucks (Dorsey Gage)</li> </ul>
<b>Logistics</b>			<ul style="list-style-type: none"> <li>● Component Logistics (CSF)</li> </ul>

# Outlook for Semiconductor Industry

- ◆ The industry is at three key technology inflection points
- ◆ Inflection points create opportunities

## New Technology

- wafer size: 200 mm to 300 mm
- line width to < 0.10micron
- interconnects from Al to Cu

## New Products

- 300mm ceramic coated chucks
- supercritical CO<sub>2</sub>
- 300mm copper and tantalum targets
- CMP slurries, pads
- CVD precursors

# Praxair Metals Technologies

## Industry Credibility - Licensing Metals Technologies

### ◆ AOD Stainless Steel

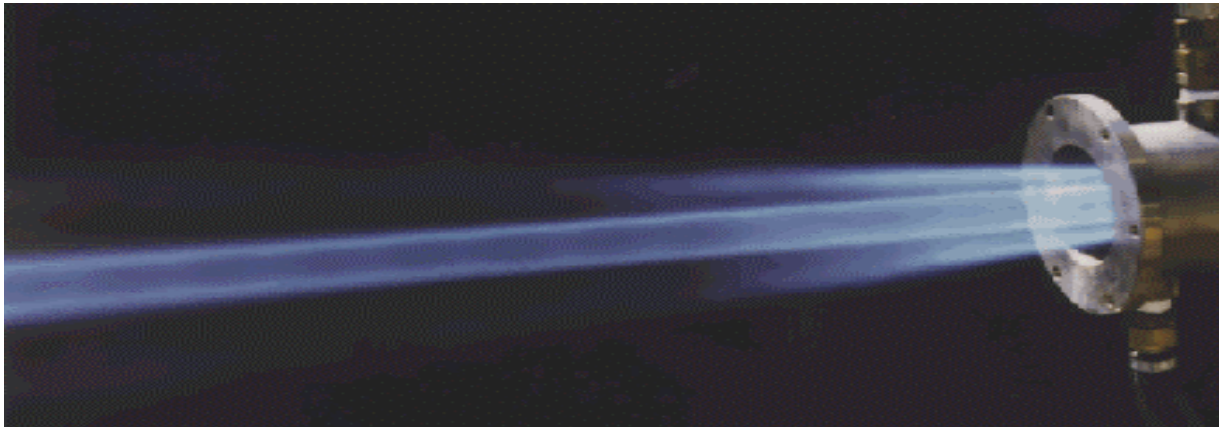
- Greater Than 75% Market Penetration

### ◆ BOF CoJet®

- Market Opportunity - 500MM Tons
  - 2 Installations US, 1 license SA
  - Growing Patent Portfolio
  - Savings - up to \$5/Ton

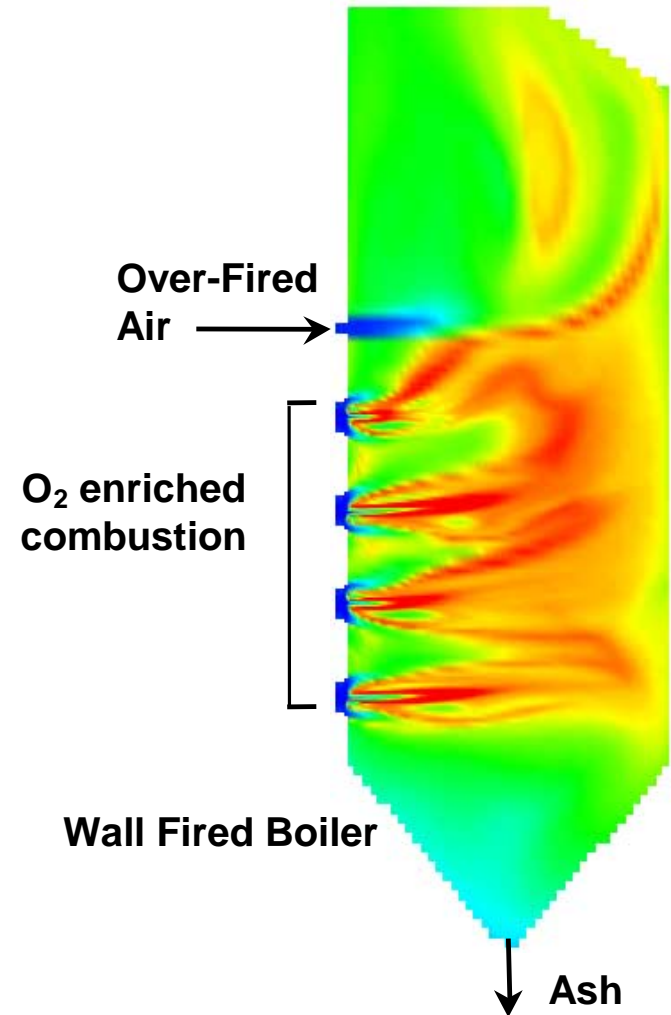
### ◆ EAF CoJet®

- Market Opportunity - 280MM Tons
- Market Penetration - 10%+
- Savings - \$2-4/Ton



# Environmental Solutions

- ◆ **NOx emissions from coal fired utilities must be reduced**
  - EPA mandate in 19 states
  - Full compliance by 2005
  - Most utilities require retrofit
  - Additional reductions targeted by 2008
- ◆ **Controlled oxygen injection is low cost solution**
  - Simple retrofit with minimal downtime
  - Reduces NOx by allowing more fuel-rich primary combustion
  - Optimally supplied using VPSA
  - Patents pending

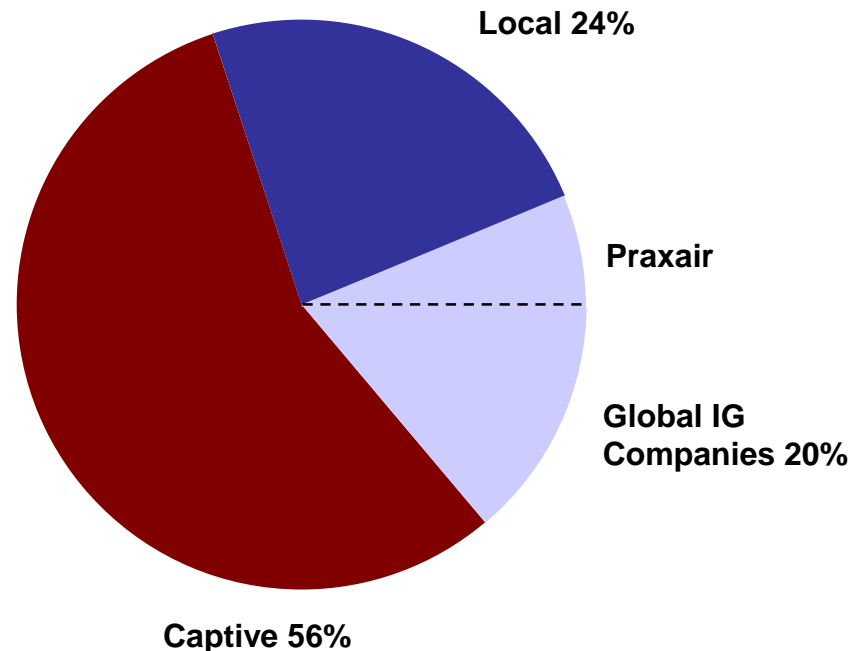


# China

## Environmental Drivers

- ◆ WTO official entry
- ◆ FDI/year > \$50B
- ◆ Stable currency
- ◆ GDP growth > 8%
- ◆ Industrial growth > 11%
- ◆ Rapid growth in steel, automotive, electronics and CPI segments

## Total Gases Market: \$1.5 B



# China Strategy

- ◆ Solidify leading market position in 3 key corridors
- ◆ Secure position in developing enclaves
- ◆ Ramp on-site capabilities
- ◆ Grow high value products...argon, specialty, helium, medical gases
- ◆ Focus on high return electronics segments... SCPG, materials, services



Beijing

Nanjing

Shanghai

Guangdong



# China Key Business Ventures

## Semiconductors

Shanghai's Zhangjiang High-Tech  
(Z-J Park)

- ◆ 15 year contract to SMIC
- ◆ 15 year contract to ACE Semiconductor Co.

## Chemicals

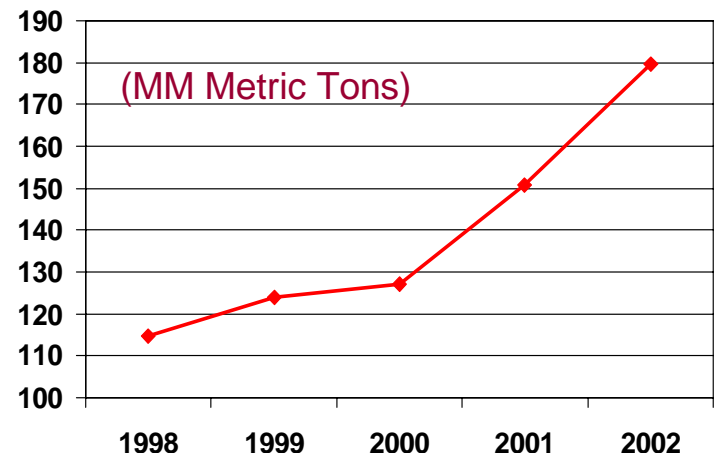
### SCIPIG

- ◆ Praxair/Air Liquide 50/50 Joint Venture
- ◆ 2005 Start-ups of multiple integrated petrochemicals facilities

## Steel

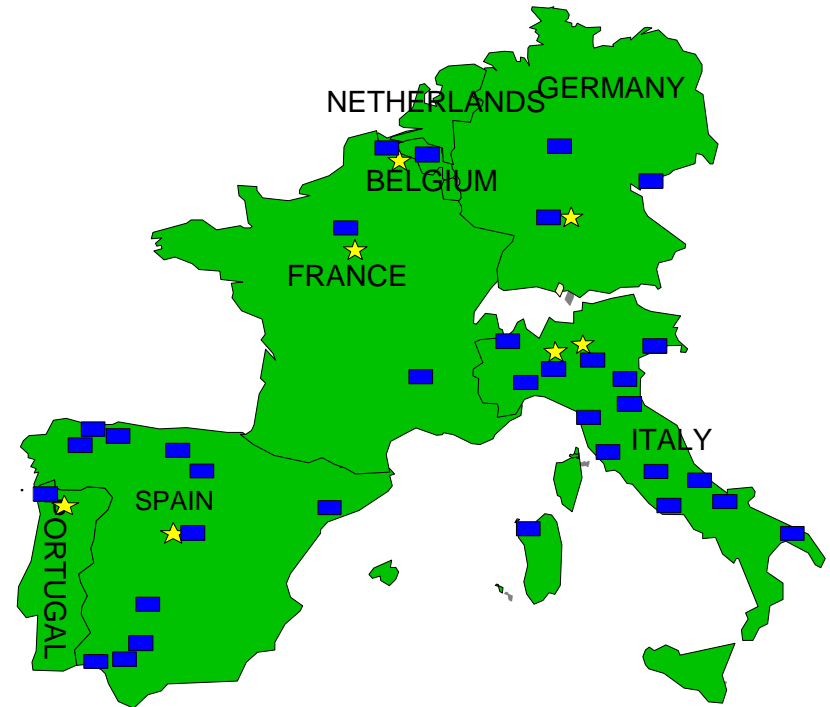
- ◆ Shaoguan Iron and Steel
- ◆ Meishan Iron and Steel
- ◆ Baoshan Iron and Steel

### *China Crude Steel Production*



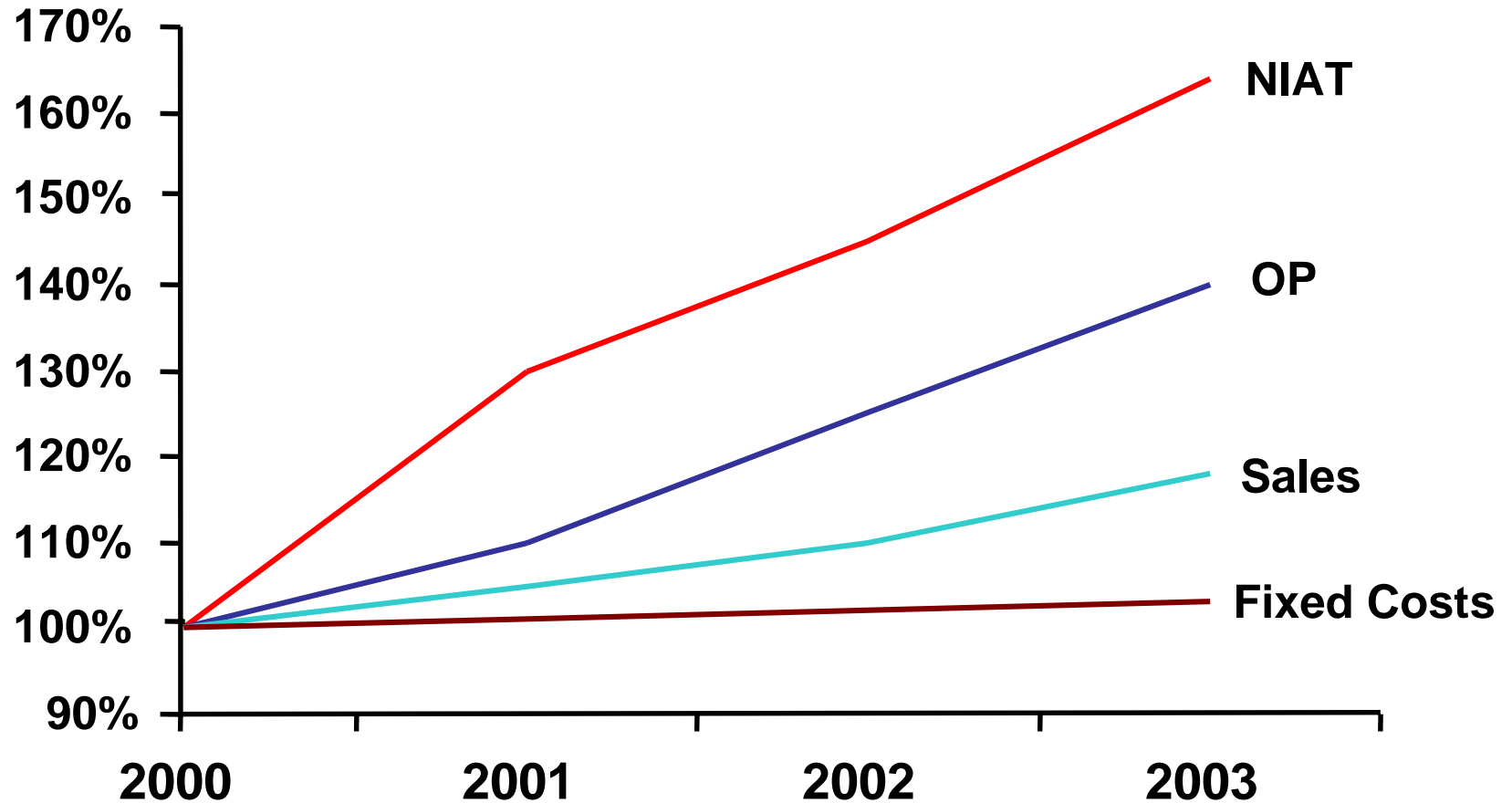
# Praxair Europe

- ◆ Sales \$589MM
- ◆ More than 100,000 customers
- ◆ 3 key pipeline enclaves
  - ◆ Asturias
  - ◆ Ravenna
  - ◆ Antwerp
- ◆ 4 specialty gas plants
- ◆ 28 air separation plants
- ◆ Over 1.2 million gas cylinders
- ◆ 1960 employees



*Strong market position in the two fastest growing European countries, Spain and Italy*

# Strong Results in Europe



# Improving Free Cash Flow

- ◆ Capital spending reduced 45% from 1997 peak
- ◆ Commitment to less capital intensive growth platform
- ◆ Uses of free cash flow
  - Debt reduction
  - Homecare, electronics, services acquisitions
  - Share repurchases

Free Cash Flow 1996-2002 (\$MM)

