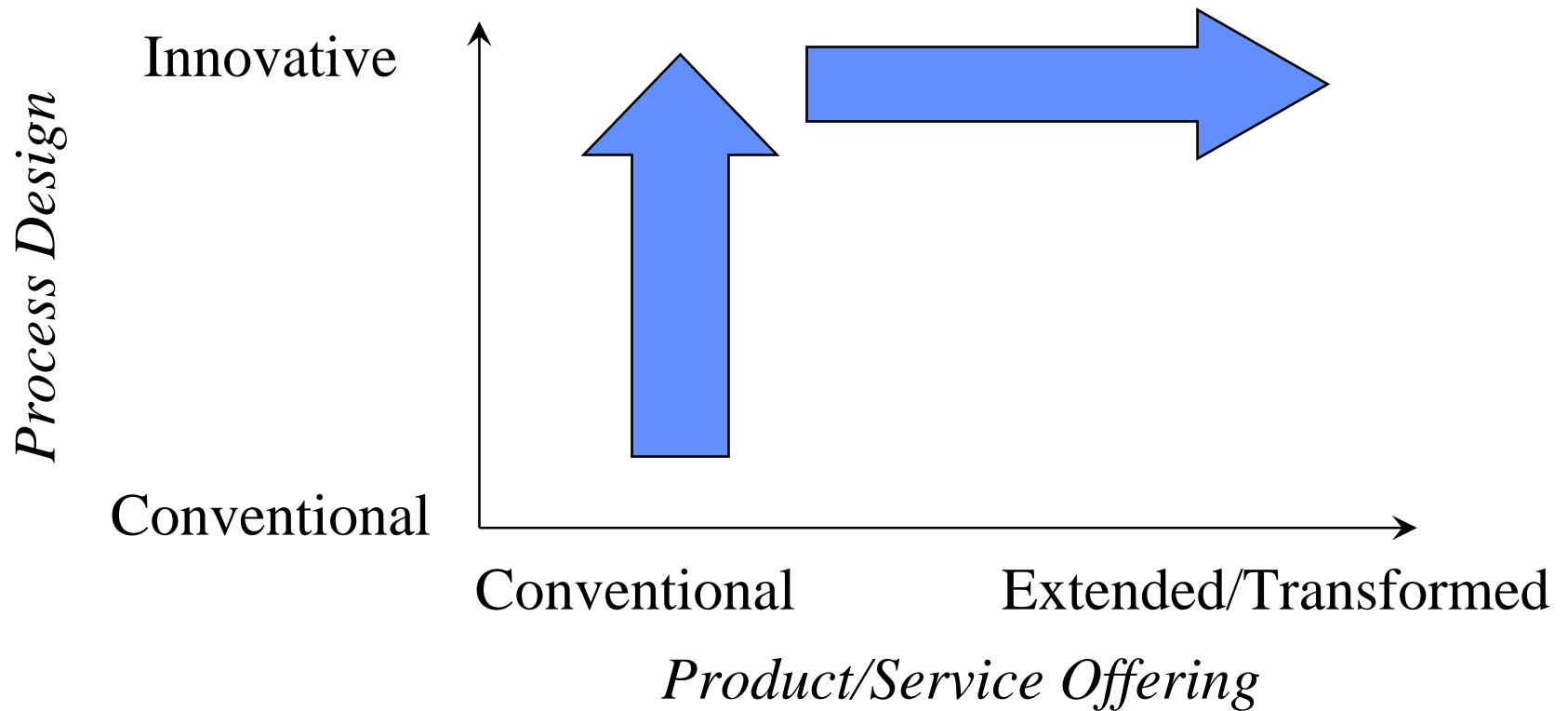


# Creating Value with Supply Chain Excellence

Hau L. Lee  
Stanford University

**IDS Value-Chain Seminar 2007**

# Value-Creation Evolution



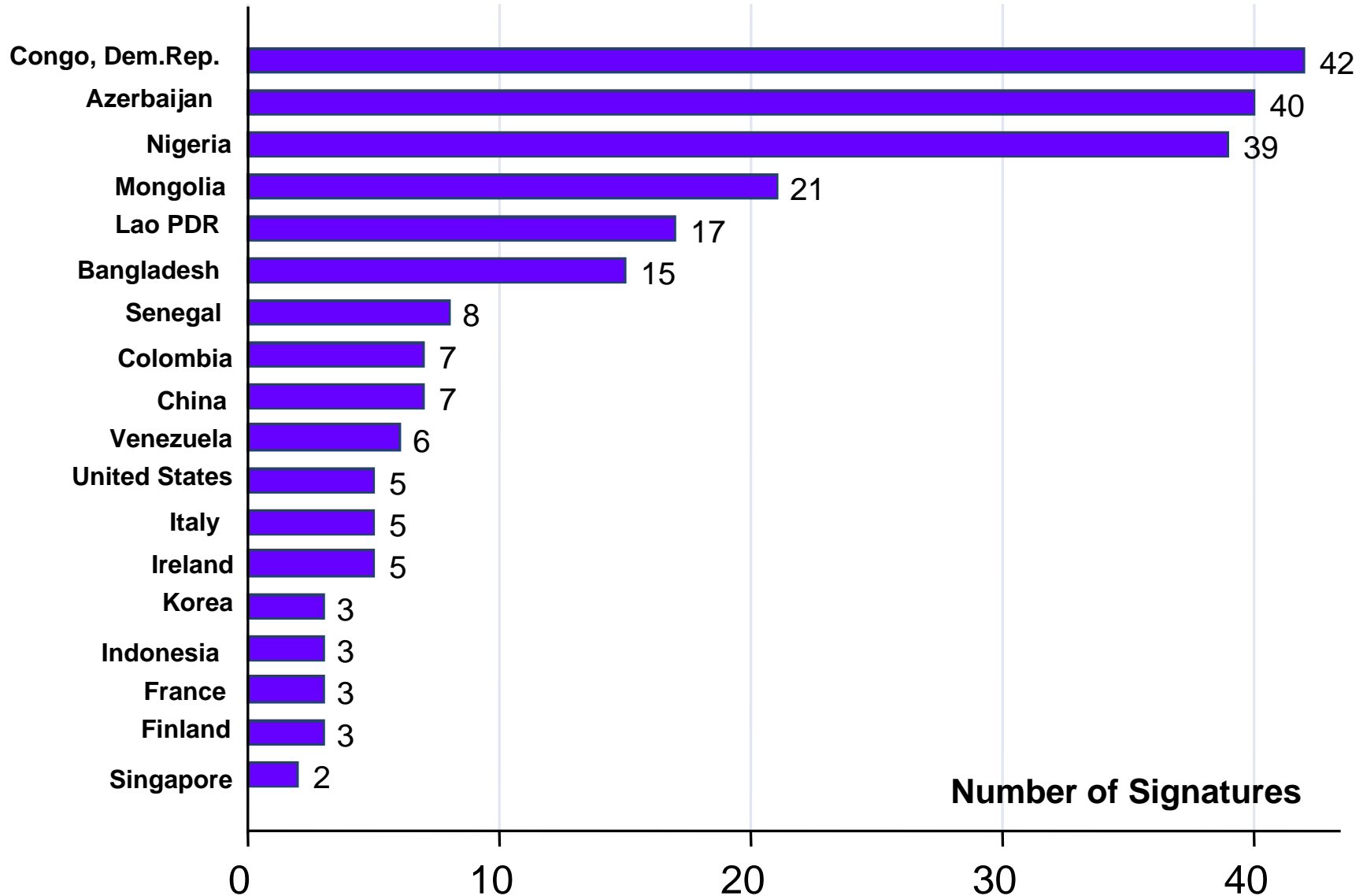
# Value-Creation Evolutions

	<i>Focus</i>	<i>Values</i>
Process Design	Efficiency	Improve margins & customer satisfaction
	Agility	Winning markets & delight customers
Offering Design	Personalization	Service differentiation for extended market
	Transformed solutions	New revenues & customer intimacy

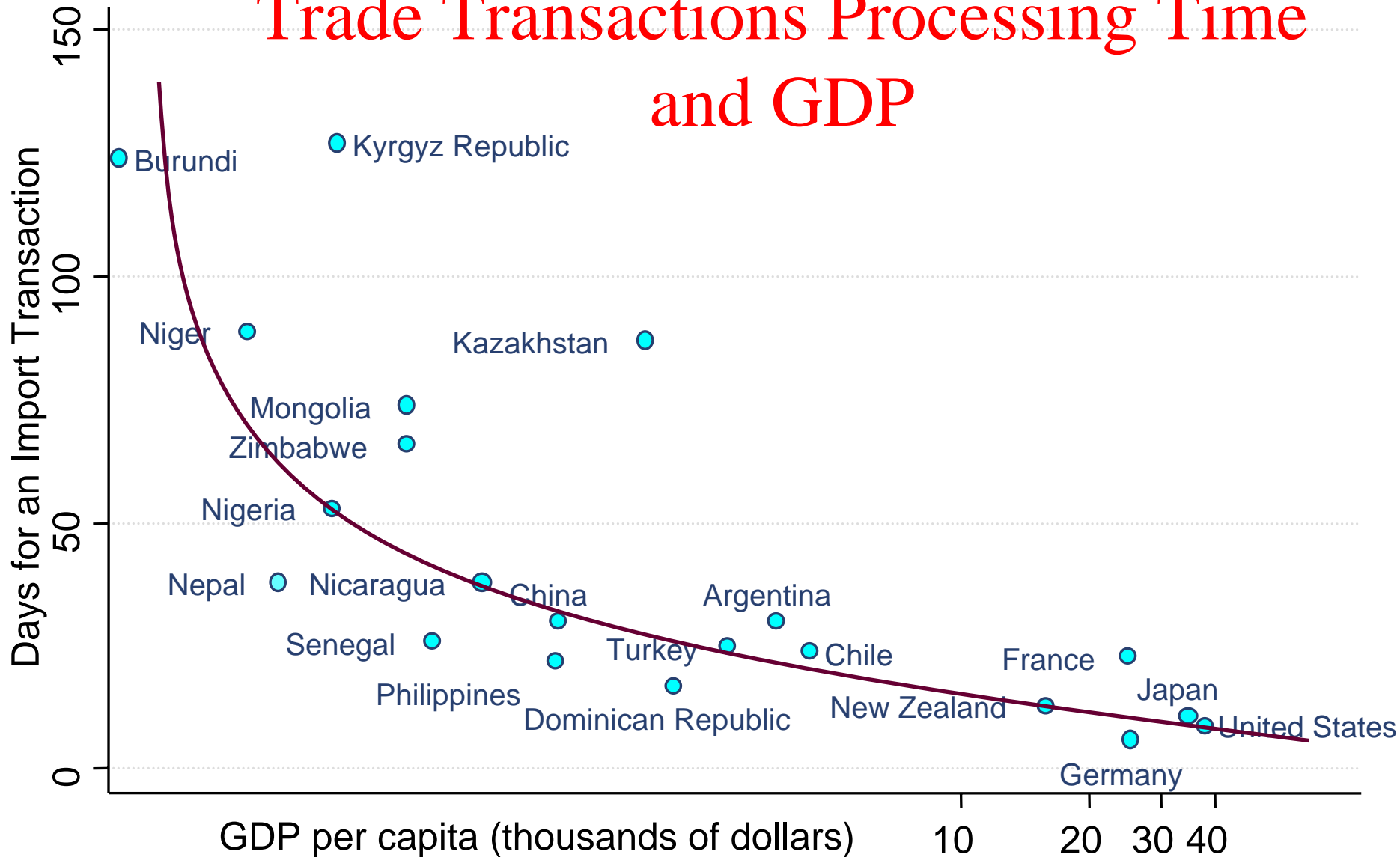
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# Number of Signatures for Typical Export Transaction



# Trade Transactions Processing Time and GDP



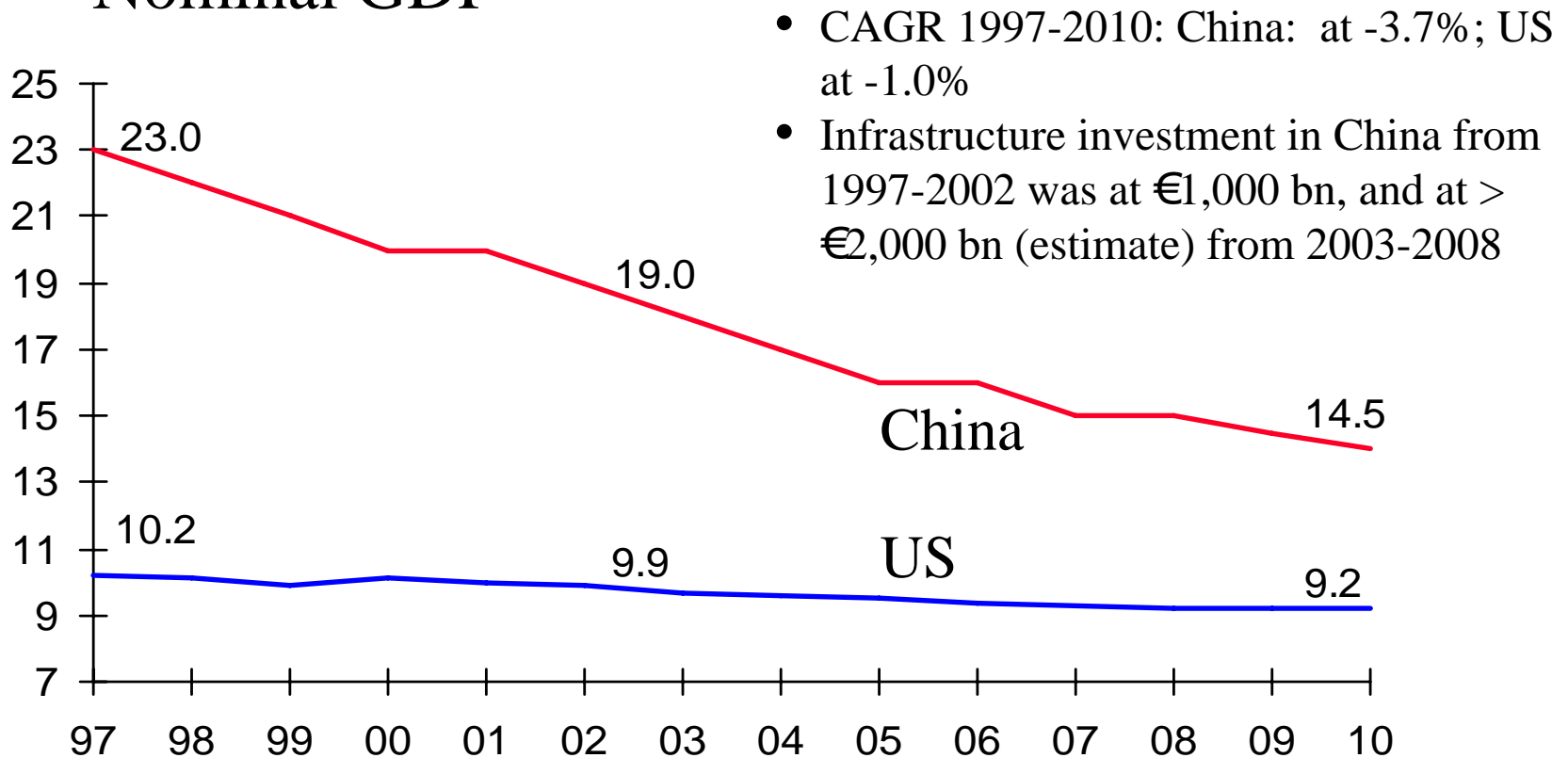
Source: World Bank Global Logistics Indicators Survey, 2005

# Supply Chain Problems in China

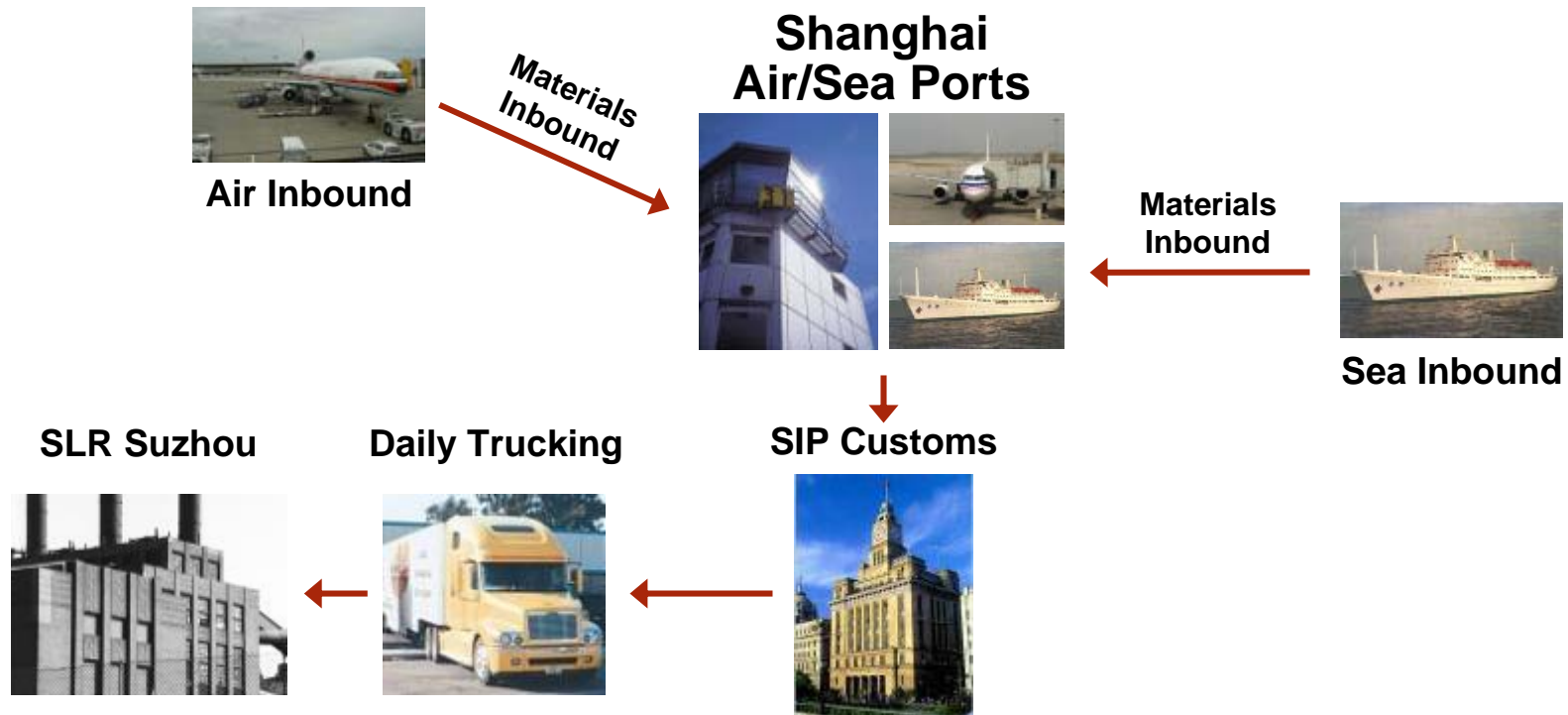
- *Inefficient transportation logistics*
  - Inadequate infrastructure
  - Fragmented market for providers
  - High cost and unreliable service
- *Extremely complex zones and customs structure*
  - Technological Development Zone, National Free Trade Zone, National Hi-Tech Industrial Development Zone, Taiwanese Investment Zone, National Export Processing Zone, National Border and Economic Cooperation Zone
  - Complex customs clearance procedures

# Future Logistics Cost Outlook

## Logistics Cost as Percentage of Nominal GDP



# Inbound Flow at Solectron Suzhou



- Shipments are shipped through Shanghai air/sea port
- Bonded transfer to SIP Customs
- Customs clearance at SIP Customs
- All raw material can be imported through e-PTL as bonded material
- Shipments delivered to SLRSZ by trucks
- Virtual Hong Kong



# World Class POSCO



‘World’s Most Admired Company’ in Steel (‘03)



Ranked Number 1 in Steel (‘99~‘03)



Sovereign Rating: S&P A- , Moody’s A3 (‘04)

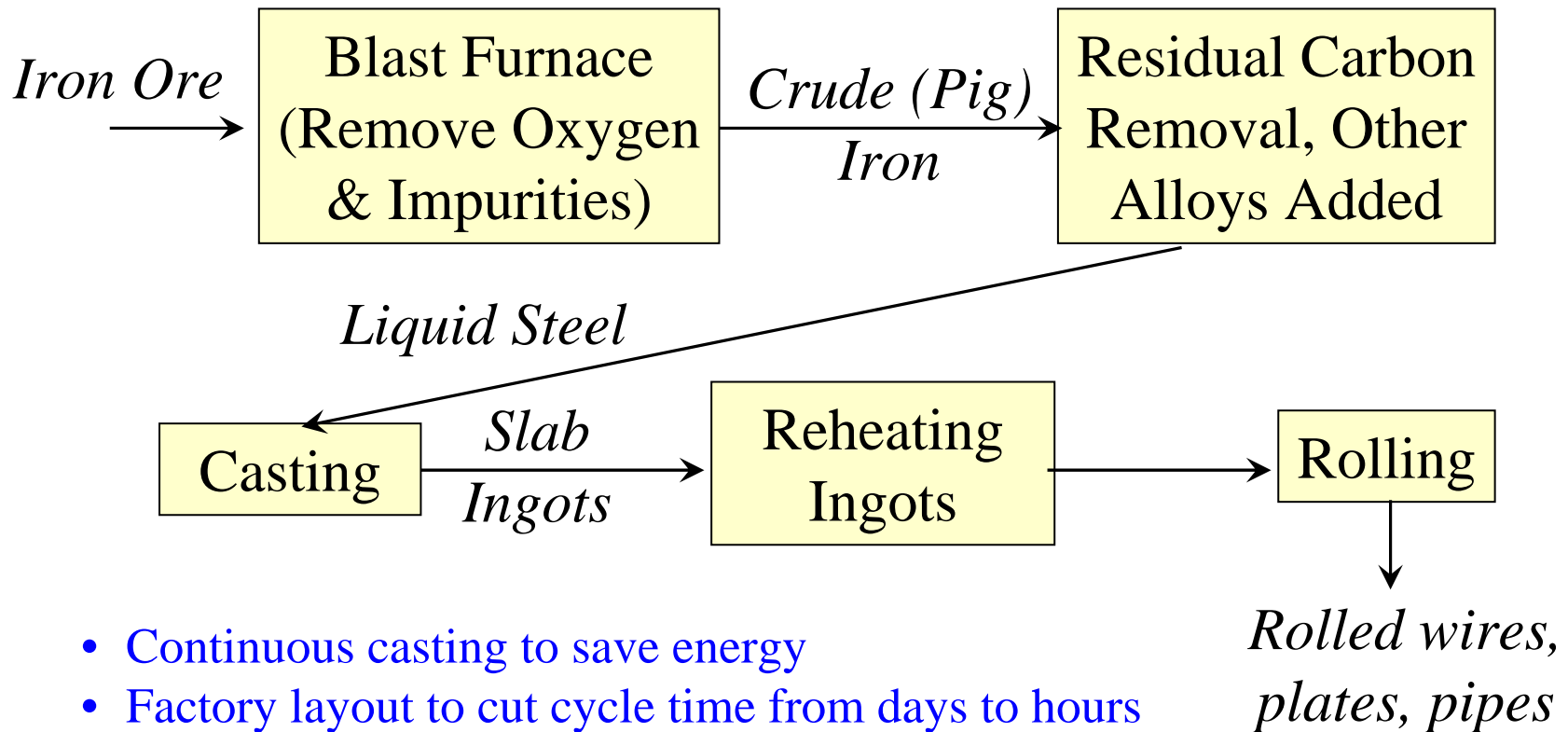


‘Most Competitive Steel Company’ (‘02~‘04)



‘No. 6, The Best Asian Performers’ (‘05)

# Integrated Steel Manufacturing



- Continuous casting to save energy
- Factory layout to cut cycle time from days to hours
- Real time production control
- Innovative FINEX process
- Source of national pride

# World's Most Admired Company in Steel

Fortune 2003

*NYSE (Feb 04 to Jan 07)*

2005	<i>Sales</i> (\$B)	<i>Profit</i> (%)
Arcelor	40.57	13
Mittal	28.13	12
JFE	24.37	12
NSC	22.93	9
POSCO	21.42	18



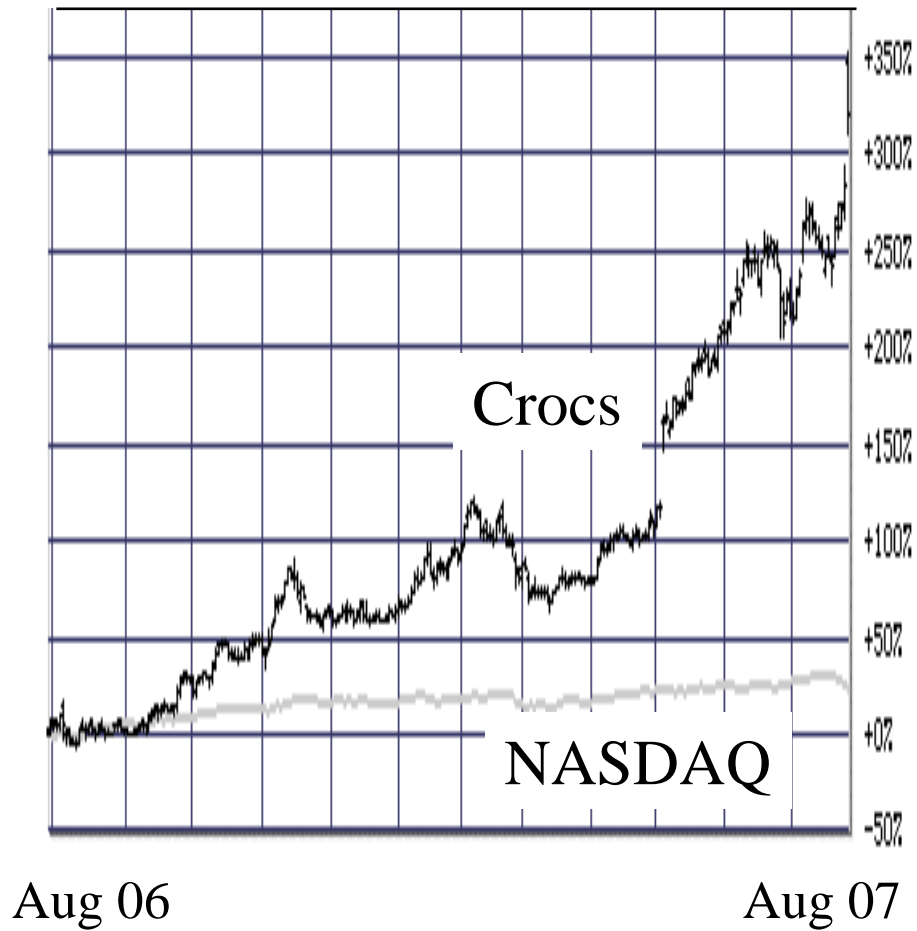
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# Crocs



# Crocs Stock Price



# Crocs



beach



nile



disney® beach



kids athens



kids endeavor



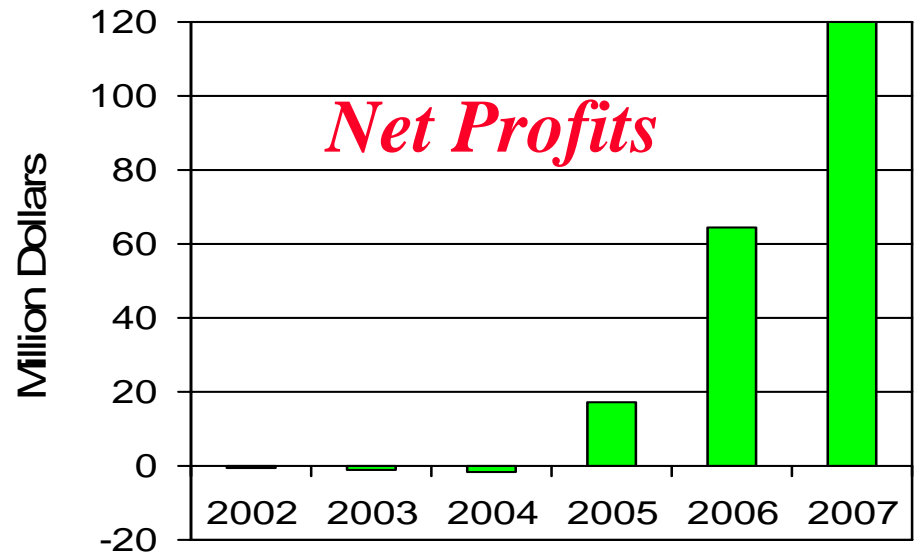
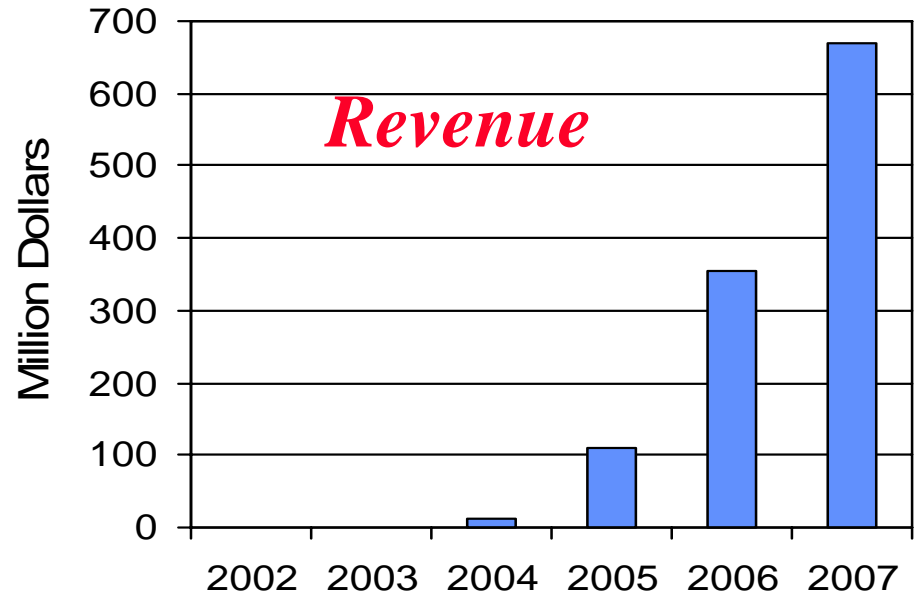
athens



motion



all terrains



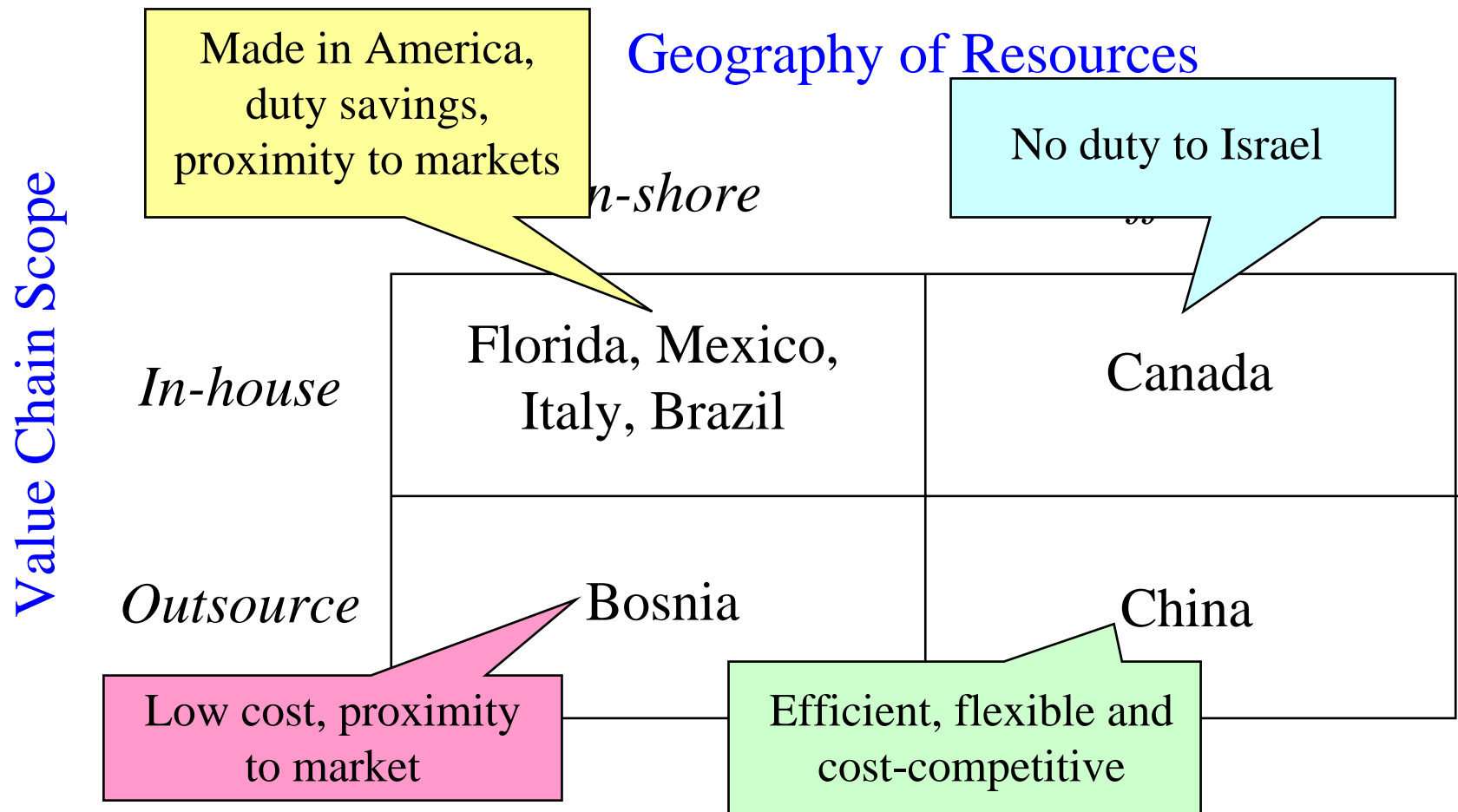
# Cross Supply Chain Design

## Geography of Resources

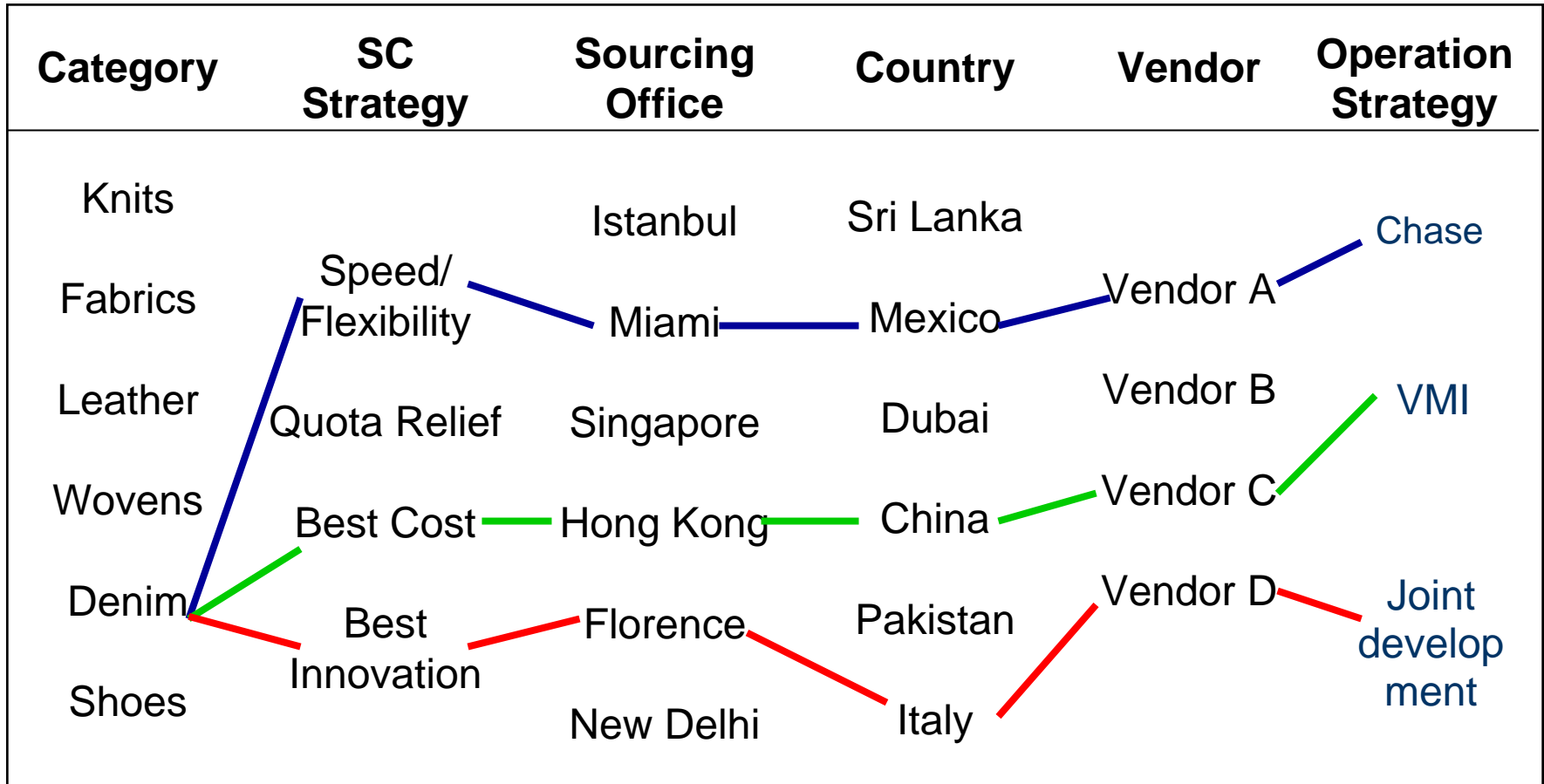
Value Chain Scope

	<i>On-shore</i>	<i>Offshore</i>
<i>In-house</i>	Florida, Mexico, Italy, Brazil	Canada
<i>Outsource</i>	Bosnia	China

# Cross Supply Chain Design



# Adaptive Supply Chain



Gap 

Banana Republic 

Old Navy 

# Supply Chain Architect

*“What we do is close to creating a customized value chain for every customer order.”*

Victor Fung

*Harvard Business Review, Sept-Oct 1998*



**Li & Fung Limited**

# Dual Response Strategies

*Cost-efficient  
Source*

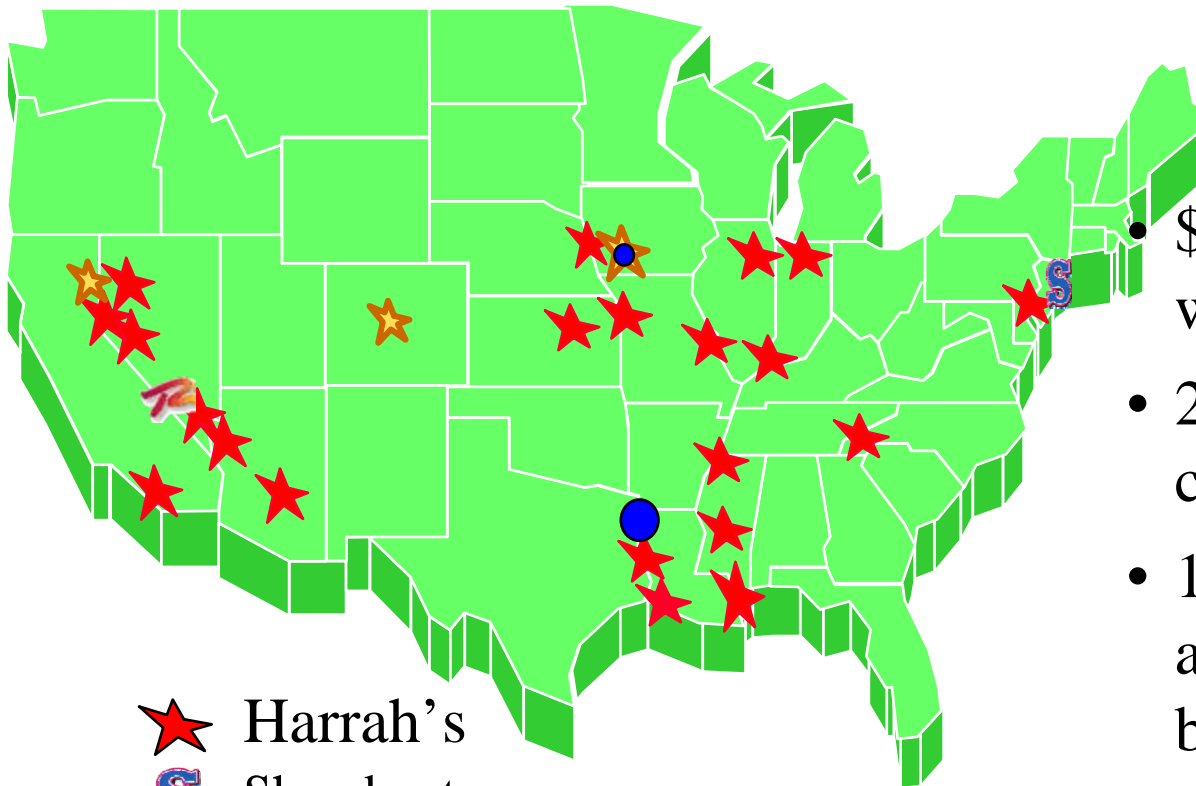
*Flexible Source*

Volume-Based	Stable volume	Variable volume
Product-Based	Stable products	Risky products
Time-Based	Mature phase	Ramp up & EOL
Process-Based	Core engine	Postponement

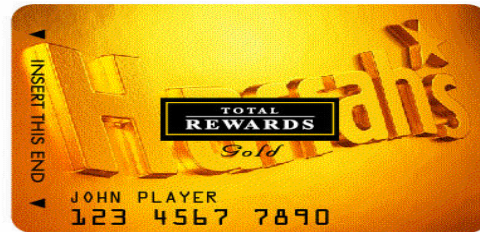
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# Harrah's



- ★ Harrah's
- Ⓢ Showboat
- ℞ The Rio
- ★ Harveys
- "Racino"



- \$4.5+ Billion company with 44K+ Employees
- 26+ M Total Rewards card members
- 14,400+ hotel rooms and 212+ food & beverage outlets
- 42,000+ slot machines; 1,200+ table games
- Real-time Total Reward program

# Sense and Respond CRM Strategy



# Real-time Sense and Respond

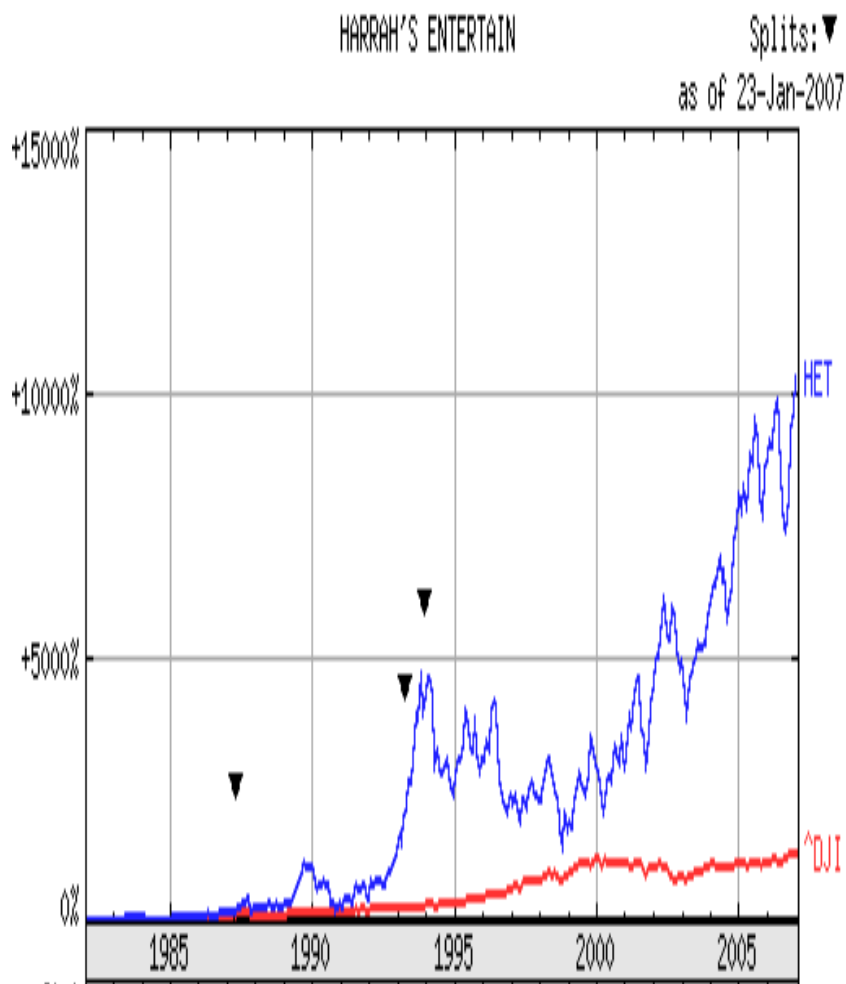
## Real-time hotel admissions control

- Sensing of:
  - hotel capacity
  - expected arrival rates
  - current arrival's value profile
  - potential arrivals' value profiles
- Real time offer of types of room, discounts, or denial

## Real-time bonus offers

- First \$100 on the house
- Sensing of:
  - game room traffic and capacity
  - customer characteristics (play time, food and show preferences)
  - utilization of restaurants and other capacities
- Real time offer for capacity control and revenue maximization

# HET Recent Developments

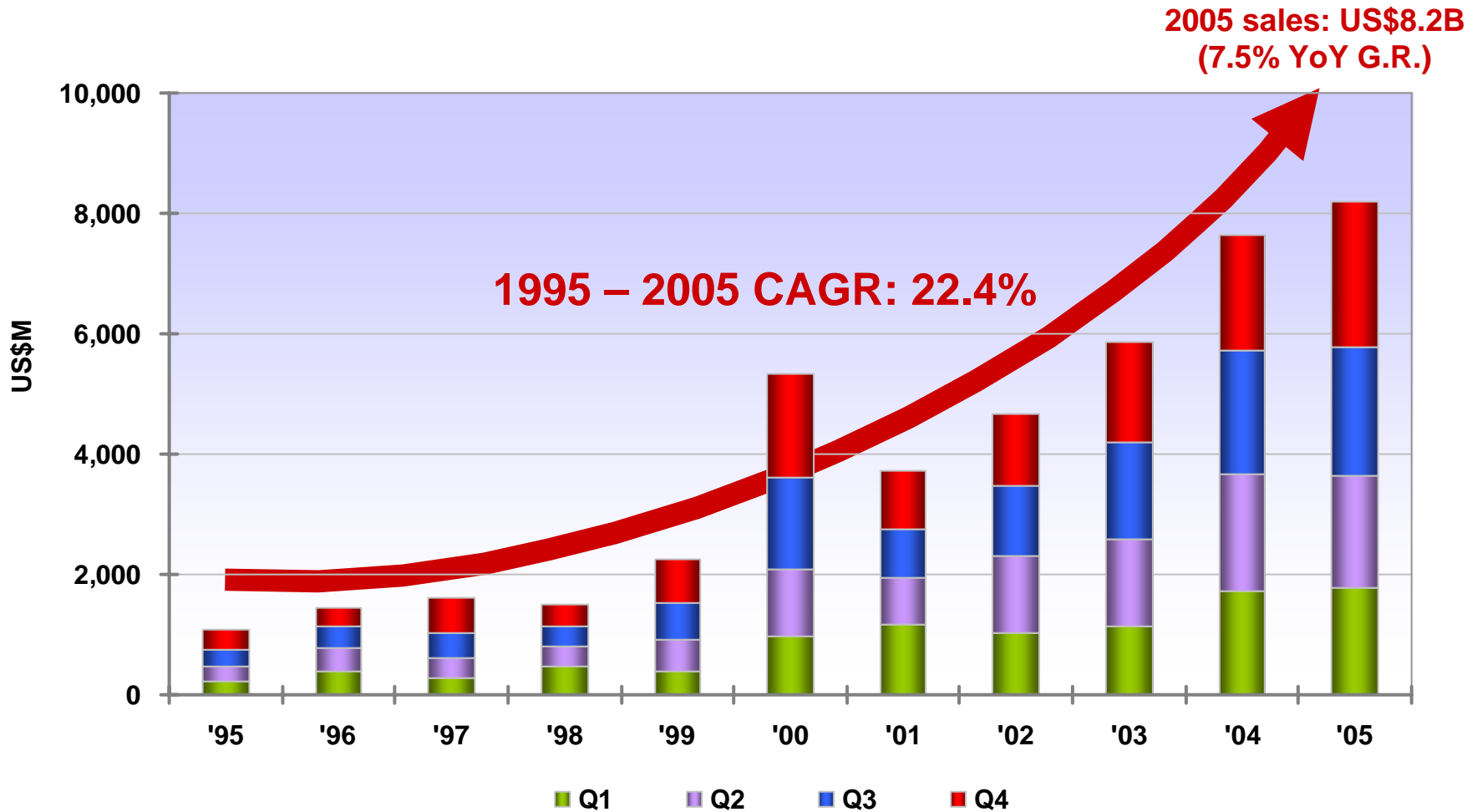


- *2003*: Ranked No. 6 in Computerworld's "Best Places to Work in IT" -- 5th consecutive year in the Top 10.
- *2004*: Completed \$1.45 billion acquisition of Horseshoe Gaming Holding Corp. Became #1. Reached a definitive agreement to acquire Caesars Entertainment, Inc. for \$9.4 billion.
- *Dec 2006*: Sold to Apollo Management and Texas Pacific Group for \$17 billion.

# Value-Creation Evolutions

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# TSMC Sales Trend



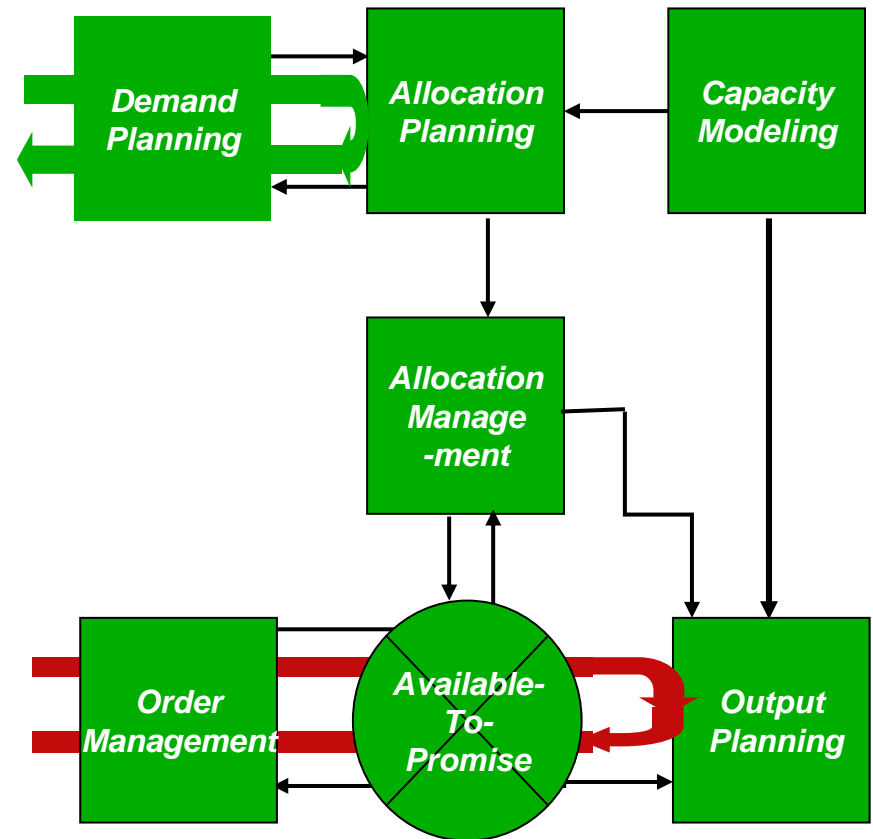
Source: TSMC

# The Collaboration Foundry

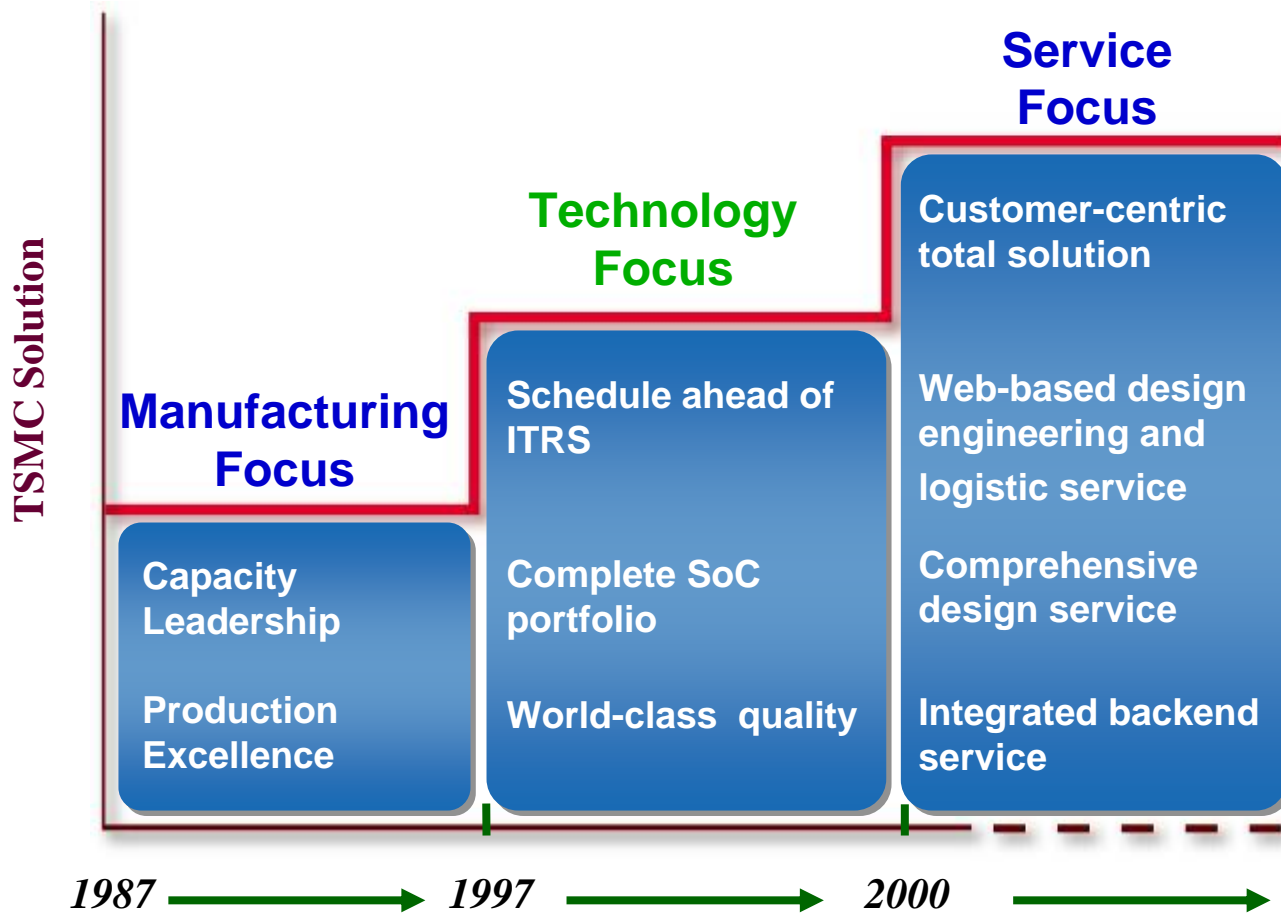


- World's largest foundry (contract semiconductor fabrication manufacturer)
- Emphasizes customer relationship as “First and Last Look”
- Invests in *E-SCM* to help internal and customers' supply chain process
- *eFoundry*
  - Design collaboration
  - Engineering collaboration
  - Logistics collaboration

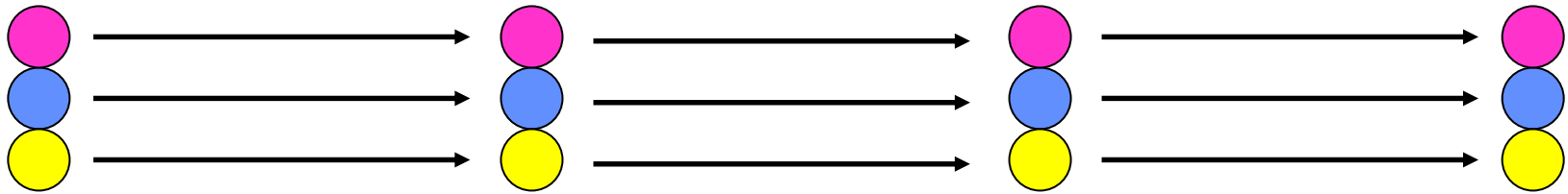
## *E-SCM Architecture*



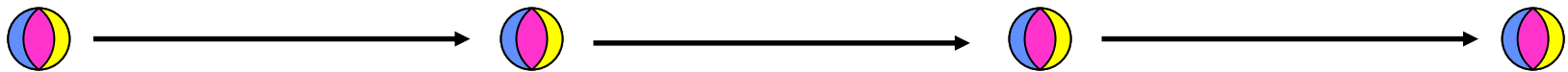
# Service-Oriented Mindset



# CyberShuttle™



*Iterative design verification and improvement process*



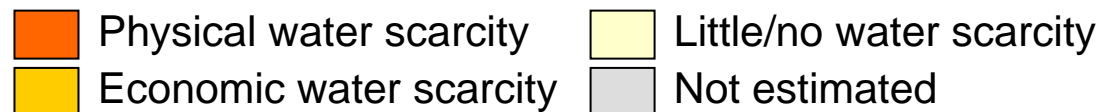
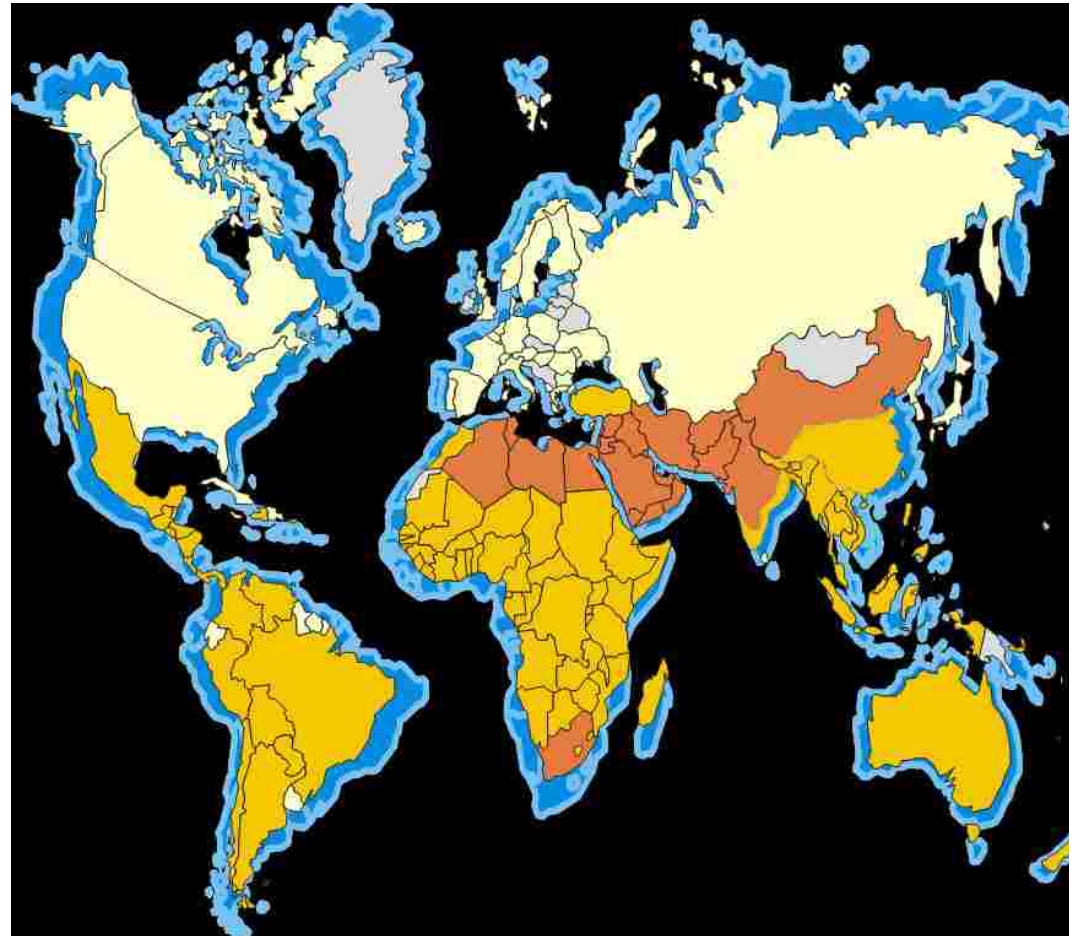
- Sharing common mask set with different chips
- Diamond lane treatment
- Great cost & time savings for customers
- Helps customers NPI
- Win for both TSMC and customers

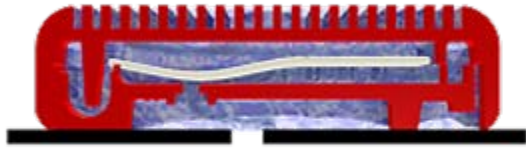
# Netafim

*An irrigation dripper producer aiming at:*

- Preserving water – one of the world's most precious resources
- Increasing global food production to bring relief to many less privileged
- Supporting universal efforts to improve the quality of the environment and the beauty of the planet

## *Projected Water Shortage 2025*





# Netafim

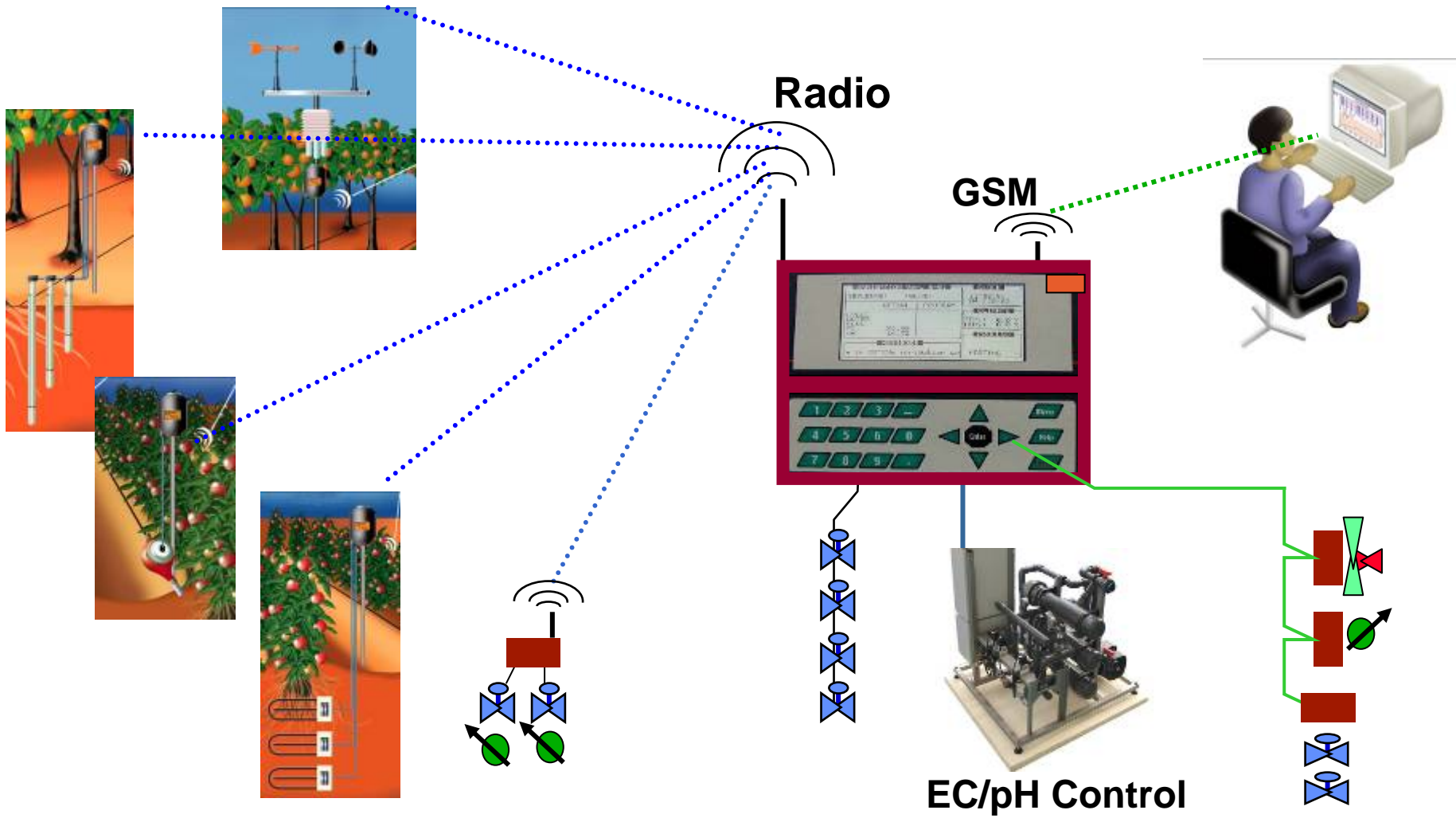
- Largest low volume irrigation company in the world.
- \$400 million sales in 2006.
- Total employees: 2,100.
- Business in 112 countries in all continents.
- 35 subsidiaries.
- 14 manufacturing plants.
- Netafim drip lines totaled 12 billion meters.



# Netafim Afghanistan Corporate Car



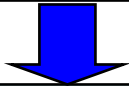
# Crop Management Technology



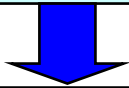
# Supply Chain Evolution



Manufacturing efficiency  
to be “best drip irrigation  
equipment company”

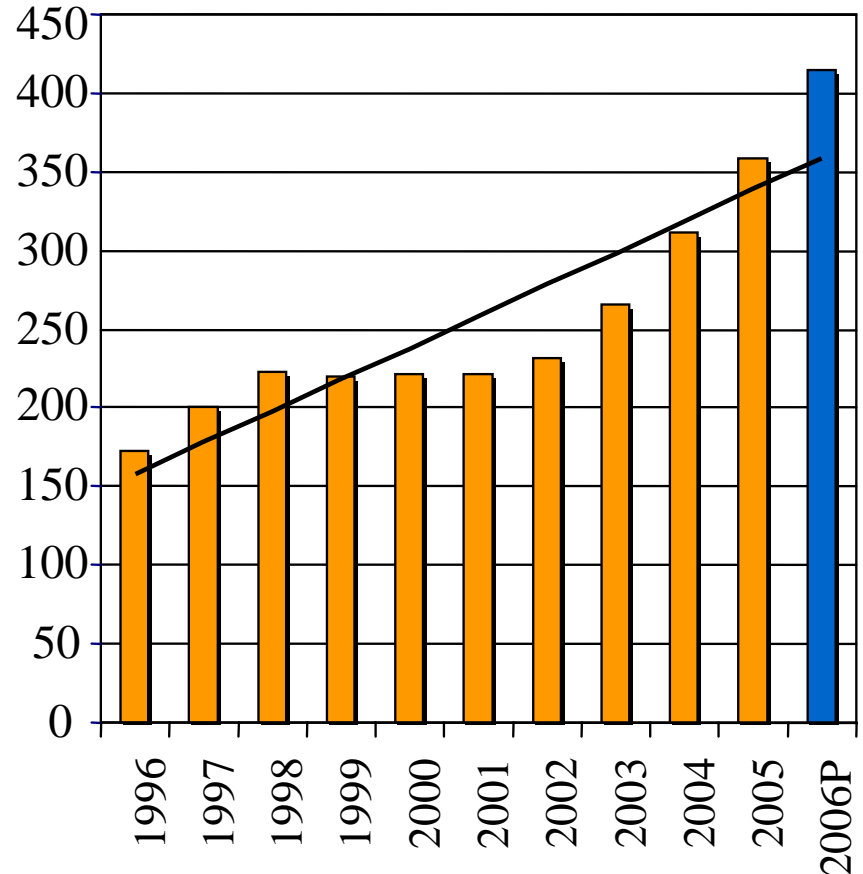


Agility to mass customize  
equipment in expanded  
but diverse market



Solution provider –  
“More yield with less  
water”

Revenues (Millions \$)

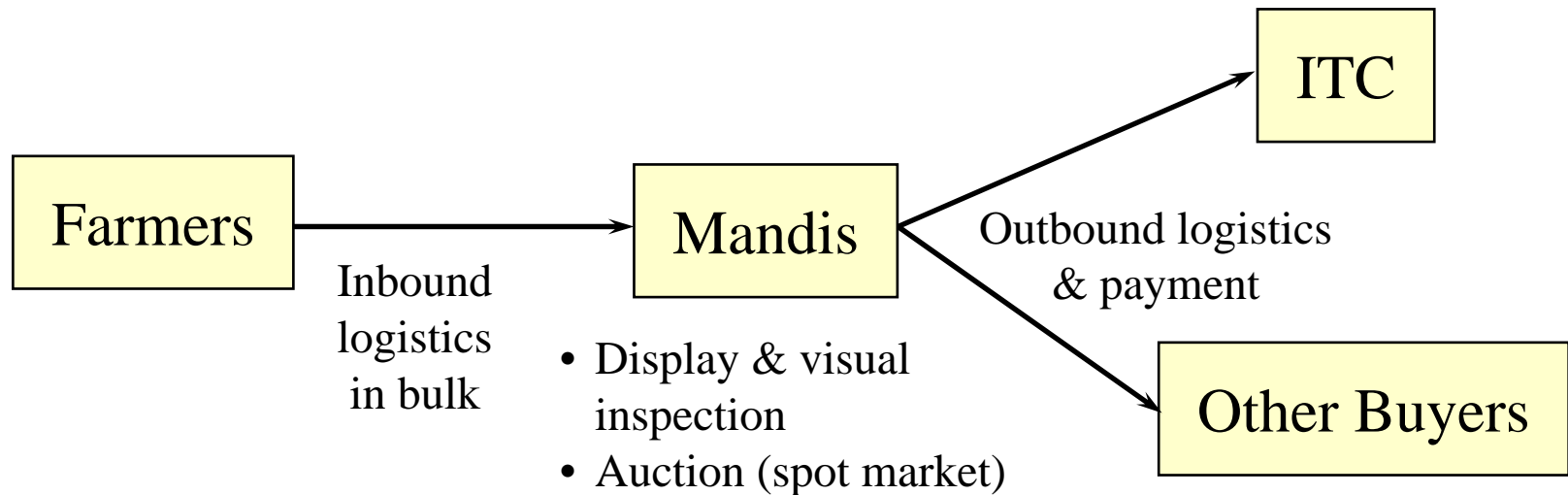


# ITC e-Choupal

- Commenced in 2000
- Covers 9 states, 36,000 villages in India
- 6,000 e-Choupal installations
- Started with soya bean, now covering wheat, coffee, shrimp and other aqua products.
- Empowered 3.5 million e-farmers
- Aims at extending to 100,000 villages and 10 million e-farmers in next decade.

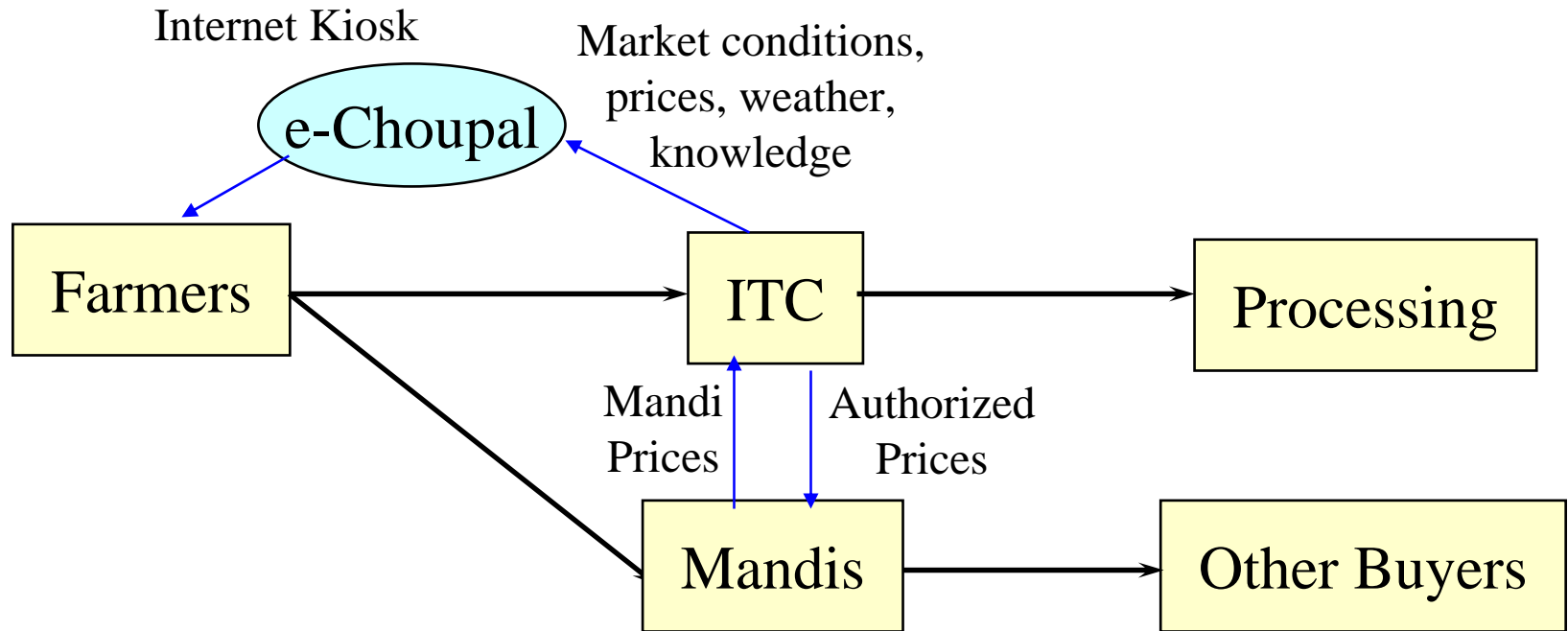


# Soy Bean Supply Chain in India



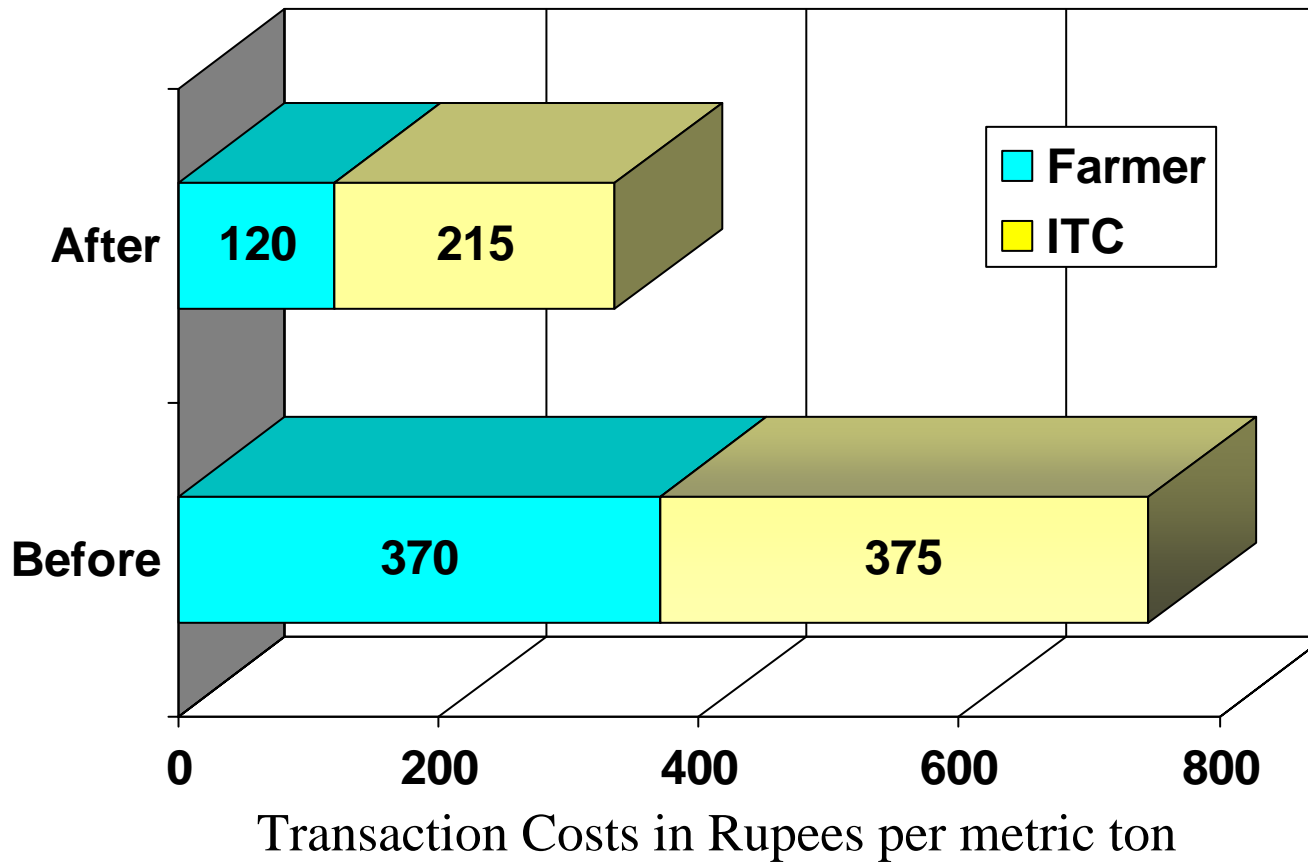
- Congestion at Mandis can hold up farmers for days.
- Price uncertainty faced by farmers – material flow must precede price information discovery.
- Farmers rely on word of mouth or localized previous prices.
- Farmers vulnerable to delayed payments.

# ITC e-Choupal



- Selected farmers (Sanchalak) maintain computers and inspect products.
- Price transparency provided to farmers.
- Direct sales to ITC enabled.
- Material flows occur only after sales to ITC or price discovery to Mandis.

# Win-Win Value Proposition



Source: Anupindi & Suvakumar, 2007

# Rio Tinto Iron Ore



- World's second largest iron ore producer; based in Western Australia; 2006 sales of \$6.9B, with \$2.2 B net profit.



# RTIO's Tradition Competencies

- Infrastructure:
  - New mine development
  - Mine to port rail
  - Port capacity
  - Processing (crushing) capacity
- Planning and scheduling:
  - Planning for optimal blending
  - Optimal scheduling of transportation and loading
- Quality control
  - Consistently right quality to customers
  - High quality iron ore
- Long term customer relationship

**Growth of spot  
markets**

**Potential entry of  
suppliers with  
less efficient &  
sub-quality mines**

**Rapid rise of  
demand with  
increased  
uncertainties**



**Emergence of China**

**New customers  
demanding fast  
response**

**Customers with less  
sophistication & scale –  
desiring delivery  
directly to blast furnaces**

**Fragmented,  
undisciplined  
customers who do not  
observe industry  
benchmark prices**

# New China Strategies

- Transportation capability
  - Move from FOB to CPR
  - Inland transportation in China
  - Multi-mode transportation
- Lead time competition
  - Regional distribution centers
  - Stockpiling for fast response and flexibility for product blending
- Play in spot market
  - Hedging for price increases
  - Reach to new customers



# Integrated Steelmaking



Iron Ore



Coal



Sinter Plant-  
 $SO_x$ ,  $NO_x$  Dioxins



Coke Ovens



Blast Furnace

Basic Oxygen  
Steelmaking



Molten  
Iron

Molten  
Steel



Casting



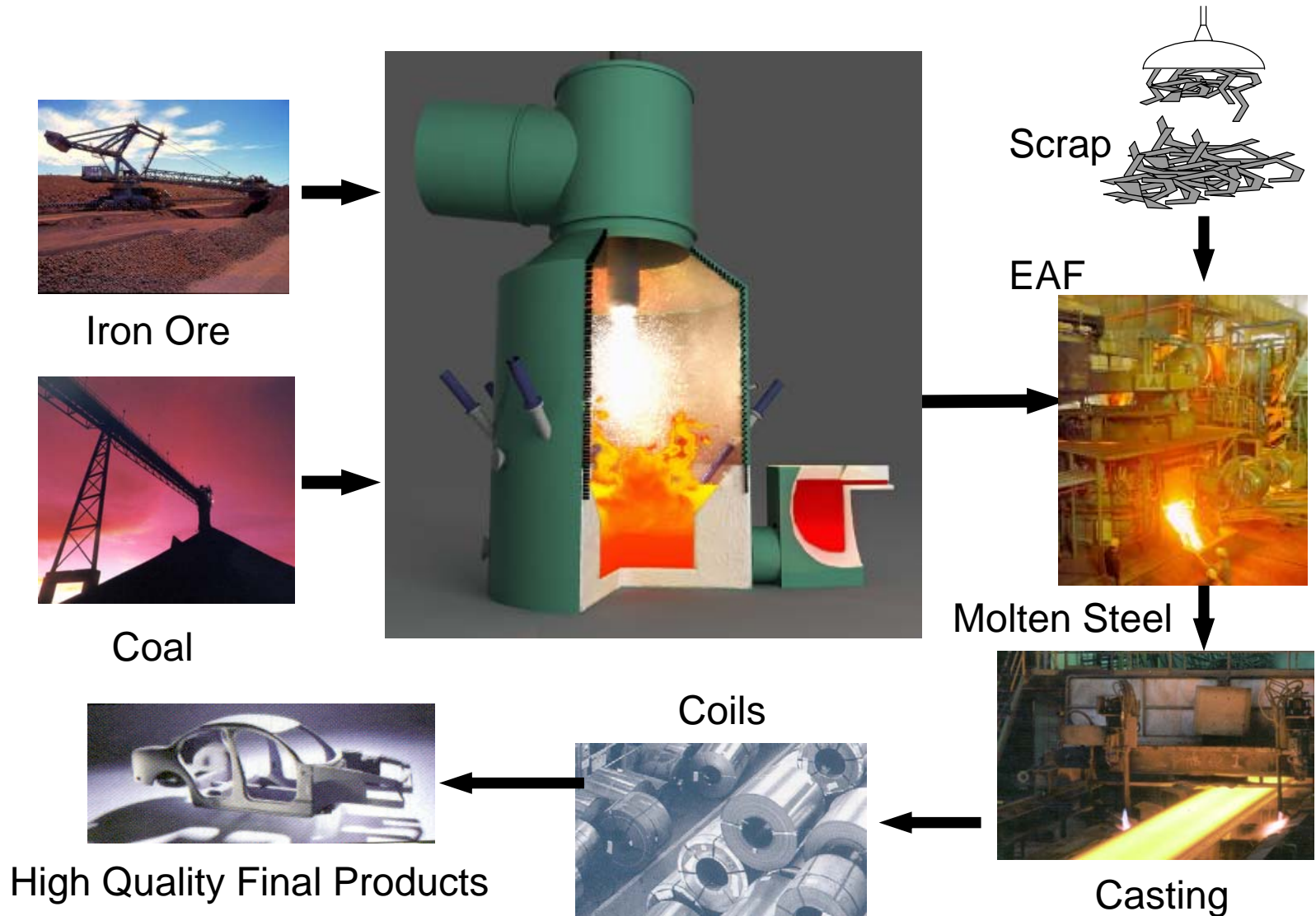
Coils



High Quality Final Products

**High Capital Intensity**

# Electric Arc Furnace with HIs melt




# HIsmelt Advantage

Greater Flexibility	<ul style="list-style-type: none"><li>• Wider range of raw materials</li><li>• Flexible output and operation</li></ul>
Low Capital Costs	<ul style="list-style-type: none"><li>• No coke ovens, sinter plants, blending yards</li><li>• Known ancillary equipment</li></ul>
Low Operating Costs	<ul style="list-style-type: none"><li>• Utilises lower cost raw materials (non-coking coal and iron ore with high phosphorous content are OK)</li></ul>
Low Environmental Emissions	<ul style="list-style-type: none"><li>• No dioxins, furans, phenols or tars</li><li>• Reduced CO<sub>2</sub>, SO<sub>2</sub> and NO<sub>x</sub></li><li>• Can utilise steel-plant wastes</li></ul>
High Quality Product	<ul style="list-style-type: none"><li>• Impurities report to the slag – not the metal</li></ul>

# HIsmelt Kwinana Plant

**RIO  
TINTO**

 Mitsubishi Corporation

**NUCOR**



## Potential New Offerings

- More HIsmelt mills through JVs
- Vertical integration – moving into the steel industry
- Licensing HIsmelt technology to steel industry at large



# Value-Creation Evolutions

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# Summary

- Supply chain excellence can be the driver to business growth and market value creation.
- Process excellence is the foundation.
- Look for **business value-creating** transformations, in addition to leveraging scale for customization and maintaining process excellence in supply chains.