

# **SPI Activity in India**

## **SEPG Conference**

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**Tata Consultancy Services**

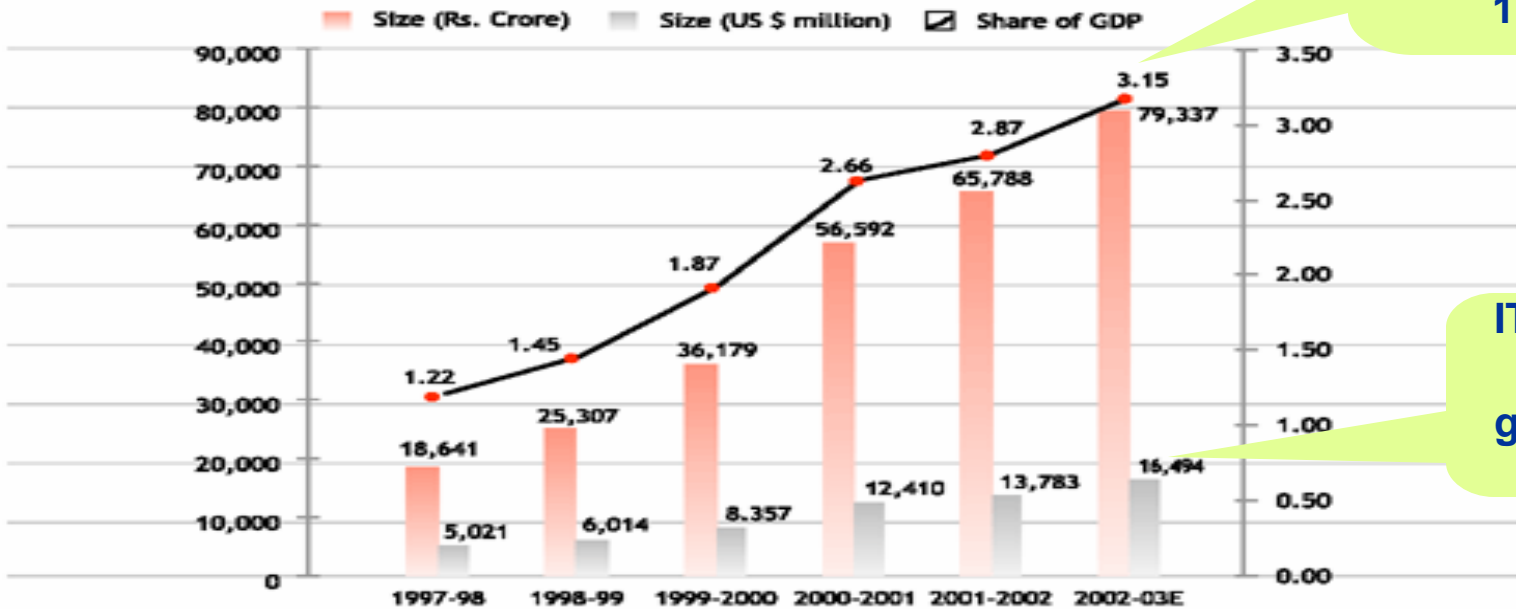
® Capability Maturity Model and CMM are registered in the US Patent and Trademark Office

# Agenda

- **Software Industry in India**
  - Present Status
  - Competitive Advantage
- **SPI Journey**
  - Business Imperatives
  - First Few Leaps
  - Drivers
  - The Benefits
  - So where are we now..
- **Some Good Practices**
- **The Road Ahead**

# Present Status - 1

**Indian IT Market : 1997 - 2002**



Source: NASSCOM

Note: IT includes hardware, peripherals, networking, domestic and exports market for software & services and IT Enabled Services

**NASSCOM**  
www.nasscom.org

IT market's contribution to GDP grown at 158%

IT Market Size grown by 229%

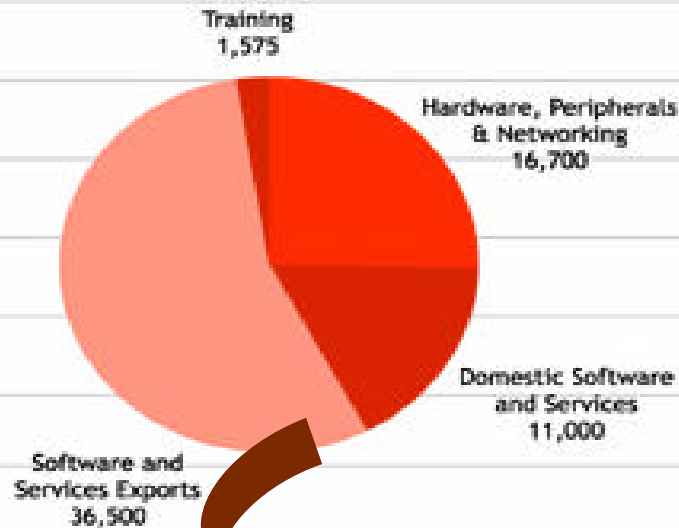
**By 2010 Indian IT Market size will touch upon \$ 77bn**

# Present Status - 2

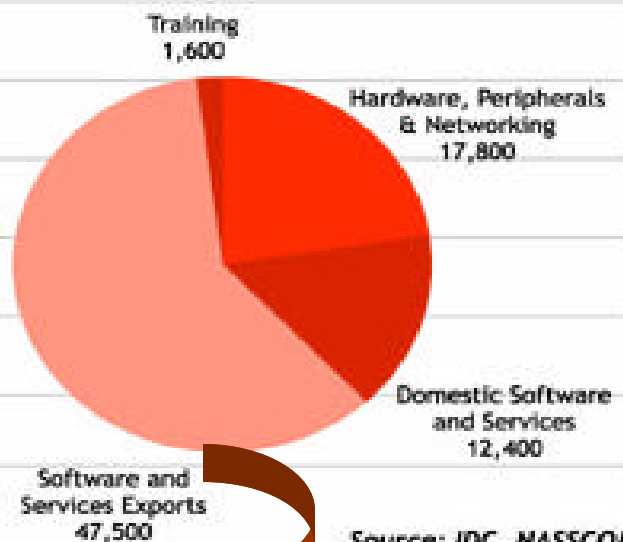
## Composition of IT Market in India

Figures in Rs. Crore

2001-2002



2002-2003E



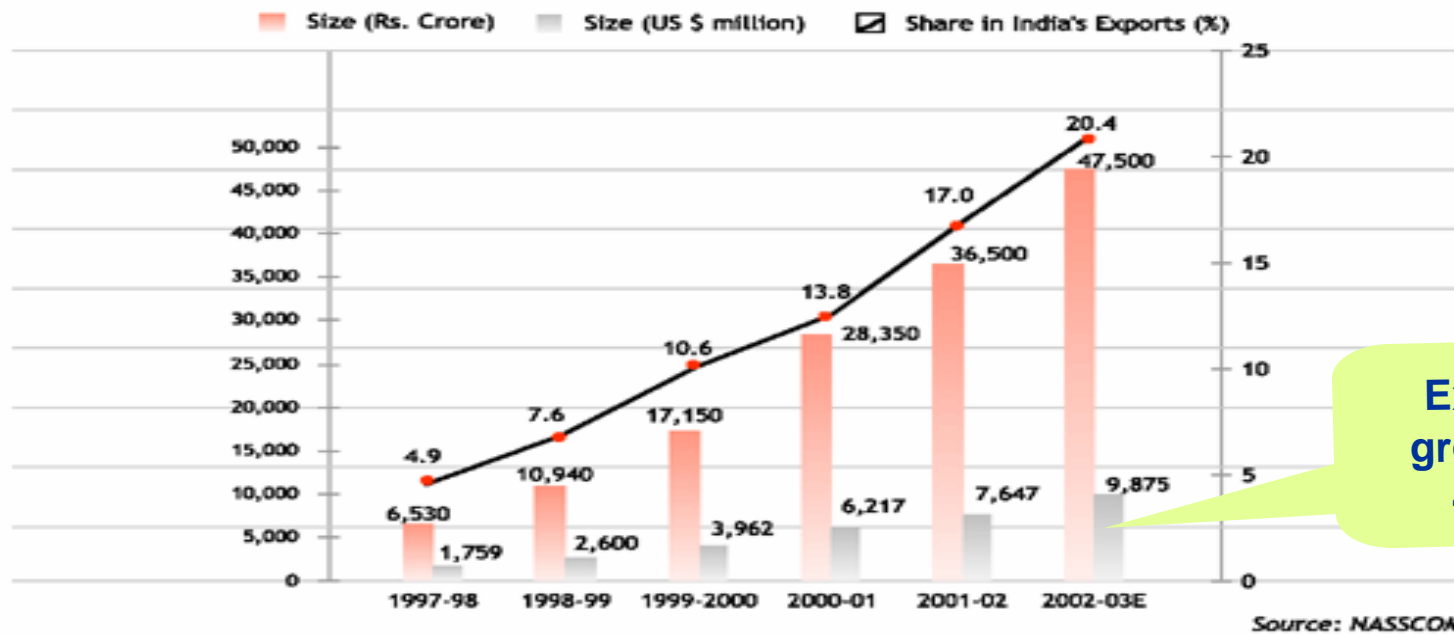
Source: IDC, NASSCOM

**NASSCOM**  
www.nasscom.org

**Software & Services exports  
increased by 30%**

# Present Status - 3

## Indian IT Software and Services Exports - 1997-2003



Exports grown by 461%

# Present Status - 4

- **Unique Advantage**

- Low cost, skilled manpower
- World-class quality standards

- **Indian Education System**

- Strong emphasis on Mathematics and Science coupled with language proficiency in English

- **Government policy support**

- Infrastructure developed for IT
- Tax benefits support exports

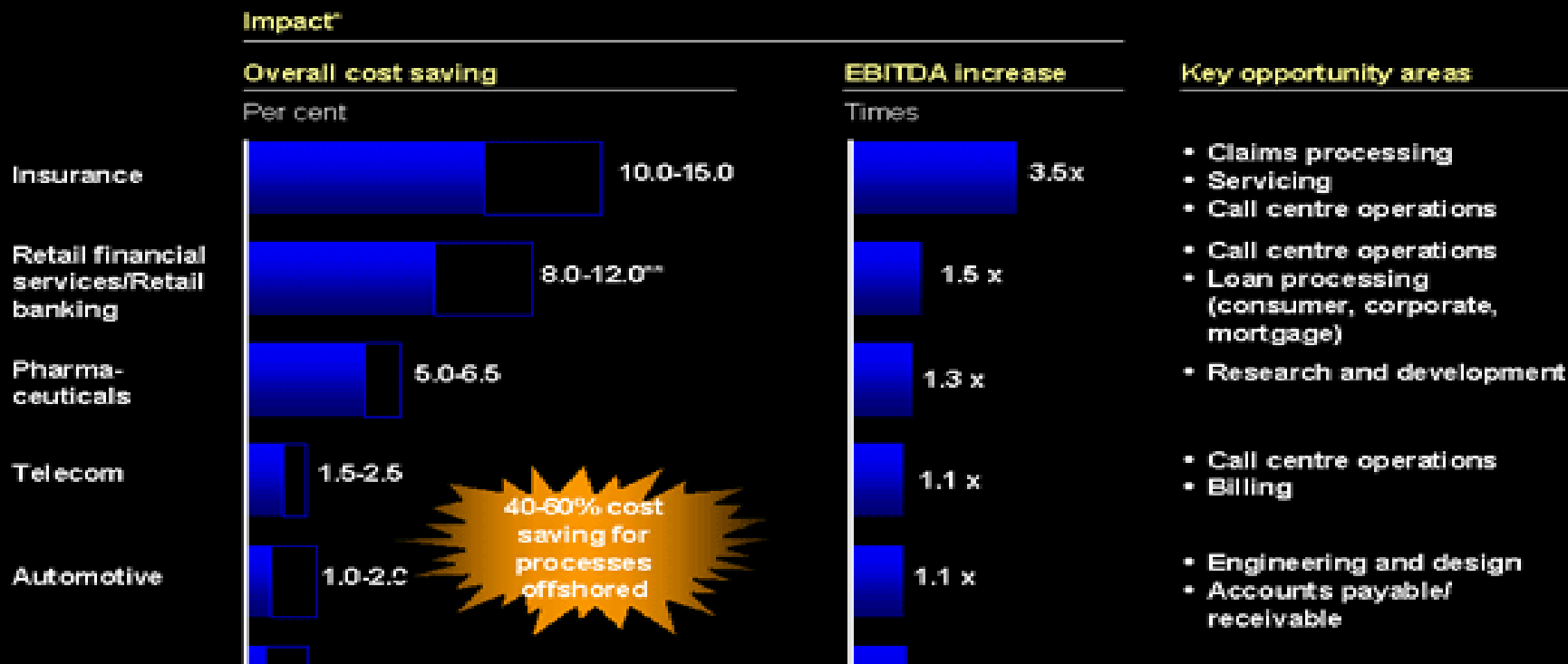
- **Agencies providing Impetus**

- NASSCOM (National Association of Software and Service Companies of India)
- CII (Confederation of Indian Industry)
- FICCI (Federation of Indian Chambers of Commerce and Industry)
- Ministry of IT and DOT (Department of Telecom)

# Competitive Advantage - 1

**CUSTOMERS, ACROSS VERTICALS, CAN REALISE SIGNIFICANT COST SAVINGS BY OFFSHORING TO INDIA**

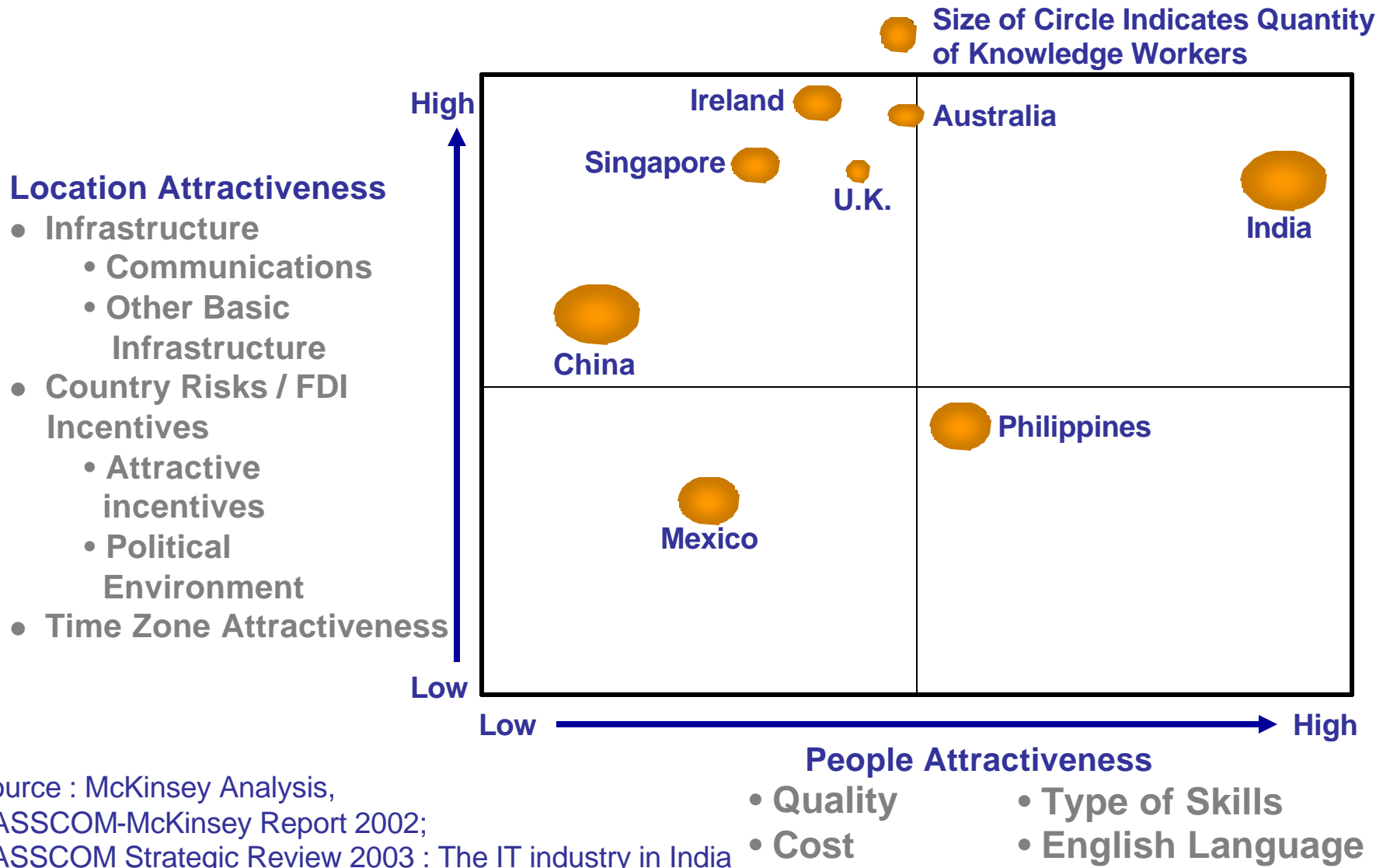
*ESTIMATES*



**World Bank study states that most companies prefer to work with India due to its quality and cost advantages**

Source :NASSCOM; www.nasscom.org

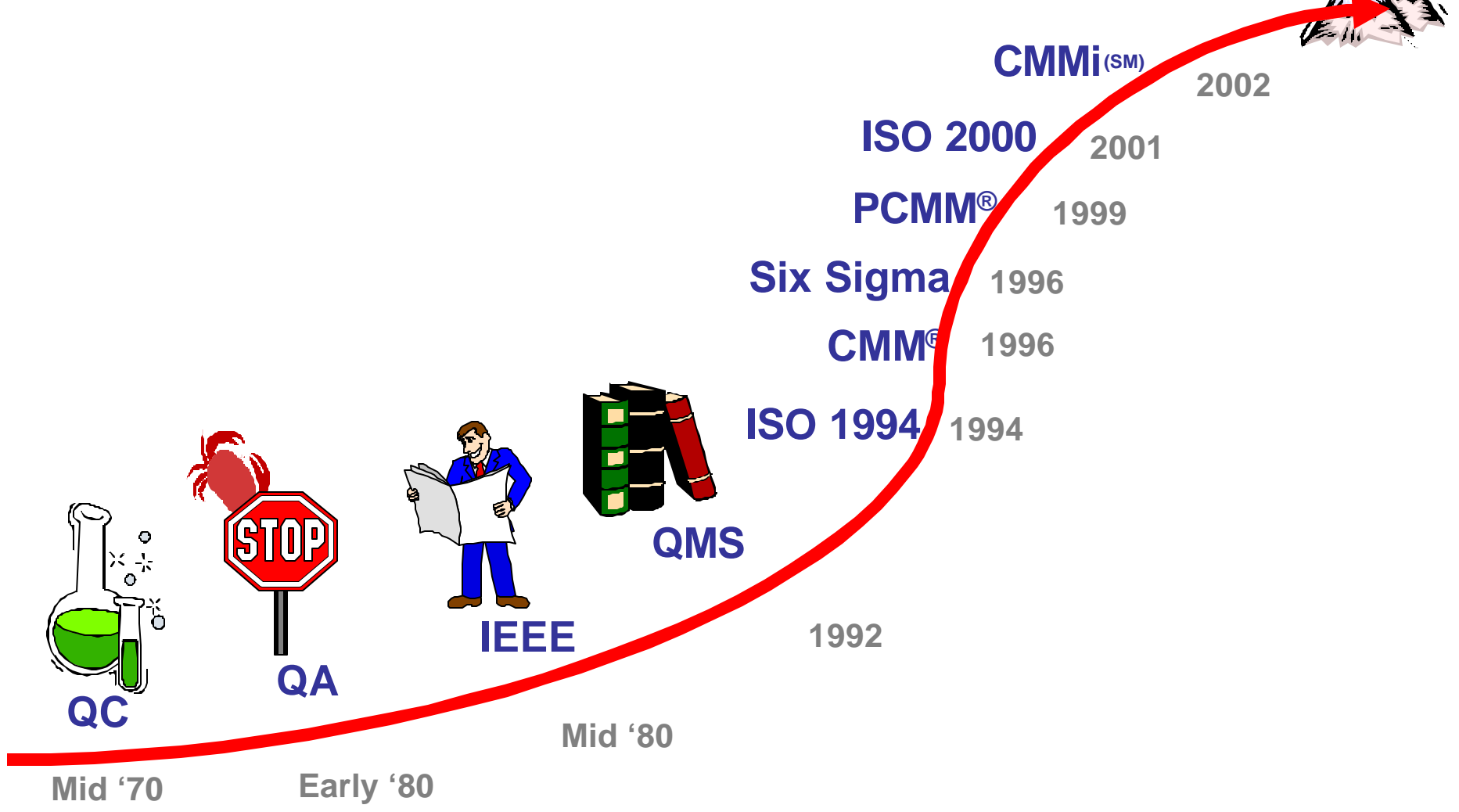
# Competitive Advantage - 2



Source : McKinsey Analysis,  
NASSCOM-McKinsey Report 2002;  
NASSCOM Strategic Review 2003 : The IT industry in India



# SPI Journey in India



**Over 300 Indian SW companies have Quality Certification**



<b>Quality Accreditations</b>	<b>No. of Companies as on March, 2003</b>
SEI CMMi <sup>SM</sup> Level 5	3
SEI CMM <sup>®</sup> Level 5	61
SEI CMM <sup>®</sup> Level 4	24
SEI CMM <sup>®</sup> Level 3	22
SEI CMM <sup>®</sup> Level 2	1
PCMM <sup>®</sup> Level 5	5
PCMM <sup>®</sup> Level 4	1
PCMM <sup>®</sup> Level 3	5
PCMM <sup>®</sup> Level 2	3
ISO 9001:2000	47
ISO 9001	165
ISO 9002	18
ISO 9000	8

Source:NASSCOM : IT Industry in India, Strategic Review 2003; [www.nasscom.org](http://www.nasscom.org)

***“India is making progress on both the Software CMM® and the People CMM® faster than any other nation.***

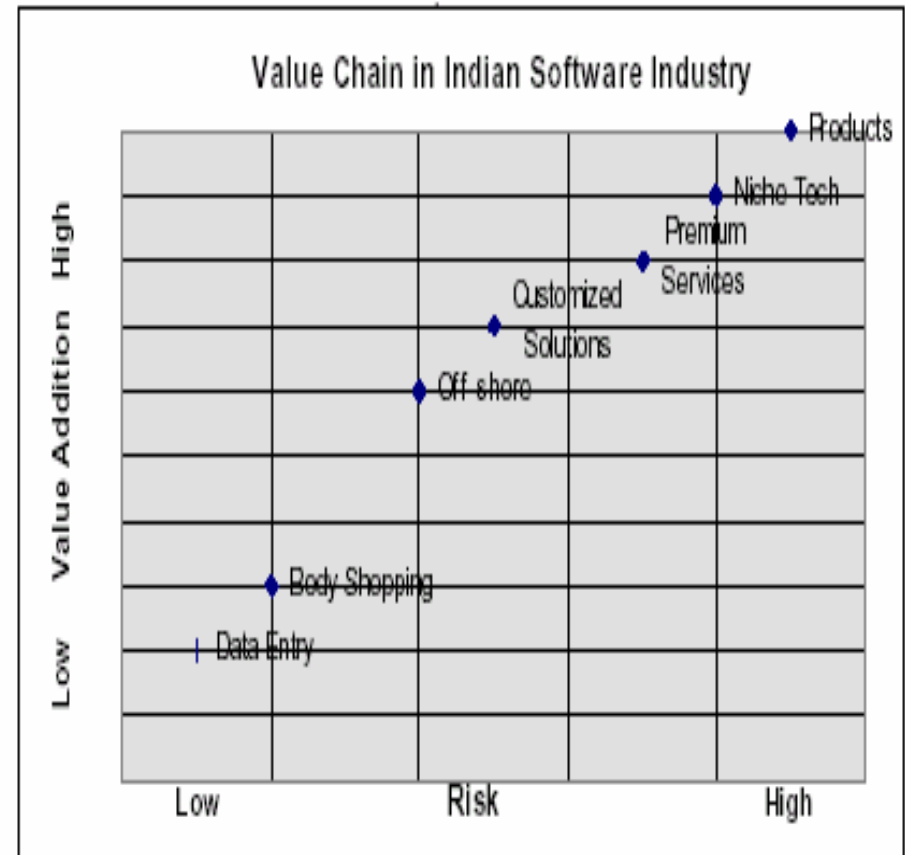
***The pinnacle will be reached when Americans are seeking visas so they can learn and work in India.”***

**- Dr. Bill Curtis**

Source : ‘ The secrets of implementing CMM’, Dr. He Dan, Nanjing CMM conference, April 2003, China; [www.qaiindia.com](http://www.qaiindia.com)

# Business Imperatives -1

- Indian offerings have moved up the value chain - enabled through processes, training and knowledge management



Source : Software Industry in India: Case Study by Nirupam Bajpai and Vanita Shastri – Development discussion paper no. 667, Harvard University

# Business Imperatives -2

- **Export Orientation**
- **Offshore development**
  - Customers' demand for globally acceptable frameworks and standards
  - Customer – supplier interfaces called for transparent processes
- **Need for controlled processes to absorb the rapid pace of growth**
- **Evolving market dynamics – need to shift focus from cost to quality**

# The First Few Leaps

- **Early adoption of ISO helped in creating a process orientation – resulting in higher maturity levels in CMM®**
  - **Some companies have grown and matured with the adopted quality models**
- **Success of initial software companies exerted pressure on others – “not to be left behind”**

# Drivers - 1

- **Software companies mostly recruit engineers who tend to be more process oriented**
- **High employee turnover rates demand greater emphasis on building frameworks for knowledge sharing**
- **Focus on creating Learning Organizations**
  - Indian Software companies provide training on Technical, Managerial and Behavioral topics
- **Indian Psyche**
  - conformance to processes and frameworks

# Drivers - 2

- **Measure the process, not the individual**
  - Process performance parameters not used for individuals appraisal
- **Senior Management Involvement and Commitment**
  - Senior management have grown within the organization and have a strong knowledge of processes and SPI
  - Senior Management plays a key role in supporting SPI initiatives, resulting in higher success



# Benefits

## SPI cycle

### ● Benefits at Operational Level

#### ◆ Effort estimates

- strengthened estimation and tracking
- reduced slippage

#### ◆ Schedule performance

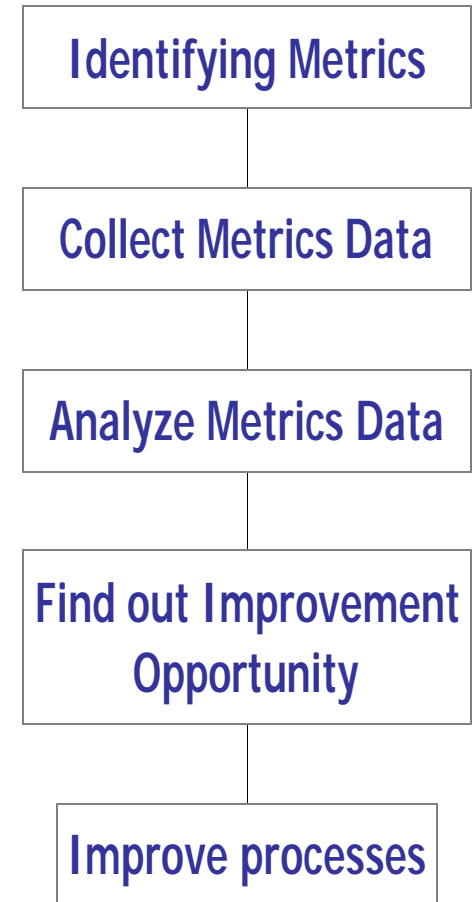
- corrected overrun problem

#### ◆ Reduced rework effort

#### ◆ Increase in efficiency by reducing Non Value Added effort

#### ◆ Client Satisfaction

- Satisfaction index improved
- More business from key customers



**SPI enables Indian companies to compete with global players with distinctive competitive edge**

# So where are we now.....

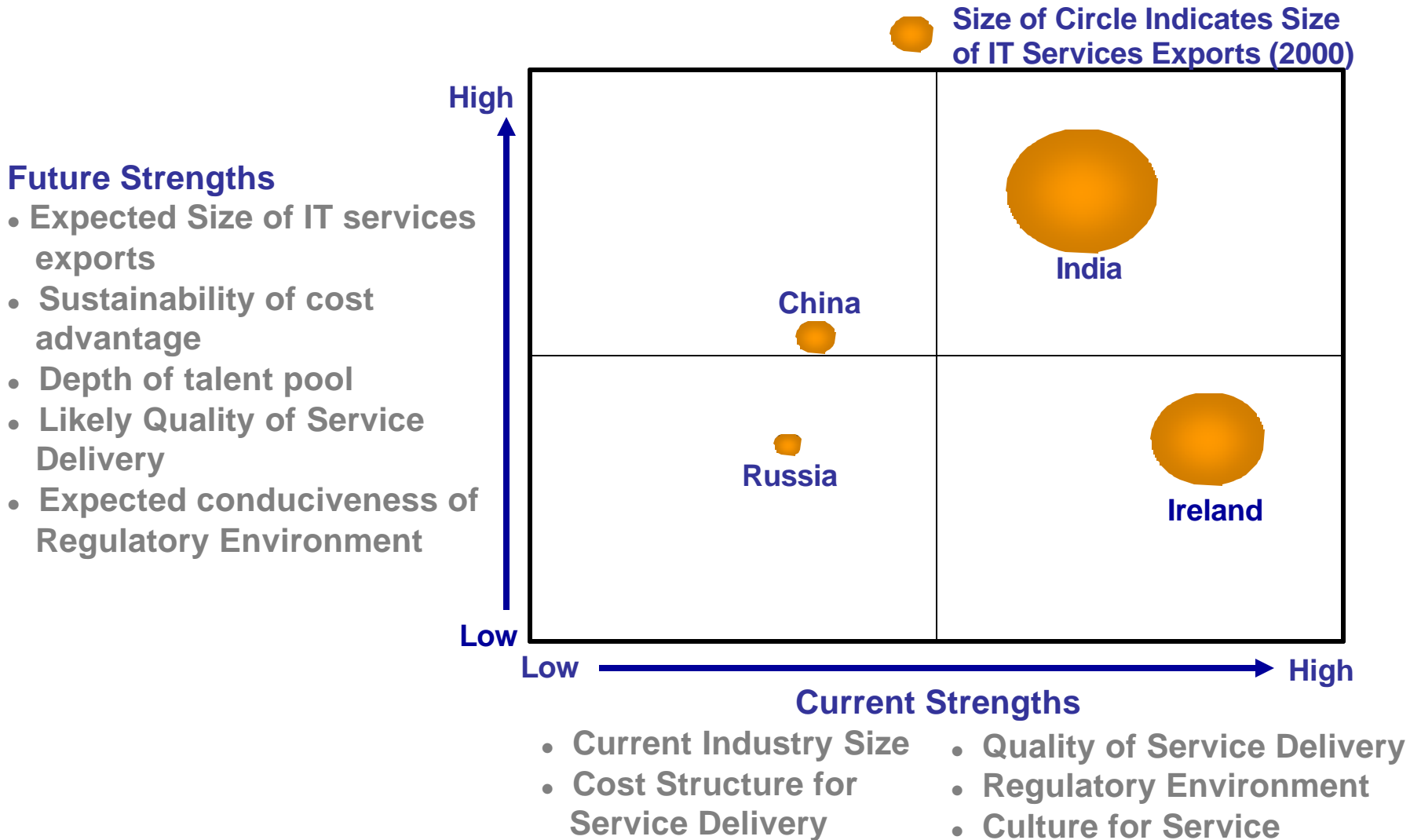
- **Quality Culture increasingly pervasive**
- **13 SPINs across 11 cities – registered with SEI**
- **Learning through experience sharing**
- **Paving the way for Benchmarking**
- **Increased use of tools to automate workflow, collect metrics and facilitate collaboration across geographically dispersed teams**
- **Culture of quantitative management taking roots**
  - **Prevalent use of Statistical Techniques**
- **Strengthening of people processes in tandem with software processes**
- **India growing into a software hub**

# Some Good Practices

- Processes kept simple
- Practitioners involved at all levels in process definition
- Established effective communication channels
- Simple and meaningful metrics
- Enhanced risk management at project & organization level
- Each SPI initiative is treated as a project

Enhanced ability to respond to market changes and ever increasing customer expectations

# The Road Ahead



Source : McKinsey Analysis, NASSCOM - McKinsey Report 2002

# The Road Ahead

- **NASSCOM has formed a group of Indian software companies which will interact with the International Software Benchmarking Standards Groups (IBSG) – creating a repository of project data using industry standards for software metrics**
- **Ministry of Information Technology, Government of India, has entered into arrangements with SEI for certifications and training of assessors**

# The Road Ahead

- **Human Resource base**
  - Approximately 17 million consultants available to Indian IT Industry by 2008
  - Strong technical skills and customer focus
- **Software companies need to continuously focus on improving quality, service and productivity to maintain the competitive edge**

**SPI is here to stay**

**.... search for simple and efficient processes in  
pursuit of excellence is on**



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