

Renewing the National Laboratories



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New Delhi, India

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National Laboratories

**Context decides
the content!**



Restructuring: Some Personal Experience

- India (1976-2005)
- Indonesia (1994-2001)
- South Africa (1997-2002)
- Croatia (2002-2004)
- China (1990-91)
- Turkey (2001-05)

EXPECTATIONS FROM NATIONAL LABS

PRIVATE GOODS AND SERVICES

(IP, Technologies licensed & commercialised -----)

PUBLIC GOODS AND SERVICES

(Generation & dissemination of scientific research, S&T Manpower -----)

STRATEGIC GOODS, SERVICES & TECHNOLOGY OPTIONS

(Technological solutions for national security, strategic positioning of industry, representation in global affairs)

SOCIAL GOODS AND SERVICES

(Development & diffusion of socially relevant technologies/ services to society)



CSIR - 1995



CSIR Mission

"To provide scientific industrial R&D that maximises the economic, environmental & societal benefits for the people of India"

Serve the Nation

Accolades on CSIR Transformation

Business

Management experts

Leading scientists

Political leadership

Cultural Differences

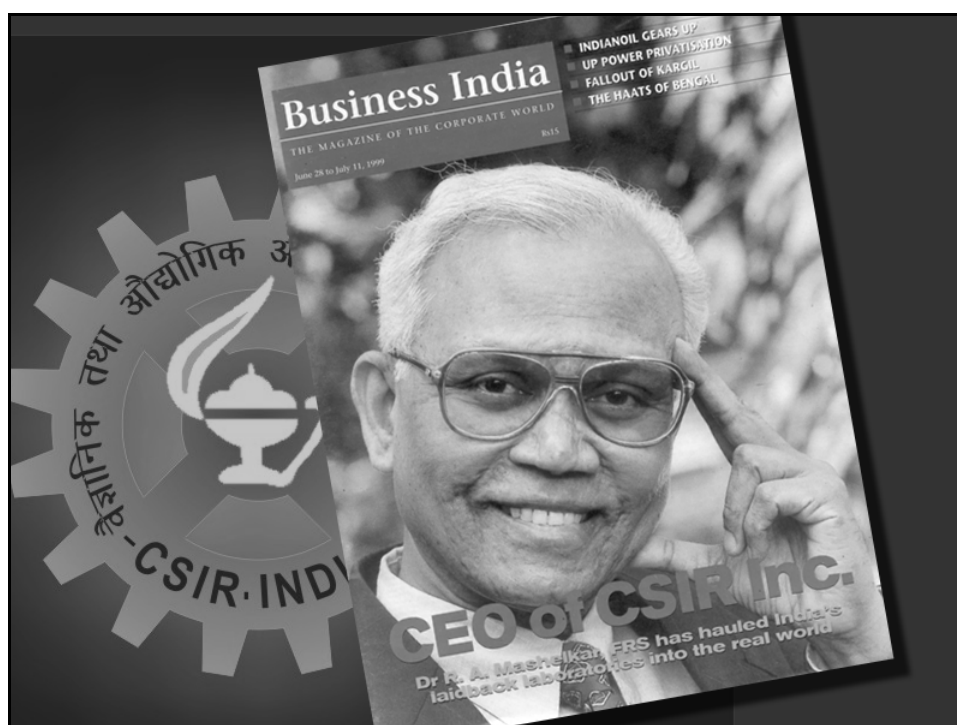
	Institutes	Industry
Time Horizon	Long term	Short term
Financial Structure	Cost centres	Profit centres
Products	Packages containing knowledge and information	Saleable goods and services
Basic orientation	Scientific novelty	Market attractiveness
Focus	Perceived needs	Market needs

ACCOLADES FROM BUSINESS

CSIR labs have been transformed by the power of enterprise and proactive management ---

R&D is , at the end of the day, a commercial activity. The CSIR labs are going places with this idea to inspire them -----

Business India Cover Story on CSIR (July 1999)



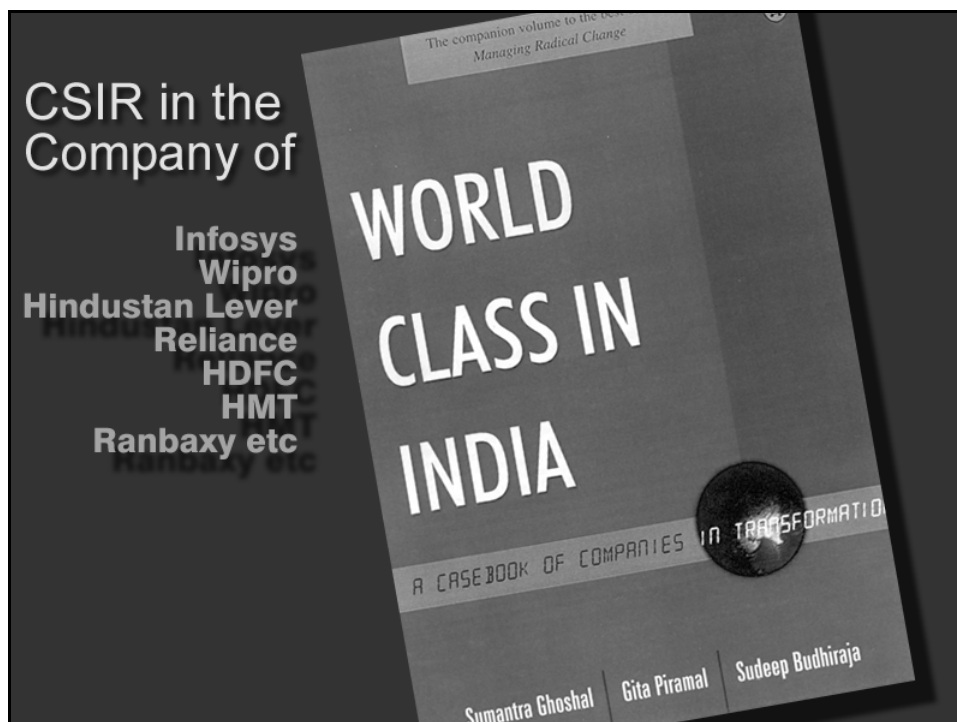
Accolades on CSIR Transformation

Business

Management experts

Leading scientists

Political leadership



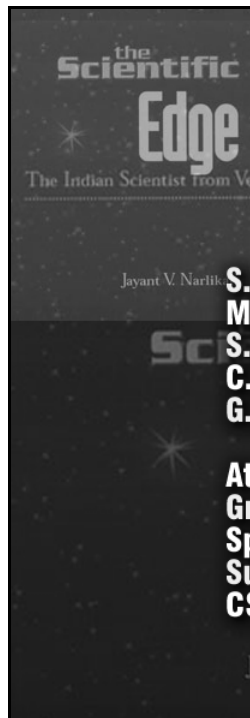
Accolades on CSIR Transformation

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Top Ten Achievements of 20th Century

Jayant Narlikar (2003)
“The Scientific Edge,” Penguin

S. Ramanujam’s – mathematics (20s)
Meghnad Saha’s – ionization equation (20s)
S.N. Bose – particle statistics (1922)
C.V. Raman – Raman Effect (1928)
G.N. Ramachandran – Molecular Biophysics (mid 50s)

Atomic Energy Commission – Nuclear Power – (50s)
Green Revolution (70s)
Space Program (late 70s)
Superconductivity (late 80s)
CSIR Transformation (late 90s)

Jayant V. Narlikar

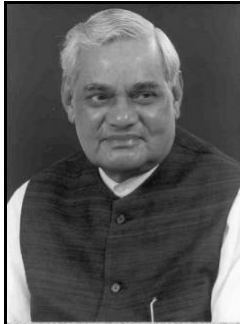
Accolades on CSIR Transformation

Business

Management experts

Leading scientists

Political leadership



"...CSIR has regained its dynamism and prestige, besides showing itself to be capable of standing up to the challenges of liberalization and globalization"

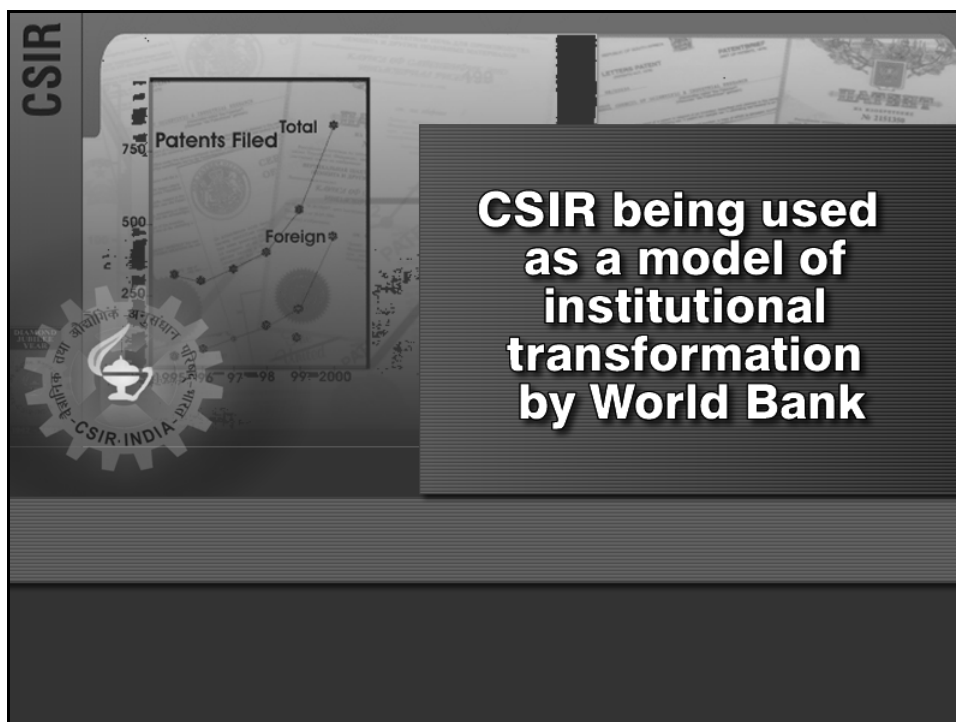
**PM's Speech at the Presentation Ceremony of the 1997
Shanti Swarup Bhatnagar Prizes**

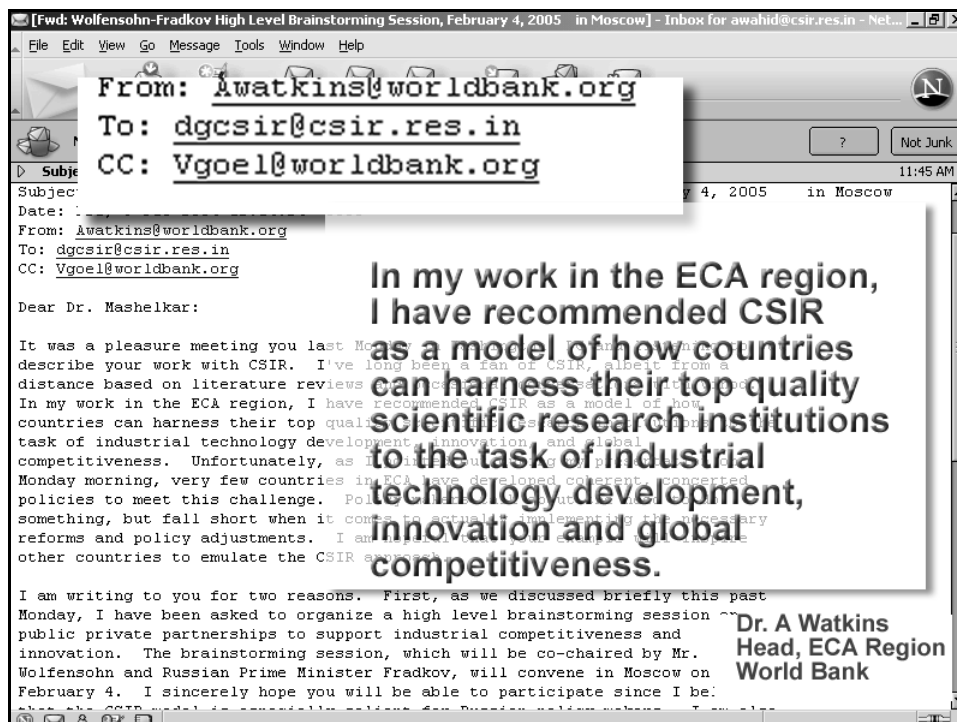
**May 25, 1998
New Delhi**



"I would like to congratulate CSIR for the remarkable transformation into a performance driven and user focused organisation. The entire CSIR family deserves to be complimented for achieving this feat. I am happy to see that CSIR is flying higher and further."

**PM's speech at the CSIR Society Meeting
July 26, 2004
New Delhi**





TRANSFORMATION OF CSIR: INITIATIVES

CSIR Inc.

- CSIR 2001: VISION & STRATEGY – A WHITE PAPER**
- MARKET ORIENTATION**
- QUALITY OF SCIENCE**
- IPR MANAGEMENT(1996)**
- QUALITY ASSURANCE: ISO & GLP**
- TECHNOLOGY LEADERSHIP**

The wave of globalization sweeping the world has created a new paradigm for CSIR. "CSIR 2001 Vision & Strategy" which went beyond incremental targets and announced ambitious goals that required paradigm shifts in its thinking.

The goals related to - attracting external funding, generating globally competitive technologies, and creating a rich portfolio of foreign patents.

Five years later the explosive impact of this small white document is seen in CSIR that is vibrant and proactive.

that maximizes the economic, environmental and societal benefit for the people of India" CSIR - first public declaration of ambitious performance targets

CSIR Inc.

Vision 2001

VISION 2001





MISSION:

“to provide scientific industrial research and development that maximizes the economic, environmental and societal benefit for the people of India”



DRIVING MARKET ORIENTATION

CSIR Inc.

MARKETING TEAM IN EACH LAB

DEVOLUTION OF DECISION MAKING

SPECIALISED BUSINESS DEVELOPMENT CONSULTANTS

STAFF ON BoD OF PRIVATE SECTOR

The wave of globalisation sweeping across national borders prompted the CSIR in January 1996 to declare...

“CSIR 2001 Vision & Strategy”

which went beyond incremental targets and announced ambitious ones that required paradigm shifts in its thinking.

The goals related to - attracting external funding, generating globally competitive

Five years later the explosive impact of this small white document is seen in CSIR that is vibrant and proactive.



MISSION:

“KNOWLEDGE AS EQUITY
 industrial research and development
 that maximizes the economic, environmental
 and **AWARDS FOR MARKETING & BUSINESS DEVELOPMENT**

FINANCIAL INITIATIVES

CSIR Inc.

PERFORMANCE LINKED BUDGET ALLOCATIONS

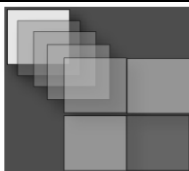
SCIENTIST INCENTIVES

LABORATORY RESERVE FUND



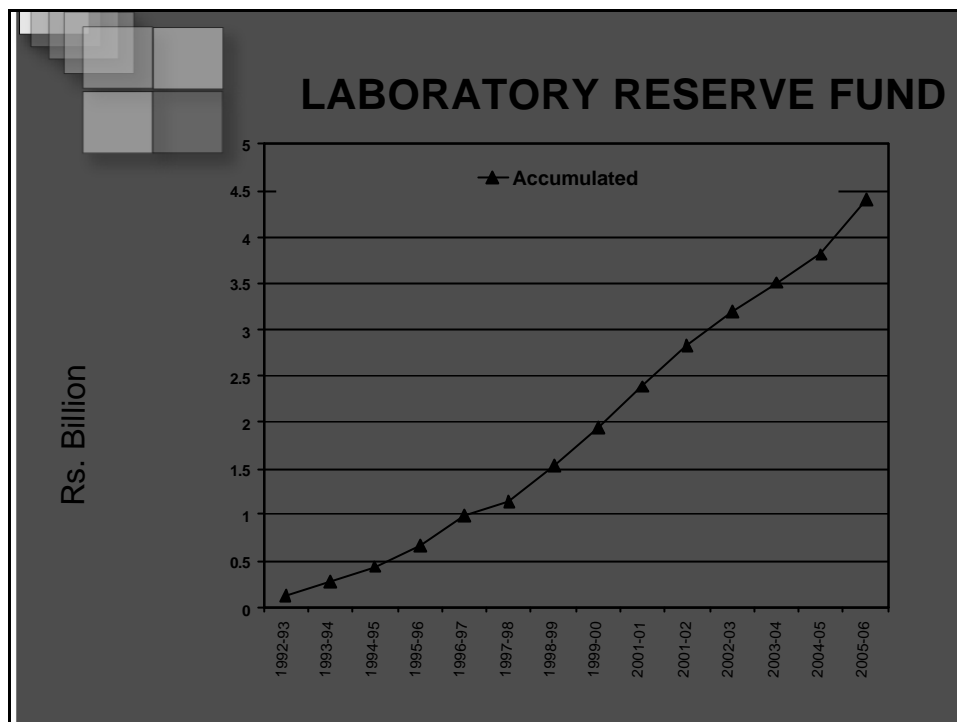
that maximizes the economic, environmental and societal benefit for the people of India"

CSIR - first public declaration of ambitious performance target



LABORATORY RESERVE FUND

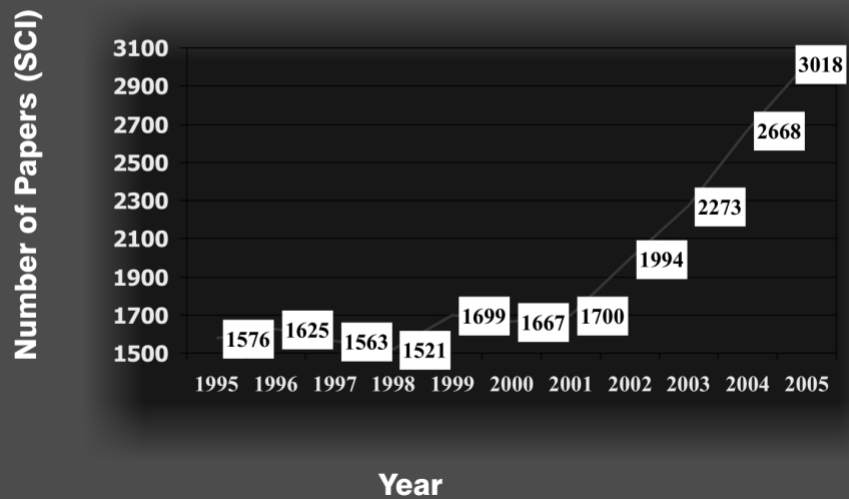
- **SURPLUSES FROM CONTRACT R&D/ SERVICES**
 - RETAINED
 - CARRIED FORWARD
- **FREEDOM TO OPERATE AT LABORATORY LEVEL**



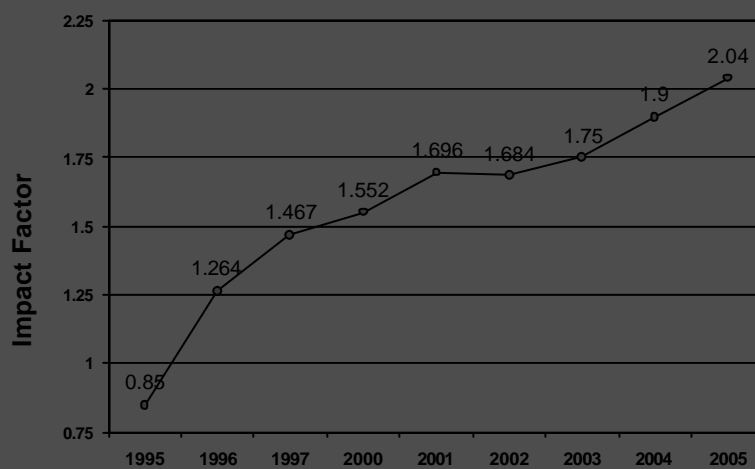
EXPECTATIONS FROM CSIR

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(Generation & dissemination of scientific research, S&T Manpower -----)
- PRIVATE GOODS AND SERVICES**
(IP, Technologies licensed & commercialised -----)
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CSIR's Contribution to Basic Research

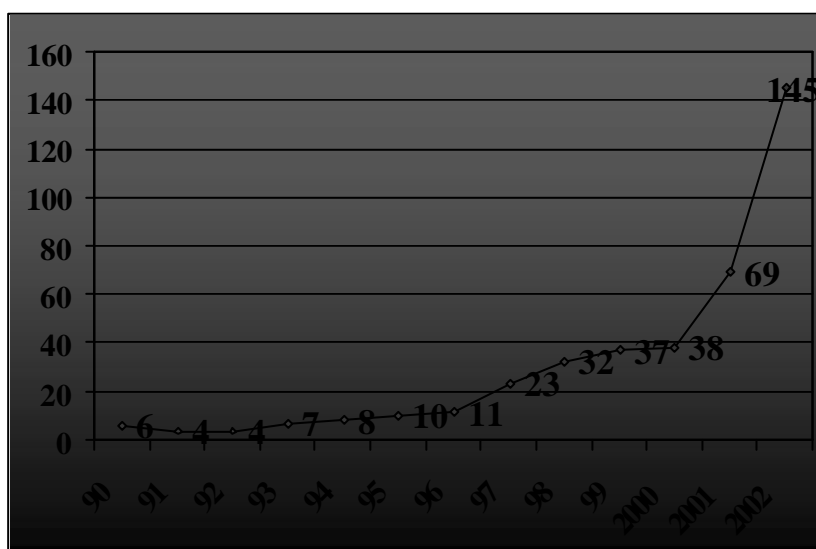


CSIR's QUALITY OF SCIENCE AVERAGE IMPACT FACTOR /PAPER





US Patents Granted to CSIR



India's emergence as Global R&D platform

- Over 150 global players set up R&D centres
- Cost cum competence advantage
- General Electric R&D Centre – 3000 strong

United States Patent 5,288,838 – Microsoft Internet Explorer

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Back Forward Stop Search Favorites History

Address OFFER.d-PALL.p=18u=/inethtml/srchum.html?r=18f-G8=505d1=5,288,838.WKU.805=PN/5,2

United States Patent
Sivaram, et al.

Preparation of polycarbonates with bioxyanion catalyst

Abstract

The invention discloses an improved process for the preparation of aryl polycarbonates. The process involves reacting aryl carbonate and dihydric phenol in the melt phase with a catalyst belonging to the class of quaternary ammonium bioxyanions having the general formula: ##STR1## Wherein 'X' represents a carboxylate or a phenolate group or a mixture thereof and 'R' represents alkyl or aryl.

Inventors: Sivaram; Swaminathan (Maharashtra, IN), Sehra; Jagdish C. (Maharashtra, IN), Iyer; Venkat S. (Maharashtra, IN), Bhardwaj; Ishwar S. (Gujarat, IN), Satish; Sheo (Gujarat, IN)


Assignee: Council of Scientific & Industrial Research (New Delhi, IN)

Appl. No.: 865951

Filed: April 9, 1992

Current U.S. Class: 528/199, 528/196, 528/198

Intern'l Class: C08G 064/30



Done

Start | avramaraofinal | United States Patent... | csir (E) | Internet | 1:59 PM

<div> <div> The Director of the United States Patent and Trademark Office <i>Has received an application for a patent for a</i> <i>new and useful invention. The whole world knows.</i> </div> <div> Major PCT Applicants from Developing Countries(2002) </div> </div>			
Rank	Applicant	Country	No (appl)
1	Council of Scientific & Industrial Research	India	184
	Samsung Electronic Co.	Rep of Korea	184
3	Biowindow Gene Development Inc	China	136
4	LG electronics Inc	China	125
5	Huawaei Technologies Co.	China	84
6	Ranbaxy Laboratories Ltd.	India	56
7	LG Chem Ltd.	Rep of Korea	47
8	SAE Magnetics (H.K.) Ltd.	China	31
9	The National University of Singapore	Singapore	28
10	Philips Electronics Singapore PTE Ltd.	Singapore	24

From Reverse Engineering to Forward Engineering NCL Catalysts : Success Story

1978	DMA "Me too catalyst"
1986	Xylene isomerisation "Superior to Mobil catalyst"
1991	Hydrodewaxing "Reverse transfer of technology to Europe"
1995	Export of technology & products
2000	Global partnerships

Paradigm Shift Projects

Then

- Small
- individual/ group based
- Costs no consideration
- Monitoring Perfunctory

Now

- Large, networked,
- Market orientation based
- Time & cost sanct
- Stringent Monitoring



Paradigm Shift Work Culture

Then

- Inward looking
 - No compulsion to reach out
- Local/national outreach
- Powers centralized
- Rigid rules & procedures

Now

- Outward looking: Harness synergy of all systems
- Global/ international vision
- Powers decentralized
- Autonomous; operational flexibility





Renewing the National Laboratories

- ★ **Strategies from country to country and time to time**
- ★ **Continuous repositioning essential**
- ★ **Balancing local relevance and global excellence**
- ★ **Achieving 'Directed' science**
- ★ **Golden triangle crucial
(national labs/ universities/ Industry)**
- ★ **Finally it is all about leadership!**

Thank You