



Industrial Growth Holistic Development & Automation

Conference on Industrial Automation - CII Southern Region
Chennai
25th August 2012

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State of the Economy - Year 2012

GDP ~ USD 2.00 Trillion

Population ~ 1.20 Billion

Per Capita Income ~ USD 1600

Literacy Rate ~ 75%

Urban Population ~ 31%

Industry's Share in GDP ~ 26%

Manufacturing's Share in GDP ~ 16%

Share of Employment in Manufacturing ~ 12%



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Manufacturing Industry at a Glance: 2012

Crude Product	38 MMTPA
Steel	60 MMTPA
Cement	240 MMTPA
Automotive	~16 Million Units
Refining	~200 MMTPA
Polymer	~8MMTPA
Aluminum	~4.5MTPA
Sugar	180LTPA (580 Mills)
Pharma	\$25.00 Billion
Textile	\$50.00 Billion



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India Vision 2020

GDP ~ USD 3.5 Trillion

Population ~ 1.60 Billion

Per Capita Income ~ USD 2500

Literacy Rate ~ 85%

Urban Population ~ 40%

Industry's Share in GDP ~ 35%

Manufacturing's Share in GDP ~ 22%

Share of Employment in Manufacturing ~ 20%



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Manufacturing Industry – Vision 2020

Crude Product	45 MMTPA
Steel	200 MMTPA
Cement	400 MMTPA
Automotive	54 Million Units
Refining	~350 MMTPA
Polymer	20 MMTPA
Aluminum	10 MMTPA
Sugar	220LTPA
Pharma	\$50.00 Billion
Textile	\$60.00 Billion



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3 Attributes of the Manufacturing Industry Scenario

Mature Sector

- Metals & Minerals, Hydrocarbon Processing, Fertilizers, Petrochemicals, Textile, Food & Beverages

Growth Sector

- Pharma, Bio-tech, Nuclear Power, Telecom, Specialty Chemicals, Ship Building

Emerging Sector

- Defence, Medical, Nano technology, Semi Conductor, Aerospace



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HOLISTIC DEVELOPMENT

means

INCLUSIVE GROWTH

i.e.

SUSTAINABLE DEVELOPMENT

**SUSTAINABLE
DEVELOPMENT**

Satisfying the needs of the present generation without compromising the chances for future generations in satisfying theirs



The 3 Pillars of Sustainability

- SOCIAL EQUITY

PEOPLE



- ENVIRONMENT
QUALITY

PLANET



- ECONOMIC

PROSPERITY





Forces that drive Industrial Development



GOVERNANCE



INFRASTRUCTURE



MANUFACTURING



GLOBAL GRID



ENVIRONMENT



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Forces that drive Industrial Development - GOVERNANCE



GOVERNANCE



1950

Socialistic Pattern of Society

Government
Controlled

1990

Partial Decontrol of the Economy

Reform
Processes
Begin

2010

Nearly Liberated Marketplace

Reform
Processes
Completed
?

2020

Globally Integrated India

2040

Developed Nation:

INDIA i.e. BHARAT



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Forces that drive Industrial Development - INFRASTRUCTURE

INFRASTRUCTURE

2012 → 2020

NATIONAL HIGHWAYS 70,000 → 1,40,000Kms

RAILWAYS 65,000 → 100,000Kms

AIRPORTS 300 → 500Nos.

PORTS 690 → 1400MMTPA

POWER 200 → 300GW

METROS 100 → 500Nos.



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MANUFACTURING – Why India?

Where consumption is...

- 18% of the Global Population

Where productivity imperatives co-exist...

- Labour
- Technology

Where demographic dividend dominates

- Average age of working population: 29 years

Where literacy rate

- ~80%





Forces that drive Industrial Development – GLOBAL GRID



CAPITAL MARKETS

EDUCATION

TRADE

SERVICES

WWW



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Forces that drive Development – ENVIRONMENT

ENVIRONMENT

AIR QUALITY

WATER QUALITY

WASTE MANAGEMENT

AFFORESTATION

RENEWABLE ENERGY



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Deliverables that define Sustainability

MARKETS	Monopoly	▶	Highly Competitive
PRICES	Cost + Margin	▶	Market Determined
PRODUCTS	Single / Few	▶	Many
GOAL	Meeting Customer Needs	▶	Customer Delight
SECURITY	Least Priority	▶	Critical
CONNECTIVITY	Interphased	▶	Integrated
PHILOSOPHY	Reactive	▶	Predictive
ATTITUDE	Rigid	▶	Flexible



Deliverables that define Sustainability

PROTOCOLS

INTEGRATED OPERATIONS

PRODUCTION PLANNING

ORGANIZATION

OPPORTUNITIES

QUALITY

SAFETY

OPTIMIZATION

INNOVATION

EXCELLENCE

METHODOLOGY

Proprietary

Isolated

Forecast

Hierarchial

Local

The Best

Responsible Care

Localized

Insignificant

Perceived

Command & Control

Open Architecture

Zero Discharge Processes

Real Time based

Collaborative

Global

World-Class

Mandated – OSHA

Across the Value Chain

Imperative

Perfection

**Empowered:
System Driven**



Challenges that dare Sustainability

Globalised Economy

Risk Minimization

Enhancement in Profitability

Retention of knowledge

Capture Opportunities

Reduction in Energy Consumption

Flexibility in Approach

Avoidance of Obsolescence

Reducing Health & Safety Risks

Increase Throughput

Monitoring Environment Impact

Increasing Shelf Life



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An Industrial Infrastructure providing for Sustainability

*While Automation is not a solution to all challenges related to sustainable development, it is a **holistic processing tool** that creates opportunities for closer **monitoring** of the environment, **efficient** use of capital and **elevation** of the social equity*





Automation Industry

An integral part of the industrial infrastructure providing for National Good.

These include: DCS, SCADA, PLC and devices such as RTU, Smart meters and Intelligent field instruments including remote controlled valves and electronic relays.

- **Global size: 90Bn USD***
- **India's Share: 2.00Bn USD***
- **Growth Rate: 10% per annum**

* Process Automation Estimate



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Globalization is the main factor that is compelling the **growth** of **Automation Systems**, because as **opportunities and partnerships expand**, there is **increasing complexity** around the management.

For companies to be successful in this heightened competitive environment, **quick response** to the dynamic changes is essential which is possible only through the **incorporation** of automated systems.





Impact of Automation on Society

Organizational overhaul

Intelligent job creation

Better workplace

Training

Man over machine



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Indian Automation Industry: Roadmap to Sustainability

Create World-class Infrastructure

Encourage Technology Leaders to set up Mfg. base in India

Establish Centers of Excellence

Encourage Value added Manufacturing / Service concepts

Enlarge Govt.- Industry Initiatives

Draw up Industry Standards meeting Future needs

Setting up and getting Global Accreditation for Test Laboratories and Certifying Agencies

Minimize operational hurdles and eliminate cumbersome procedures

Encourage Industry – Institute partnership

Develop Security Technologies and Best practices

Encourage Resource sharing through Industry clusters

Establish Advanced Research & Development centers

Promote / Mandate adoption of Risk Management Framework

Protect Intellectual Property Rights



AIA - Objectives

- ❑ Increase knowledge and awareness levels about the role of Automation & its value proposition
- ❑ Help Indian Industry leverage cutting-edge automation technologies and be globally competitive
- ❑ Enhance **Top Management Sensitivity (in manufacturing companies)** to the benefits of Integrated Automation
- ❑ Build **synergy amongst industry, researchers, policy makers and users** through seminars and symposia
- ❑ Support **Safety & Compliance standards** in Manufacturing
- ❑ Attract **fresh talent** to careers in Automation

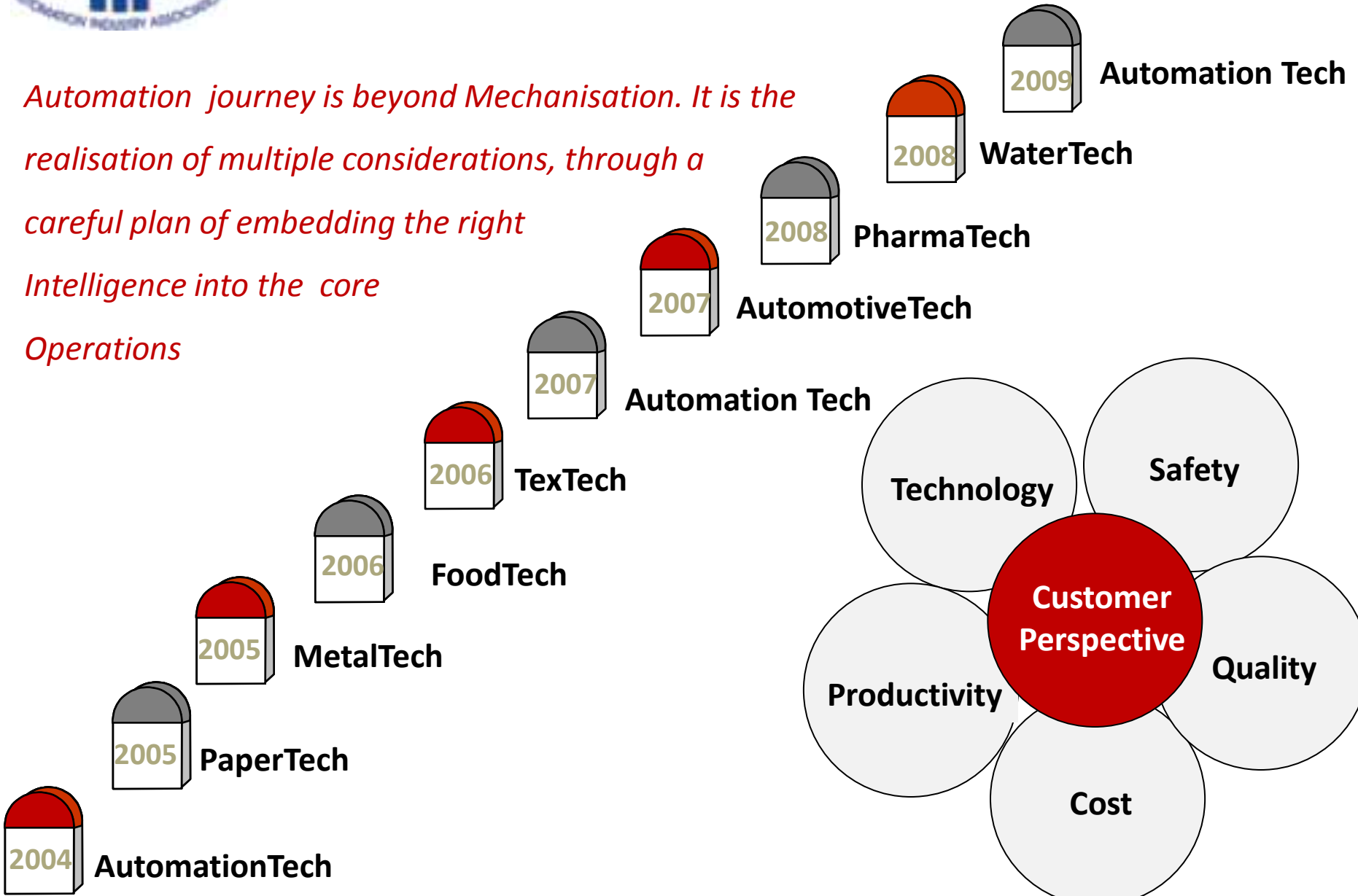


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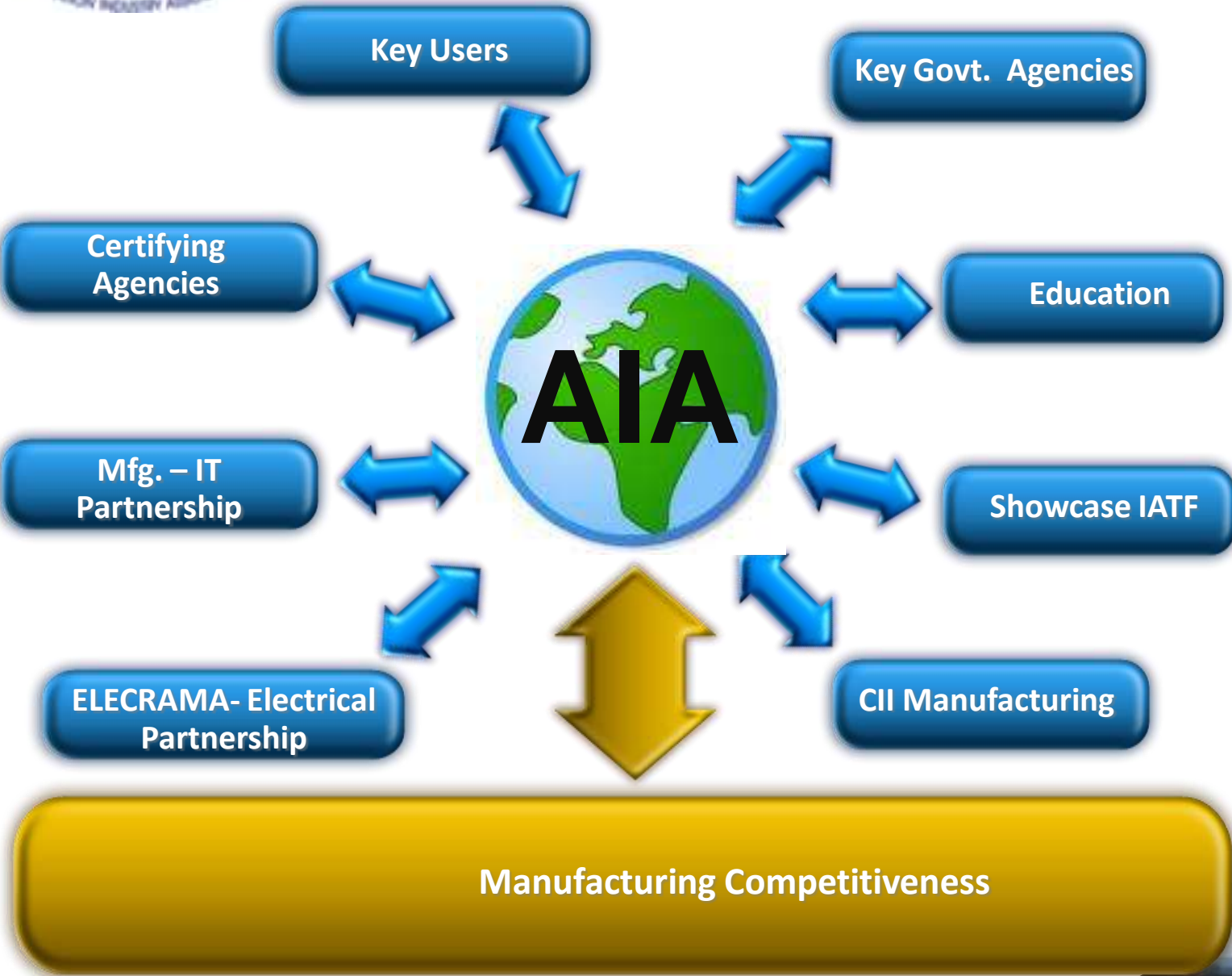
Automation Awareness Events

Automation journey is beyond Mechanisation. It is the realisation of multiple considerations, through a careful plan of embedding the right Intelligence into the core Operations





Path Ahead



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India Automation Technology Fair (IATF 2013)



AIA in partnership with Messe Munchen International (MMI) is organizing India Automation Technology Fair (IATF 2013) between 1-3 February 2013 at Bombay Exhibition Centre, Mumbai

Bi-annual Trade Fair, slated to become the high-quality, globalized flagship event for the Automation industry



Strong global connect with participants from overseas markets and parallel industry bodies



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