
INDUSTRY IN TRANSITION

Information Driven Manufacturing in a Connected World

INDIA SPECIFIC CHALLENGES

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Automation Industry Association

- India's apex automation industry body
- Membership - nearly 50 high tech automation companies.
- Founded in 2004
- Pioneered vendor-neutral approach in developing Educational Curriculum for Universities
- Promoting Industry Practices and Skills consonant with Global Standards.

Our members represent technologies across the full spectrum of Industrial automation...

| | | |
|-----------------------|-----------------------|---|
| Electrical automation | Mechanical automation | Continuous and batch process automation |
| Robotics | Machine vision | Assembly and material handling systems |
| Sensors | Controllers | Actuators |
| Communication devices | HMI | Real-time software |
| Simulation | Training | |

A host of interface and supporting sub-systems.

India and Manufacturing...

Manufacturing growth is a necessity for India



Consumer demand

- Expanding Consumer base and rising aspirations driving demand for products
 - More products
 - More diversity in products

Regulations

- Safer food & drugs
- Efficient wastewater treatment
- Better energy management
- Efficient Emissions monitoring

Challenge for Manufacturers

- Globalizing marketplace putting pressure on prices
- Resources getting scarce and commodity prices rising
- Innovation necessary to retain and grow market share
- Compliance requirements getting tougher
- Skills and competence
- Speed

Adoption of contemporary technologies vital to stay in the game

Where is manufacturing in India today?

Points to ponder



- Technical discipline?
 - Huge number of degree holders, yet the persona suitable for automation very elusive!
- SMEs... are they integrated into larger supply chains?
 - Half of India's Industrial production comes from MSME sector, yet they are probably wary of making long term investments
- Unlike "IT" approaches, "OT" approaches are seen as less customer-centric, resulting in islands manual, semi-automated and fully automated systems.

OBJECTIVES FOR AUTOMATED OPERATIONS

Machines produce, but people are responsible for

- Asset Health and Uptime
- Quality Management
- Safety Practices
- Regulatory Compliance
- Energy Management
- Customer Delight

Automation of operations critical to achieve these objectives.

Automation enabled Operations technologies need to be **“People-oriented”**, freeing them up to manage constraints with greater ease and innovation

TECHNOLOGY -vs- PEOPLE AVAILABILITY



While...

- Technologies available from across the globe is freely available for industry use
- Customers demand latest versions and get them in the next quarter

Yet...

- What can we say about the engineering standards, the domain strength of integrators, the alacrity of operators and maintenance
- How is technology making a difference to their knowledge, wisdom and role strengthening?

GAPS

- Evaluation Stage
- Consultancy Stage
- Selection Stage
- Implementation Stage
- Life Cycle
- Risk Mitigation

Process discipline needs critical attention

Integrated Operations - Compressor Production



AIREND ASSEMBLY

Best-in-class assembly line with flow line conveyors manned by highly skilled and trained associates.



PRODUCTION CAPACITY

15,000

Airends per annum

AIREND WARRANTY

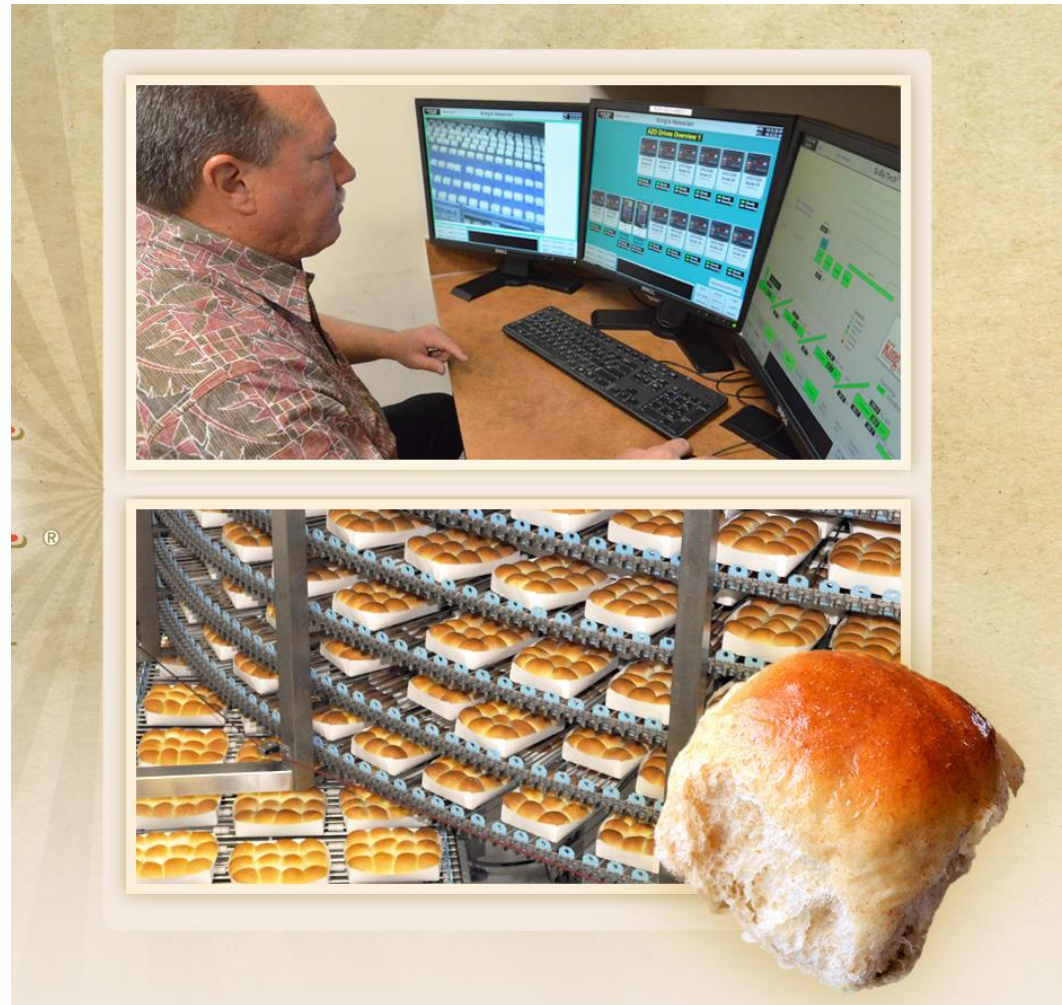
Life time*

* In the North American market

Case Study of a family business growing to Mid sized Manufacturing



Monitoring multiple machines
integrated as a
complete
production process



VISIBLE OUTCOMES OF A SKILLED NATION



- People across all levels demonstrate a natural ease with technology and best practices
- They connect well with internal and external customers
- People in leadership roles adapt technologies to ensure a positive societal impact

A skilled workforce is key to India's competitiveness and prosperity

Thank you

