

One Billion Awaken to RFID

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The RFID Journey in INDIA

- India has awakened to RFID
- Market Dynamics
- Customer Profiles
- Provider/Entrant Profiles
- Government
- RFIDAI

India RFID Market Dynamics

- **Evolution**
 - 2003/2004 - Pioneering
 - 2005 – Posturing & Hype, Some beginning
 - 2006 – Jumping In – Pilots & Early Adopters
 - 2007 – Expansion – Increased momentum, Increased Competition
- **Emergence of Google PhDs**
 - Customers & Providers
 - *Everyone is an expert*
- **12% of sampled large enterprises using RFID - DQ-IDC Survey**
 - Sample size unclear
 - Split of HF/UHF/Access Control/Smart Cards unclear
- **Government beginning to show interest**
 - Important
 - 865-867 Mhz, 4W ERP, 200Khz BW approved for UHF
 - 13.56 Mhz already in for Smart Cards

India Customer Profile – Naïve

- **Many Customers are Naïve**
 - Want RFID, know its hot
 - Want 5 cent tags
 - Don't understand RFID yet
 - Want freebies
 - Driving many software and barcode companies

India Customer Profile - **Smarter**

- Some are getting **Smarter**
 - Looking for solutions
 - Understand RFID may not be plug-n-play
 - Know it will help, don't know how to get ROI
 - Prepared to take some financial risk
 - Requires investment from RFID provider

India Customer Profile – **Serious**

- Fewer are very **Serious & Practical**
 - Expect full mission critical solutions in a phased manner
 - Wish to use as a competitive advantage
 - Integrated with existing systems in realtime
 - Focusing on real pilots to alleviate problems & deliver ROI
 - Have budgets

[Pilot Implementations]

- Manufacturing has taken a visible lead
 - **Trident (Abhishek Industries)** - Real-time In-Process 24x7 lights-out application integrated with SAP
 - Plans – Expand usage of RFID
 - **Honda Siel** – Vehicle Quality Testing
 - Plans – Inventory Control
 - **Mahindra & Mahindra** – Vehicle Pre-Treatment & Electro Deposition for Paint Shop Scheduling
 - Plans – Expanded Painting process, Logistics

[Pilot Implementations / Underway]

- **Ashok Leyland (Automotive)**
 - Assembling Centers
- **Pantaloon (Retailer)**
 - Warehouse goods tracking
- **Arvind Mills (Retail)**
 - Sample Retail Store

Pilot Implementations / Planned

- **LG** (Planning)
- **CRIS** – GOI Railways (EOI for Tracking Wagons)
- **Madura Garments** (Value Chain Tracking)
- **NIC** – GOI IT (Tender for Asset Management, Library & Access Control)

Providers/Entrants – **Barcode** Companies

- Face Solution Challenges
- Not Plug-n-play
- Physics of RFID
- Lab is not the Field
- Enterprise IT
- Mission Critical IT Expectations
- Advantage: Customer Installed Base
- Customer Risk: Learn at Customer's expense – Outcome risk
- Some recognize – 18-24 month journey
- Partnering is key

Providers/Entrants - Software Companies

- Its not just software
- RF
- Physics of RFID
- Not just an extension of Outsourcing
- Advantage: Customer Installed Base
- Customer Risk: Learn at Customer's Expense – Outcome risk
- Some recognize – 24 month journey
- Partnering is key

What about India's Software Development

- Targeting International Markets - Microsoft, TCS, Wipro, Satyam, IBM, ...and more
- Most are targeting international Retail and Pharmaceutical Mandates
 - Leveraging existing customer bases
 - To move up the value chain from outsourcing
- Not all are realizing success
 - This is not yet a quarterly, predictable business
- Lot's of interest will increase entrants ... the naïve will fumble

[RFID Naiveté is still extensive]

- RFID is not plug-n-play
- RFID is, and is not Smart Card technology
- RFID is not new, some new UHF standards are
- All RFID applications can use the same frequency – *false*
- RFID performance is what is in the web

[Application Momentum]

- **RFID Naiveté**
- **Retail & Pharma** to evolve naturally - Absence of Wal*Mart, FDA type mandate stimuli - Software Export focused
- **Value-add in-process applications** with observable ROI will emerge
 - **Manufacturing** is taking hold ... Seems to have taken the lead for serious applications
- **Access Control** – Getting Focus
- Other ... slowly but surely, Logistics, Government

RFID Association of India

Promoting Rapid & Responsible
Adoption of RFID

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RFIDAI Goals

- Help establish India as a country of preeminence in RFID, as India did with software.
- Promote adoption and responsible use of RFID across industry, government and academia
- Educate and collaborate to promote RFID

International Collaborations

- Established MOU with RFID Association of Australia
 - Networking
 - Discounted membership & events



RFIDAI Interests, and other RFID International Industry Associations

- **Frequency Interoperability**
 - To address issues related to the disparate frequency regime
- **Business-related issues**
 - To address business related issues such as ROI, privacy and legality of information etc
- **Education and awareness programs**
 - To educate and increase awareness of RFID in business communities
- **Cross-border supply chain applications**
 - To identify and initiate possible cross-border supply chain projects
 - To facilitate implementation through connections with RFID Alliances of each country
- **International Linkages**
 - To liaise with int'l RFID associations for possible collaborations

[Standards]

- Encourage and support standards and standards development
- Support EPC
- Support ISO standards
- Business first (we are an industry led association)
 - Let us not wait for standards to be finalized before implementation
 - Let us start implementing and focus on solving business problems, and standards will follow

[Frequencies]

- EPC promoted EPC UHF frequency band for RFID. We support this.
- Performance of RFID is frequency dependent. The physics of RFID, certain applications work best at certain frequencies, for different materials
- We support all prevalent RFID frequency based applications
 - 88-125Khz, 13.56MHz, 303,433MHz, 865-9XXMHz, 2.4GHz
- ***We encourage focus on application use***

[RFID in India]

- **Segment expansion for Software & Service Majors**
- **Segment expansion for Barcode Companies**
- **Leveraging India's base for RFID related software**
- **Government awakening to RFID**

[India RFID Market Challenges]

- **Pricing**
 - Premium Product Points are not conducive for a Price Sensitive Market
 - Hardware pricing, and not product performance, dominates decision making
- **Solution Sale is not easy – Hardware dominates thinking, solution and service is viewed as contributory**
- **Frequency limits choice, growth – 0.7 MHz off EUR**
- **Technically Naïve players are likely to cause challenges to RFID growth with negative experiences**

[RFID in India with Government]

- **Emerging Government interest**
 - Increased discussions across various ministries
 - Various ministries have increasing interest in RFID
 - RFID tenders

- **Promoting the Government of India as a Customer is a key area of interest for RFIDAI**

- **Government adoption ... not regulation**

[AVAANA™ (www.avaana.com)]

- RFID Innovation & Integration™
- Your RFID Department
- Pioneering Solutions Provider
- HP Preferred RFID Solutions Partner
- Symbol RFID Solutions Partner
- Passive & Active RFID Expertise
- Delivering Mission Critical Solutions
- Manufacturing, Warehousing, Retail, Government ...

[Summary]

- RFID in India is past the hype phase ...
Early Adopters are increasing
- Everyone wants to be in RFID
- Everyone claims to be an expert in RFID
- Success Testimonials beginning to emerge
- Not disruptive yet
- Government could significantly accelerate adoption