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**Environmental Requirements and Market Access:  
Turning Challenges into Opportunities**

**Main Concerns & Key Challenges  
facing Developing Countries:  
Focus on the Situation in India**

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UNEP-UNCTAD International Symposium on Environmental Requirements and Market Access – 3 Oct 2007 Geneva

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**Structure of Presentation**

- Overview of electronics industry in India
- Snapshot of ewaste situation
- Regulation and Trade Dynamics
- Challenges
- Constraints
- Recommendations

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**IT and Electronics Industry – 2006-07**

	<b>CAGR Value</b>	<b>(US\$=Rs. 40) Growth (5 years)</b>	
<b>IT &amp; Electronics</b>	<b>Rs. 222,800 Cr (\$ 55.7 billion )</b>	<b>32%</b>	<b>25%</b>
<b>Of Which:</b>			
- Hardware	Rs. 64,000 Cr (\$ 16.1 billion )	25%	15%
- Software & ITES	Rs. 158,400 Cr (\$ 39.6 billion )	33%	28%

Growth is calculated in US dollars; Due to appreciation of Indian Rupee by 10% over last 8 months, Growth is lower in Rupee terms

Source: Dept of IT, Nasscom

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**IT & Electronics Exports – 2006-07**

	<b>CAGR Value</b>	<b>Growth</b>	<b>(5 years)</b>
<b>IT &amp; Electronics</b>	<b>- Rs. 136,400 Cr (\$ 34.1 billion )</b>	<b>34.7%</b>	<b>30%</b>
<b>Of Which:</b>			
<b>Hardware</b>	<b>- Rs. 10,800 Cr (\$ 2.7 billion )</b>	<b>40%</b>	<b>~18%</b>
<b>Software &amp; Services</b>	<b>- Rs. 125,600 Cr (\$ 31.4 billion )</b>	<b>34%</b>	<b>31%</b>

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**Demand Explosion !**  
India Market Estimates

	2005	2010	2015
<b>Mobile Phones</b>	<b>35.5 M</b>	<b>199 M *</b>	<b>530 M *</b>
<b>Set- Top Box</b>	<b>3.9 M</b>	<b>20.6 M</b>	<b>47.5 M</b>
<b>PC</b>	<b>4.5 M</b>	<b>15.7M</b>	<b>42.5 M</b>
<b>Color TV</b>	<b>11.5 M</b>	<b>20.1 M</b>	<b>32.1 M</b>
<b>DVD Players</b>	<b>3.3 M</b>	<b>10 M</b>	<b>16 M</b>

\* Cellphone Population

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**India – Present E-Waste Situation**

- ❖ Unprecedented market expansion; As a result E-waste generation growing exponentially
- ❖ E-waste est 146,000 Tons  $\xrightarrow{11 \text{ times}}$  1,600,000 Tons p.a by 2012
- ❖ Dumping ground for e-waste – imports continuing despite being illegal; Passed through customs as second hand, mixed metal scrap for charity
- ❖ Imported E-Waste is estimated at more than what is generated locally
- ❖ Economics - Computer recycled in India for US\$2 compared to US\$20 in a developed country !
- ❖ Informal and clandestine backyard recycling – serious hazard to health and environment
- ❖ Pressure due to International Environmental Regulations (EU, Japan) & Buyers in Developed countries – Drivers for change

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## Informal E-Waste Recycling

Acid Washing

Cable Stripping

Copper Extraction

Electronic Scrap Dealer

Source: EMPA-GTZ Study UNEP-UNCTAD International Symposium on Environmental Requirements and Market Access – 3 Oct 2007 Geneva

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## Environmental Regulations

### International

- ❖ Wide range of regulation – JAPAN (LPEUR, HARL, GPL, Japanese RoHS); EU (RoHS, WEEE, REACH, EuP...), USA (State Laws)
- ❖ Asian countries enacting own laws- China, Korea, Malaysia ? & more

### India

- ❖ Covered under Hazardous Wastes (Management & Handling) Rules 2003 –covers all types of hazardous waste including some electronic items
- ❖ The HW Rules and Supreme Court prohibit import except under license for processing & reuse of raw materials; no license issued yet
- ❖ Permits donations of old computers to non-profit organisations
- ❖ Batteries (Management and Handling) Rules, 2001 under the Environment (Protection) Act, 1986 –disposal of lead acid batteries
- ❖ WEEE Legislation- similar to European WEEE being drafted by Central Pollution Control Board and MoEF.
- ❖ No RoHS Legislation yet. Indian companies following the EU RoHS

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## Trade and Market Dynamics

- ❖ More than 50% production has shifted to Asia and Far East
- ❖ Demand growing rapidly in industrializing countries
- ❖ India ( and most other manufacturing countries) are Signatories to ITA-1 allowing duty free import of electronic components and IT equipment
- ❖ Strong competition among Asian manufacturers; need access to global markets
- ❖ Success depends largely on economies of scale and meeting emerging environmental standards – non tariff barriers !!

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## The Challenge

### Business & Technology Perspective

- ❖ Sharp growth in E-Waste generation needs an eco-friendly system for recycling and reduce use of toxic materials
- ❖ Creating infrastructure for training; training experts and motivating companies to train
- ❖ Stranglehold of Vendor/Trader community over EoL products; commercial interests in informal system
- ❖ Reconcile divergent business interests of stakeholders –the informal sector, workers and users
- ❖ Enhance awareness and link social/ env goals with economic interests
- ❖ Minimize loss of employment due to creation of formal sector

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## The Challenge

### Trade Perspective

- ❖ Prevent illegal Imports and their diversion into the informal recycling markets –locally & globally
- ❖ Proliferation of Divergent Regulations –big challenge for SMEs in developing countries
- ❖ Involve developing countries (those mfg electronics) in the legislative process; information sharing
- ❖ Develop a world standard for environmental standards; testing methodology and reporting with time bound exemptions to mfg countries

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## Constraints

### Resources & Knowledge

- ❖ SMEs not able to cope and getting edged out due to lack of understanding of multiple International Standards/ Testing / Reporting requirements
- ❖ Training facilities/ trainers lacking
- ❖ Often, industry does not give enough priority to environmental issues due to lack of awareness
- ❖ Large investments required for testing & training facilities
- ❖ Few companies in developing countries have resources to engage in EPR programs in developed countries

### Rules & Legislation

- ❖ Appropriate legislation missing; Politically sensitive issue as there are many stakeholders
- ❖ Lack of standardisation for Data Documentation / Formats for reporting Material Composition and tech specs

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## Recommendations for trade facilitation

- ❖ Standardization of rules for toxic inputs in electronics and norms for Ewaste recycling; discourage each country having own rules.
- ❖ Involve developing countries while making standards
- ❖ Developed countries to support training and knowledge dissemination to exporters in developing countries
- ❖ Subsidized financing for organised recycling facilities and mechanisation of hazardous processes
- ❖ A clear policy on movement of WEEE from one country to another-banning it is not the best answer !
- ❖ Ewaste recycling can be a great economic opportunity for developing countries; Can we import ewaste in a responsible manner for recycling ?  
It would mean good economics, good for society and good for the environment

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## Thank you for your attention

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## Indian Electronic Industry (2006-07) Sectorwise Production \$ 16.1 Billion

*Compared to US\$12.73 Bn in 2005-06*

Sector	Production (\$ Bn)
Consumer Electronics	\$ 4.88 Bn
Computers	\$ 3.12 Bn
Communication & Broadcasting Equip	\$ 2.31 Bn
Industrial + Other	\$ 2.54 Bn
Components	\$ 2.15 Bn
Strategic Electronics	\$ 1.1 Bn

**Market 2006-07~ US\$ 30 Bn; Projected to grow to US\$ 320 Bn by 2015 !**

Source: Dept of IT, India. UNEP/UNCTAD International Symposium on Environmental Requirements and Market Access – 3 Oct 2007 Geneva

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## Business opportunities for complying industries

- ❑ Opportunity to protect a large and lucrative market
- ❑ Manufacturing of Electronic Hardware has been shifting to APAC; more than 50% of total electronics production of US\$ 1500 Bn
- ❑ Companies and countries which can establish a compliant system can gain significantly; China has already achieved US\$ 250 Bn !
- ❑ India can be preferred manufacturing destination with its huge market and technical labour force
- ❑ Flextronics, Jabil Circuit, Solectron Centum, Foxconn , Nokia, Motorola +++ looking for compliant suppliers; great opportunity for Indian manufacturers

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## Distribution of Indian Exports

- Europe 26.21%
- Singapore, HKG, S.Asia 25.51%
- USA & Canada 23.73%
- Middle East 11.36%
- Japan, Korea & F.East 7.28%
- African Countries 2.51%
- Rest 3.40%

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