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# PRODUCT-RELATED SUPPLY CHAIN IMPACTS: ASIA ECO-DESIGN ELECTRONICS (AEDE) PROJECT

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## Drivers

- Existing legislation e.g. RoHS, WEEE, HARL, GPL, LPEUR
  - Forthcoming legislation e.g. EuP, REACH, Chinese RoHS
  - Standards and codes e.g. ISO, EICC, GeSI
  - Customers e.g. B2B, B2R, B2G
  - Investors e.g. AsRIA, F&C (ISIS)
  - NGOs e.g. SVTC, Greenpeace, CAFOD, Christian Aid
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## **AEDE Project: Partners**

- The Centre for Sustainable Design (UK)
- TERI-Europe (UK/India)
- Linköping University (Sweden)
- ELCINA Electronic Industries Association of India (India)
- Rajiv Gandhi Foundation (India)
- Electrical and Electronics Institute (Thailand)
- Renmin University of China [RUC] (China)
- China Household Electrical Appliances Association [CHEAA] (China)\*



## **AEDE Project: Outputs**

- Reports (EC/Japan, Thailand, China, India)
- Website ([www.cfsd.org.uk/aeede](http://www.cfsd.org.uk/aeede))
- Conferences
  - Thailand: 10<sup>th</sup> April 2006 (80+ delegates)
  - India: 29<sup>th</sup> June 2006 (50+ delegates)
  - China: 21<sup>st</sup> September 2006 (90+ delegates)
  - Brussels: 5<sup>th</sup> December 2006 (60+ delegates)
- Tools
  - Eco-design (management + technical)
  - Components
  - Green procurement



## Key issues

- Environment and social
- Early warning systems
- Access to accurate information
- National networks
- Building knowledge and competence
- Cooperation



## **Study: Implications**

- Higher standards (social + environmental)
  - Competitive necessity
  - Market entry
  - Global trends e.g. EU, Japan



## **Study: Implications**

- RoHS is the priority
  - RoHS + Japan 'RoHS' is no. 1
  - WEEE information requirements
  - Future: EuP + REACH
  - Energy efficiency
  - Public procurement
  - CSR e.g. ISO, GESI/EICC



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## Study: Implications

- Investment (on going not one off)
  - Product re-design
  - Re-tooling
  - New materials
  - New processes
  - Product testing facilities
  - Training
  - Management time (consultants + advisors)
  - Potential write-off of redundant products + materials
  - Investment in integrated management systems



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## Study: Implications

- Marginalisation
    - Monitor the agenda
    - Proactive v reactive
    - Retailer pressure e.g. Walmart going *green*
    - TNCs + Japanese
    - SMEs: risks of being unprepared?
    - SMEs: marginalised due to other factors e.g. ISO9000
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## **Study: Implications**

- Uncertainty of impacts (on SMEs) depends on:
  - Preparedness + investment
  - No. supplying to EU and/or Japan
  - No. affected by RoHS (and needing to make investment)
  - No. that will lose contracts



## **Study: Implications**

- RoHS + WEEE implementation
  - Lack of awareness and confusion
    - Poor communication channels
    - No central point of communications
    - Lack of understanding e.g. RoHS
    - Protracted implementation process
    - Disparate approaches e.g. WEEE
  - Learning effect? e.g. EuP



## **Study: Potential social, economic and competitiveness implications**

- For SMEs
  - Negative in short-term
  - Supplier switches e.g. lead-free
  - Required investment reducing competitiveness and viability?
  - Export dependant e.g. win or lose (liquidations)
  - Broader quality issue
  - Reduce no. of SMEs?
  - Increase concentration of TNC subsidiaries and contract manufacturers?



## **Study: Potential social, economic and competitiveness implications**

- For employees, dependants and communities
    - Ability to respond
    - Ability to find new jobs e.g. those laid-off
    - Adaptability e.g. new skills
    - SME clusters e.g. closures
    - Gender impacts e.g. women on shop floor
    - Cultural dimensions e.g. discrimination
    - Migrant labour force e.g. nationals and internationals
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## **Study: Potential social, economic and competitiveness implications**

- For industry, trade associations and government
  - National, regional, local
  - Foreign earnings e.g. GNP
  - Employment
  - Policy development and support e.g. demand and supply-side



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## **Study: Gaps and Future Needs**

- Management
- Technical



## **Study: Gaps and Future Needs**

- Management (Systems)
  - Level of sophistication e.g. ZBIA
  - ISO 9001 and ISO 14001



## **Study: Gaps and Future Needs**

- Management (Information)
  - Monitoring systems
  - Compliance control
  - Internal communication + information systems
  - External communication
  - Subscription services
  - Advisory services



## **Study: Gaps and Future Needs**

- Management (Planning)
  - Developing and implementing 'phase out'
  - Investment strategies
  - Developing and implementing re-design of products + processes
  - Market data e.g. national WEEE registration
  - New trends e.g. Corporate Social Responsibility (CSR)



## **Study: Gaps and Future Needs**

- Management (Organisation)
  - Structures
  - Resources
  - Training
  - Quality
  - Process integration e.g. eco-design



## **Study: Gaps and Future Needs**

- Technical (Awareness)
  - Legislation
  - Planning for and managing change
  - Eco-design management
  - Use of design tools
  - Collection and communication of life cycle information e.g. EuP



## **Study: Gaps and Future Needs**

- Technical (Technology)
  - Hazardous material substitution
  - Testing and analysis methods
  - Training programmes
  - Information systems
  - Good quality data e.g. EuP



## **Study: Capacity Building Plans**

- Short term
- Medium term
- Long term



## **Study: Capacity Building Plans**

- Short term
  - Information + communication e.g. internet
  - Senior management briefings (business + technical issue)
  - Training programmes (management + technical + specialist)
  - Training material e.g. CD-ROMs, etc
  - 'Train the trainers'
  - New knowledge for exporters e.g. WEEE compliance
  - Government regulation + voluntary agreements



## Study: Capacity Building Plans

- Medium term
  - On-going support
  - Knowledge development e.g. ZBIA
  - Institutionalisation e.g. universities, professional training bodies, etc
- Long term
  - Trends e.g. Europe, US and Japan
  - Eco-design + lifecycle data
  - CSR e.g. working conditions



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