



CHALLENGES TO MEETING SUBSTANCE RESTRICTIONS

A COMPANY PERSPECTIVE

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CHARACTERISTICS OF SUBSTANCE RESTRICTIONS



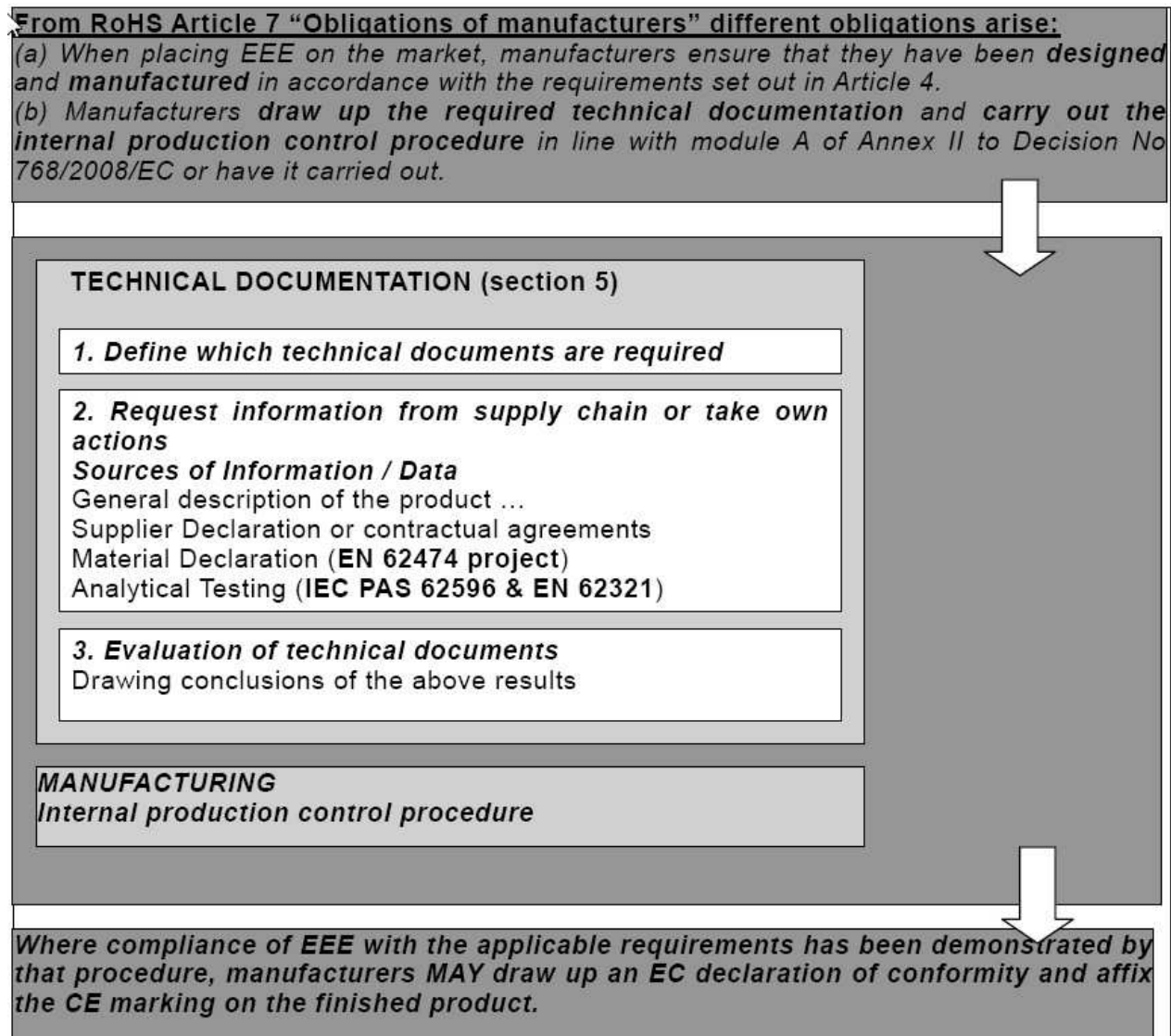
- › Once in the product, substances cannot be engineered away
 - Unlike e.g., EMC aspects, where shielding and/or filtering can bring the product into compliance through design efforts
- › Need to ensure continuous supply of compliant components to factories throughout the production time
- › Restrictions are often at homogeneous material level
 - Example: “Restrictions of Hazardous Substance” (RoHS) regulatory measures taken in some economies (e.g. EU)
- › Thus product compliance cannot be assured by product level (“black box”) assessment

ENSURING COMPLIANCE WITH ROHS

- › EU's revised RoHS directive [2011/65/EU](#) introduces a formal conformity assessment procedure
 - Manufacturer's own assessment, in line with "Module A" of Decision [768/2008/EC](#)
 - To be applied latest 3 January 2013
- › Requirements are set on homogeneous material level
- › A complex product, such as ICT, can consist of thousands of components/parts
 - Reliance on testing is not a viable option
 - Supply chain management becomes critical

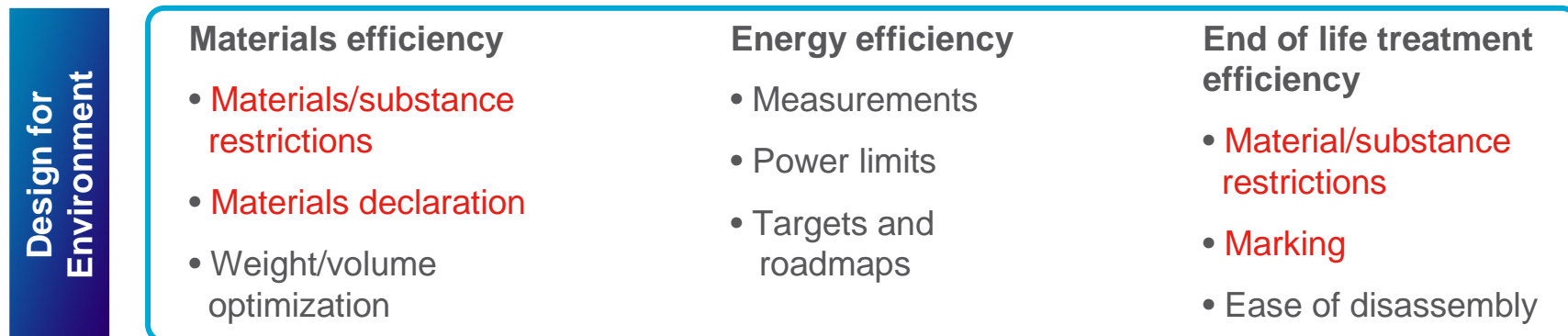
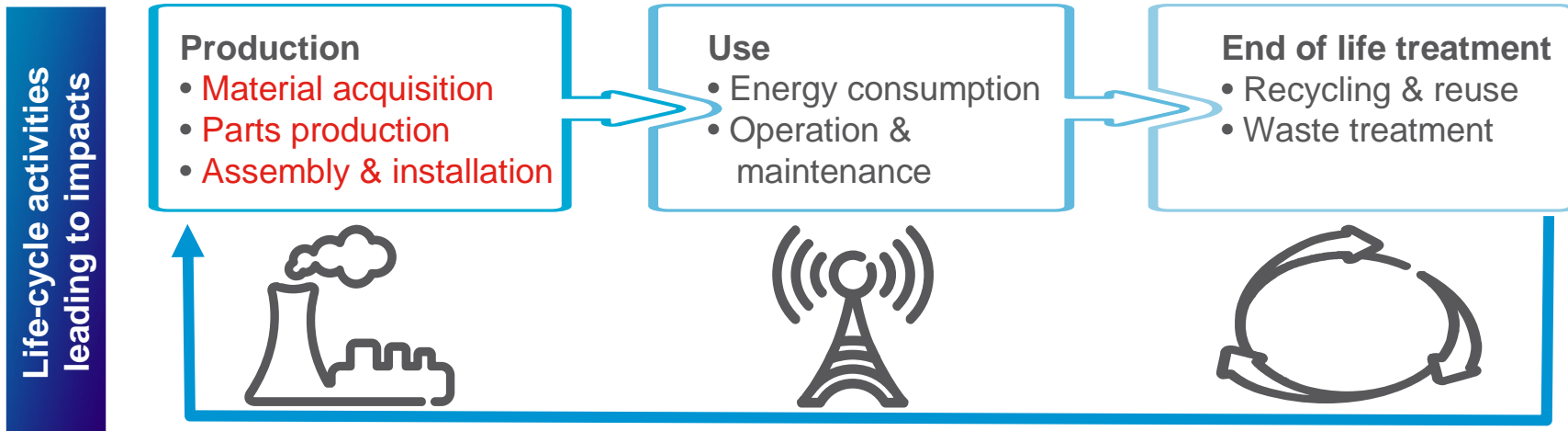


ENSURING COMPLIANCE WITH ROHS CONT



- › Excerpt from draft CENELEC standard on evaluation of equipment against RoHS restrictions
 - flowchart adapted from IEC TR 62476

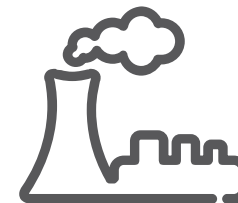
DESIGN FOR ENVIRONMENT



Fulfilling the wanted functionality, quality and performance with minimized negative environmental impact during the product life cycle

SUPPLY CHAIN MANAGEMENT

- › Establishing clear agreements with all suppliers
 - Company [on-line](#) guiding documents and tools for suppliers
 - [List](#) of banned and restricted substances
- › Gathering materials data from suppliers
 - Joint Industry Guide [JIG-101](#) “Material Composition Declaration for Electrotechnical Products”
 - IEC standard for materials declaration - in approvals phase (to become IEC 62474), includes data format and data exchange
 - Striving for full materials declarations, highlighting information about existence of substances of concern
- › Managing ongoing production and maintenance
 - Using the materials database



REFLECTION – LIKELY DEVELOPMENTS OVER TIME



- › The ICT sector is global, with products being developed for a global market
- › Once one major region/economy has enacted restriction/ban on a substance, it has effect on global level
 - Other regions will receive these products as well
 - Components complying with the new requirements will become cheaper than non-complying components due to mass-market production
 - All manufacturers (including SMEs) will benefit from these compliant components, reducing their individual need for elaborate supplier scrutiny for this aspect





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