Product Recovery: an Alternative for Reconstruction after Earthquake

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AGENDA

- Chile’s earthquake and tsunami
  - Diagnostic (Scenario Actual)
- Brazil partners – USP
  - Sustainable development
  - Materials and Product Recovery
  - End-of-Life Strategies
- Analysis of Product’s Recovery
  - Recovery Alternatives
  - Recovery of electronic products
- Prognostic
CHILE’S EARTHQUAKE AND TSUNAMI

- Epicenter: Concepción
- Date: February 2010
- Magnitude: 8.8

One of the strongest earthquakes ever recorded.
Diagnostic (Actual Scenario)

- Air, water and soil Pollution;
- Loss in quality of life (destruction of properties and products);
  - Failures in transports;
  - Monetary loss;
- Increase of Solid Waste;
  - Damaged in structures and civil works (properties, hospitals, production plants);
  - Damaged and destruction of products (equipments, electronics, vehicles).
Research area of Brazil’s partner

University of São Paulo – Engineering Department

- Production Engineering
  - Product Development and Process Management (prof. Henrique Rozenfeld)

- Environment Engineering
  - Lifecycle Management and Engineering (prof. Aldo Ometto)

- Electric Engineering
  - Recovery of electronics products (prof. Dennis Brandão)
Sustainable development

“To meet the needs of the present without compromising the ability of future generations to meet their needs”

Brundtland Report, 1987
“...Products are fundamental to the wealth of our society and the quality of life we all enjoy, the rising consumption of products is however, directly or indirectly, also at the origin of most of the pollution and depletion of resources our society causes.”
Flow of materials in Product life cycle
Product Recovery

How?

- Components and materials
- Use of economic and environmental remained values
- Reduce of waste in the final disposal and in environmental impacts.

Alternatives
End-of-life strategies

Reuse
The use of product or component, within this original design, after the primary life cycle (second hand).

Repair
It involves replacement of broken parts and restore the functionality of a product.

Recycling
Reuse of materials and components of products discarded, by transforming them in other products.

Remanufacturing
It aims to return the product in a condition of a new one and with the same quality and warranty.

Level of disassembly
How these End-of-Life Strategies can support society after natural disasters?
Recovery of electronic products

Recicl@tesc

- Program for electronic products recovery, specially materials and components of computers.
New opportunities for employment;

Environment education;

New opportunities of business (small enterprises) to improve economic local;

Product recovery (components and materials);

Solid waste management;

End-of-Life Strategies;

Opportunity

Sustainable Development
Thank you!

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