Instituto Tecnológico Autónomo de México

A FRAMEWORK OF COMPUTER AIDED ENGINEERING AND LCA APPLIED FOR LIFE CYCLE MANAGEMENT

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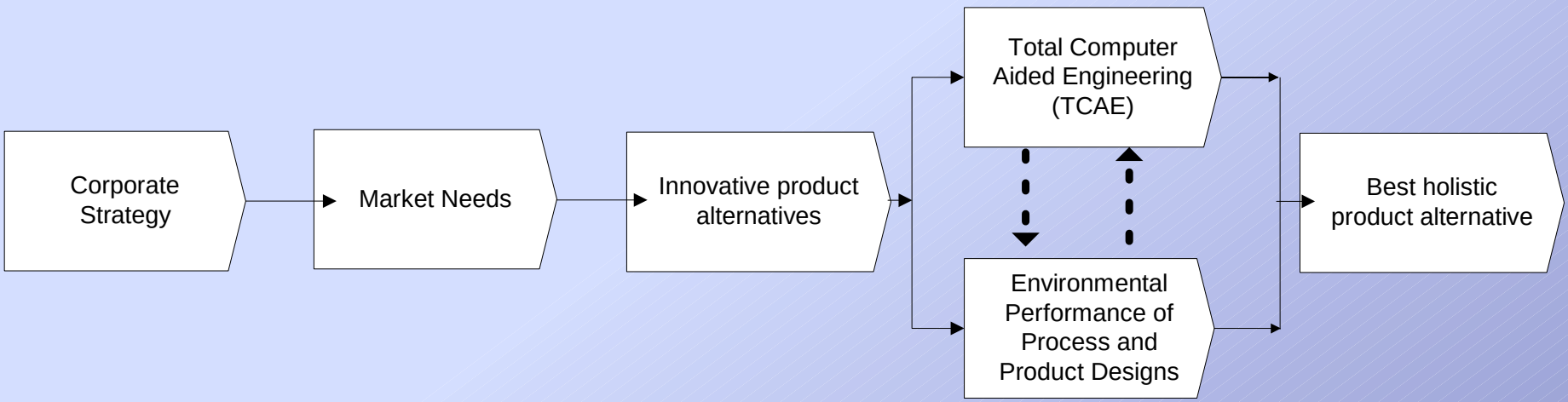
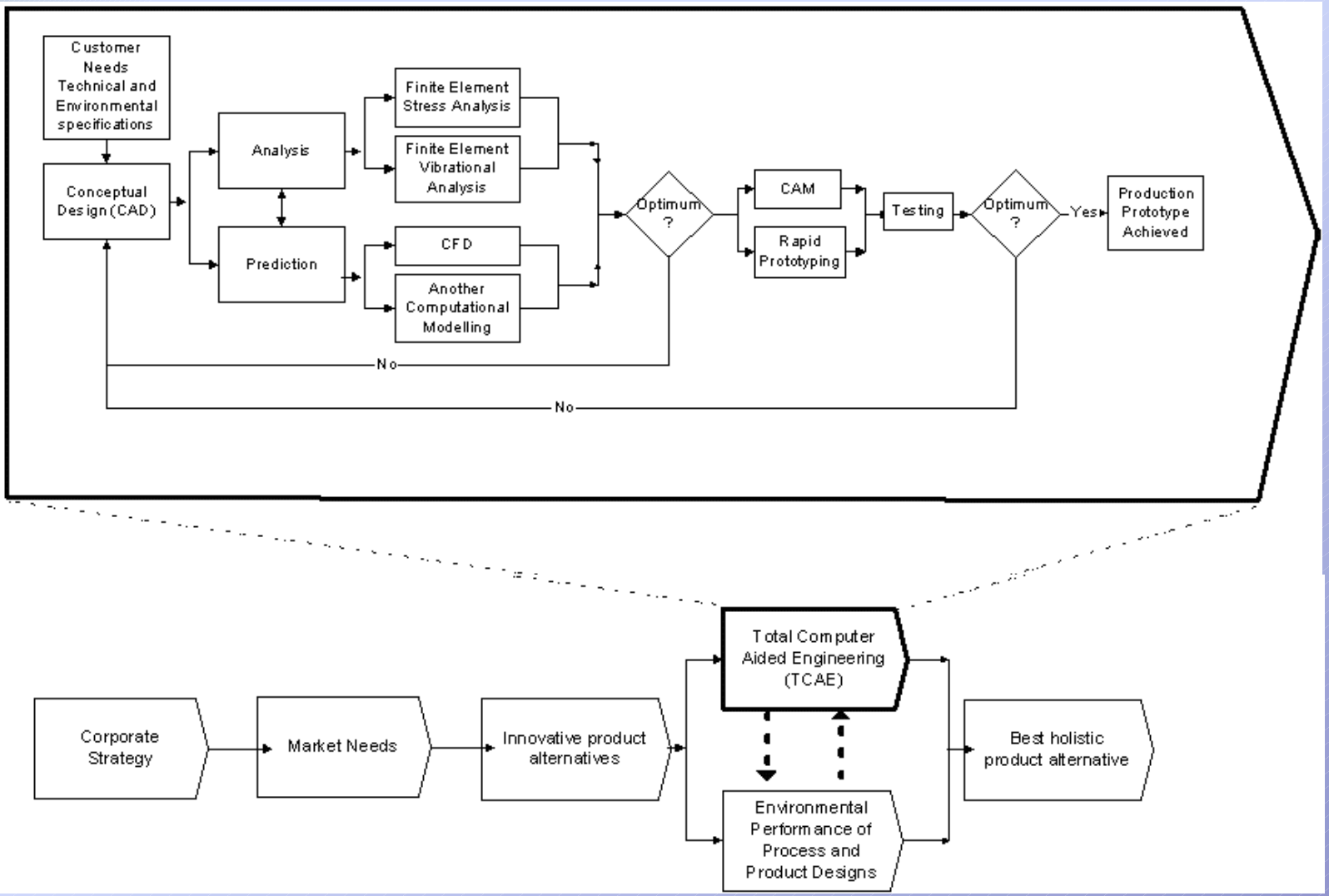
Structure of Presentation

- Introduction
- Framework for multidisciplinary life cycle management
- Total Computer Aided Engineering (TCAE)
- **Sub-framework for evaluation of Environmental Performance**
- Life cycle assessment
- Conclusions

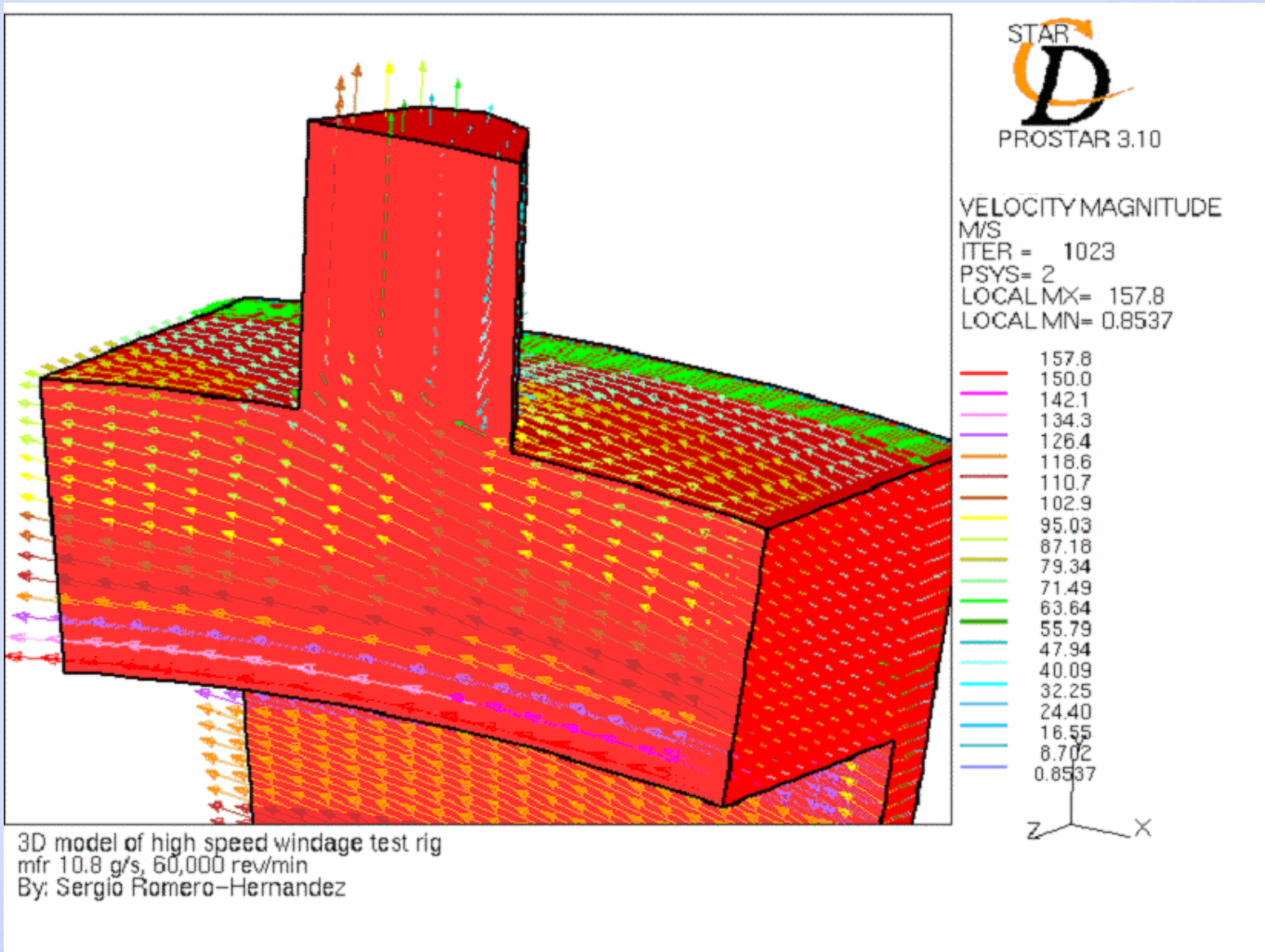
Process to define and identify the best new product design alternative



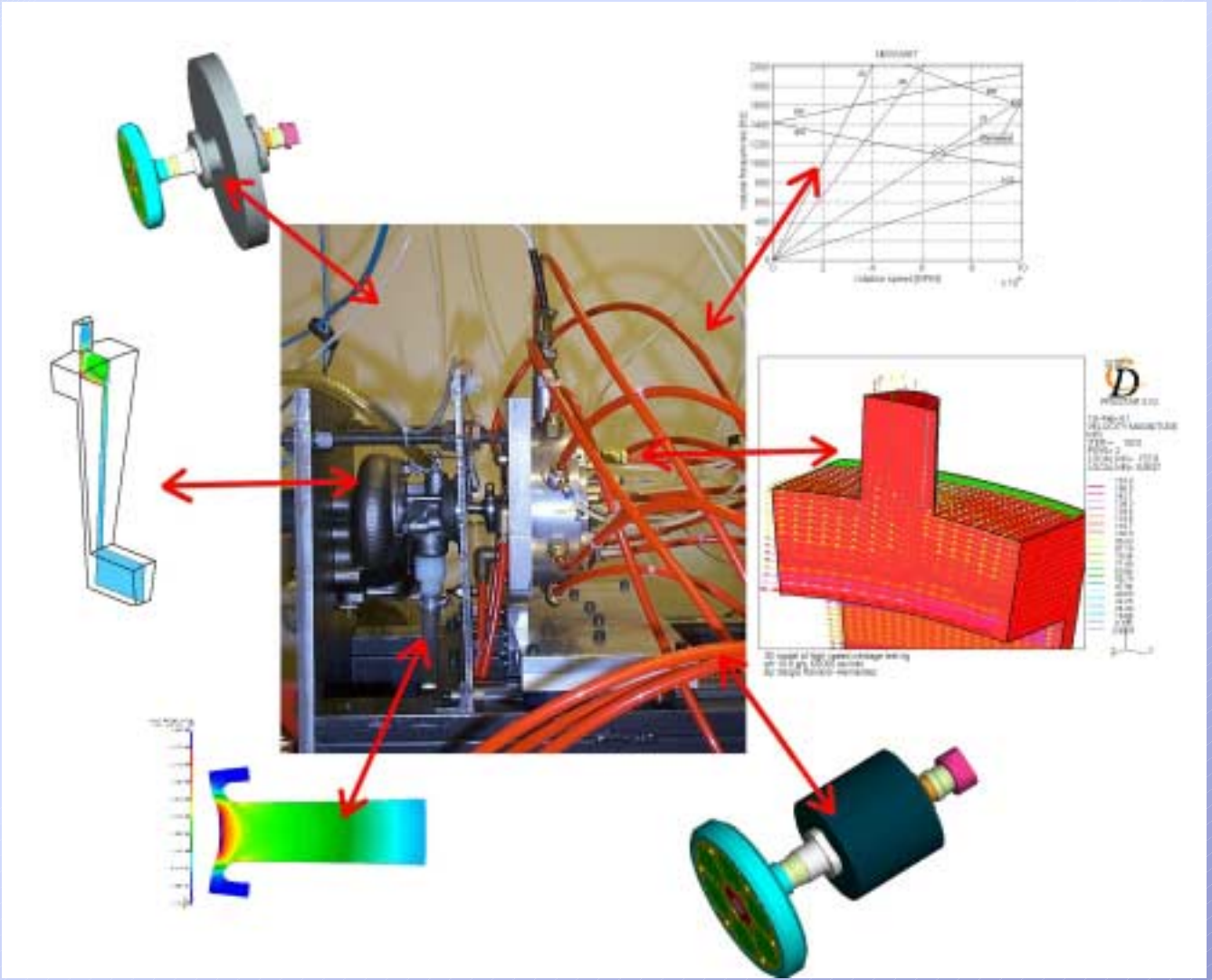
TOTAL COMPUTER AIDED ENGINEERING (TCAE)



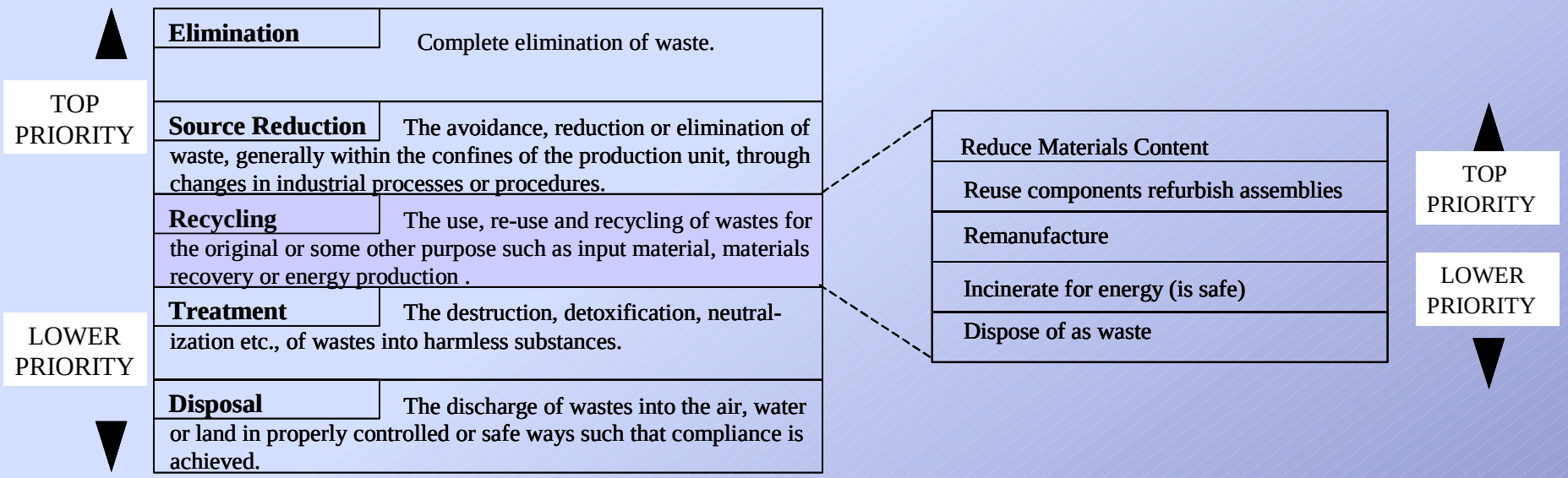
Tools in TCAE



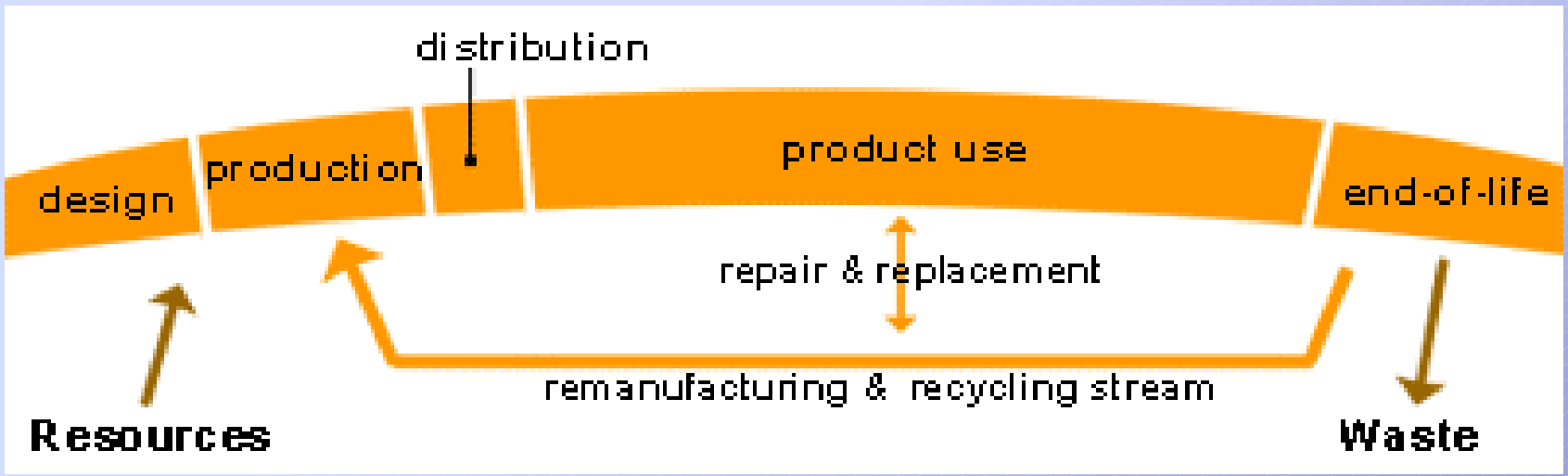
TCAE Applied



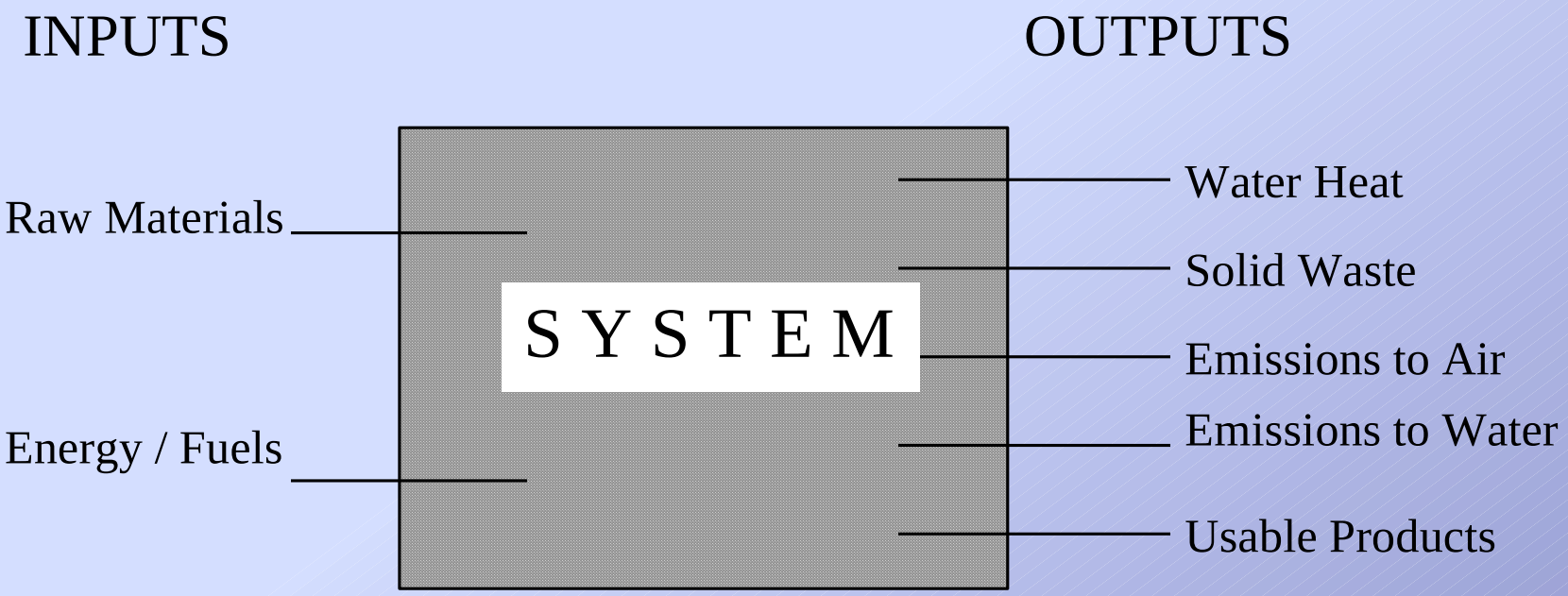
Hierarchy in waste management practices for pollution prevention during product design process



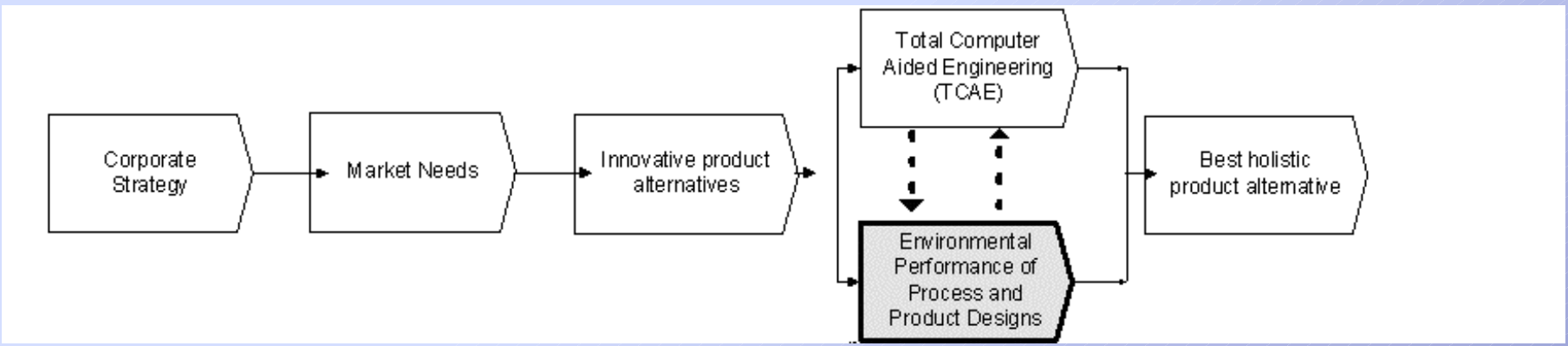
Life cycle of a product



Life Cycle Scheme



Environmental Performance of process and product designs



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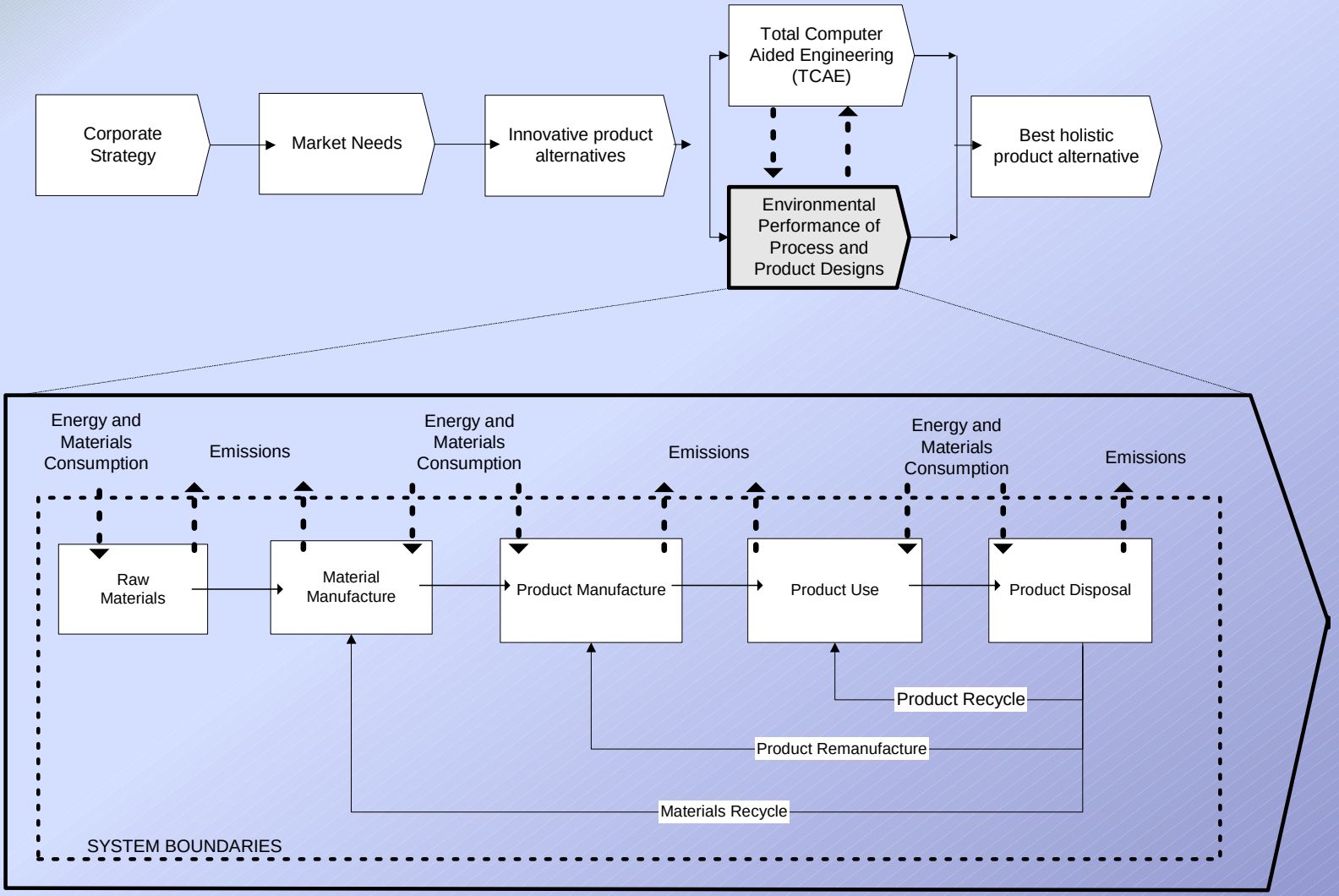

Conclusions

•An integrative framework approach has been developed in order to reach the best holistic product alternative.

• The use of the TCAE and Environmental performance frameworks made possible the full operation of the device in only 3 months and at a cost 30% less than the one used in similar projects previously performed.

•The materials chosen for the device were selected for their high degree of recyclables.

•The environmental performance framework can be used to evaluate more designs possibilities in order to determine the best alternative (or set of alternatives) to any individual product

Thank you!