

Challenge Topic: E-Commerce Product Transportation

Challenge Description

E-commerce is a regular and growing part of life for the modern shopper. However, e-commerce generates a stream of cardboard boxes, thermoformed plastics, bubble wrap-lined envelopes, polybags, packing peanuts, and packaging pillows that are inconvenient, usually not recycled and have negative environmental impacts. If an item needs to be shipped back, customers may have to buy more shipping material if they've already disposed of the original packaging. How might we reduce the impact of e-commerce packaging, including standard forward supply chains and returns packaging?

Success Criteria

1. Have a low environmental lifecycle impact
2. Reflect circular design principles
3. Address tertiary packaging (i.e. shipping material that protects a product beyond its own packaging such as cardboard boxes, pallets, shrink wrap, bubble wrap, etc.)
4. Increase capture rate of packaging (i.e. packaging material reused or recycled rather than thrown away)
5. Be cost neutral or reduce shipping costs
6. Maintain the product's integrity
7. Be scalable across many product types and customizable
8. Work within the existing shipping network
9. Be secure/tamper-proof

Relevant Efforts

1. [Ellen MacArthur Foundation](#)
2. [Sustainable Packaging Coalition](#)
3. [Returnity](#)
4. [RePack](#)
5. [Ecovative Design](#)

Relevant Perspectives

The solution needs to satisfy the needs and stand up to the scrutiny of these stakeholders – consider interviewing some of them.

1. Customers
2. Retail packaging designers
3. Last mile delivery companies
4. Distribution center operators