



CTRL-Z TEAM 5031



Sustainable
Secure
Cost-efficient
Integrated
Packaging

IDENTIFY

- 40% of plastics produced is packaging, which is used just once and then discarded
- Of the 8.3 billion tonnes of plastic that has been produced in the world, 6.3 billion tonnes has become plastic waste
- Only 9% of discarded plastics get recycled and the remainder end up as pollution

PROBLEM STATEMENT

Currently used packaging void fillers, like bubble wrap and styrofoam peanuts, are less eco-friendly as they are made of plastics. Nearly all discarded plastics do not get recycled and end up as pollution. We need to make sure that our packaging does not harm the planet.



RESEARCH FINDINGS

- More than 90% of plastics generated in the US wind up in landfills or incinerators
- Containerboard can be recycled 7-8 times
- People want less packaging but want their product to arrive in good condition
- The design and materials used to package a product influences peoples' buying decision

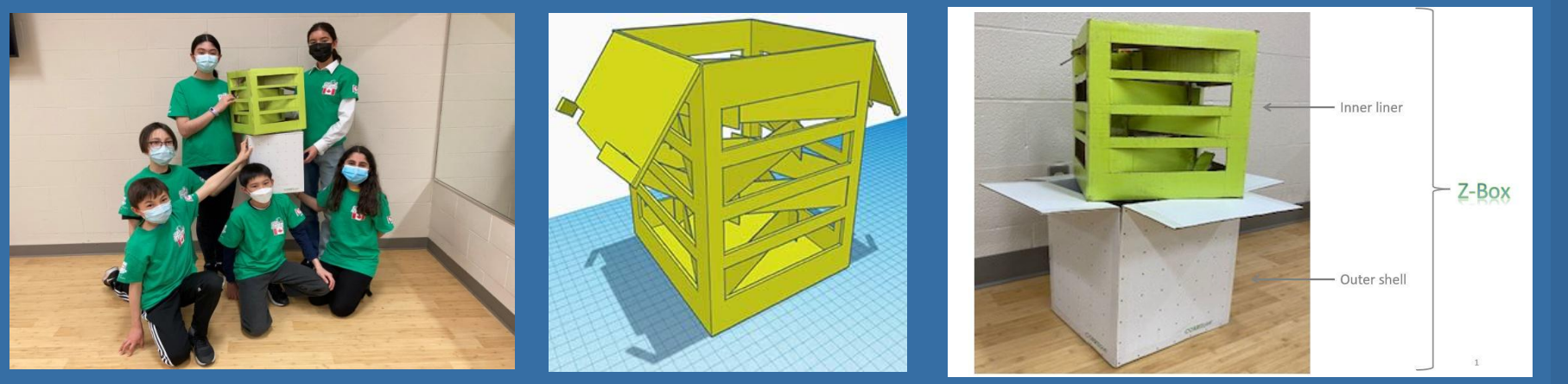


DESIGN

OUR SOLUTION

The Z-Box is an integrated containerboard box solution that protects products of various sizes and shapes for shipping, while serving as an environmentally friendly alternative to traditional polystyrene and resin void fillers. The inner carton has adjustable interlocking pre-cut arms to safely encase the product during transport.

The item is placed securely in the Z-Box, then the locking arms of the inner carton are secured to prevent any shifting within the box. The Z-Box is superior to current void fillers because it is easy to use, effective, and petroleum-free.



EXISTING SOLUTIONS

1. This patent is for a machine that puts air pillows in the containerboard box during the manufacturing process
2. This invention is made of three paper layers of netting hexagons that act as a void filler
3. This patented invention is an arrangement of insulation layers placed inside of a box protecting fragile items
4. The fourth existing solution wraps or cushions product inside a box by crumpling paper or similar materials

Z-Box is superior to these current void fillers because it is eco-friendly and convenient for shippers to use

CREATE

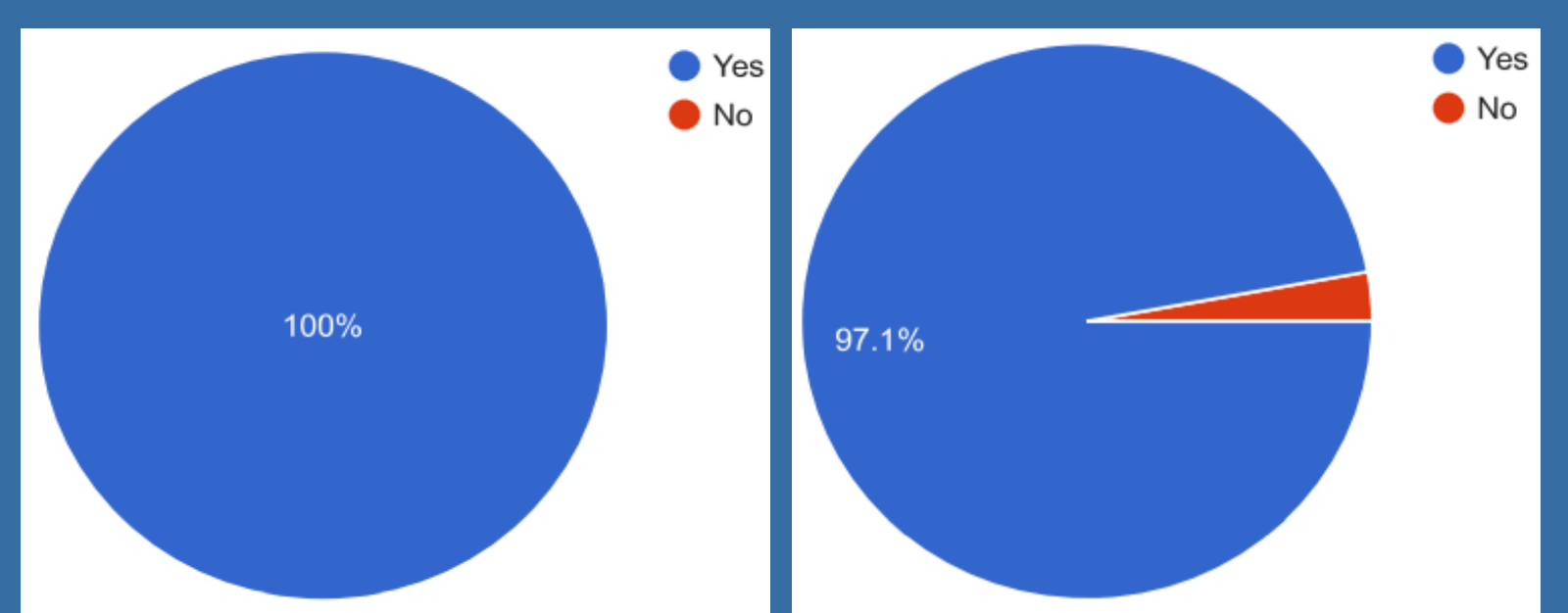


SURVEY RESULTS

We surveyed adult consumers and 97% were concerned that most protective packaging is ending up as landfill. 100% of respondents would prefer to receive fully sustainable packaging.

Would you prefer to receive products shipped in 100% sustainable packaging that can be fully recycled?

Does it concern you that most protective packaging, like bubble wrap, is petroleum-based and ends up in landfill?



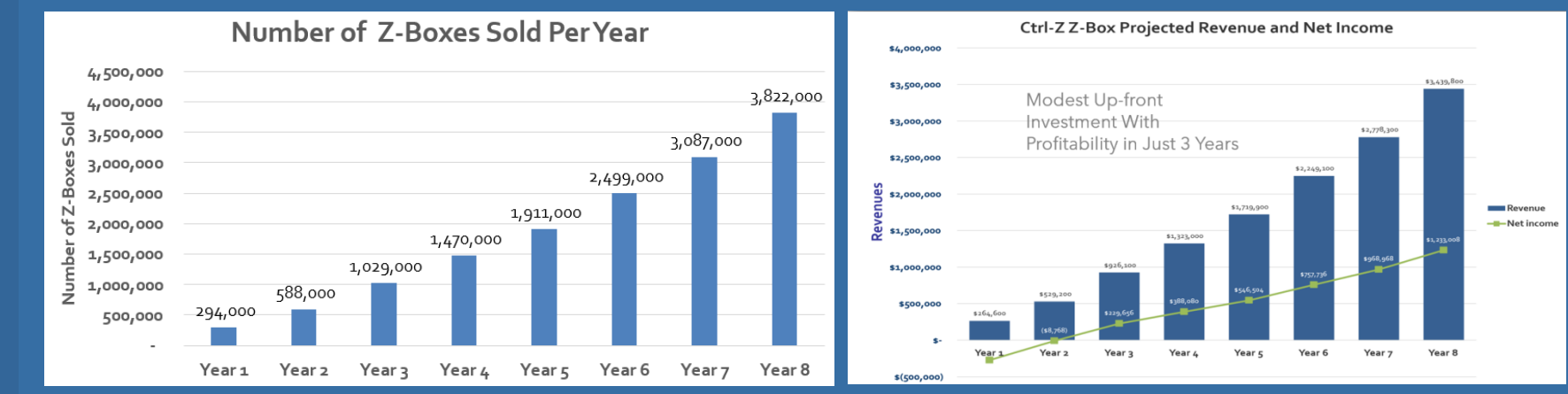
ITERATE

We created 5 different iterations of the Z-Box



FINANCIAL PROJECTION AND VALUATION

Z-Box 8-Year Financial Projection				
	Year 1	Year 2	Year 3	Year 4
Revenue	\$254,000	\$588,000	\$1,023,000	\$1,470,000
Variable cost	\$58,000	\$132,000	\$235,000	\$338,000
Fixed costs	\$100,000	\$100,000	\$100,000	\$100,000
Profit	\$96,000	\$356,000	\$688,000	\$1,032,000
Net income	\$96,000	\$356,000	\$688,000	\$1,032,000



COMMUNICATE



March 1, 2022, FIRST Canada Live! interview with host Karthik Kanagasabapathy on Twitch.tv/FIRSTCanada

January 18, 2022, we shared our ideas with FLL team 44851 LEGO Legends via Zoom



October 27, 2021, we met with Allen Kirkpatrick and Robert Suga

December 2, 2021, we met with James Downham

Scan this QR Code to see our presentation!

Scan this QR Code to visit our website!

WHAT'S NEXT?

Conduct prior art search and engage patent agent to register our patent for Z-Box

Commence discussions with carton manufacturers to start manufacturing Z-Box using their existing equipment