

1



1.1 Contact Information

Joonas Kyöstilä
Parsons School of Design

joonas.kyostila@gmail.com
+358 40 7030959

1395 Lexington Avenue
New York, NY 10128
Room 826
U.S (Citizen of Finland)

Tim Ronco
Parsons School of Design

timronco@gmail.com
+1 802 999 3451

206 E 26th St #5A
New York, NY 10010
U.S (Citizen of U.S.)

1.2 Submitting Category

Submitting Category: **Student**

Used Autodesk Fusion 360 to Design your product: **Yes**

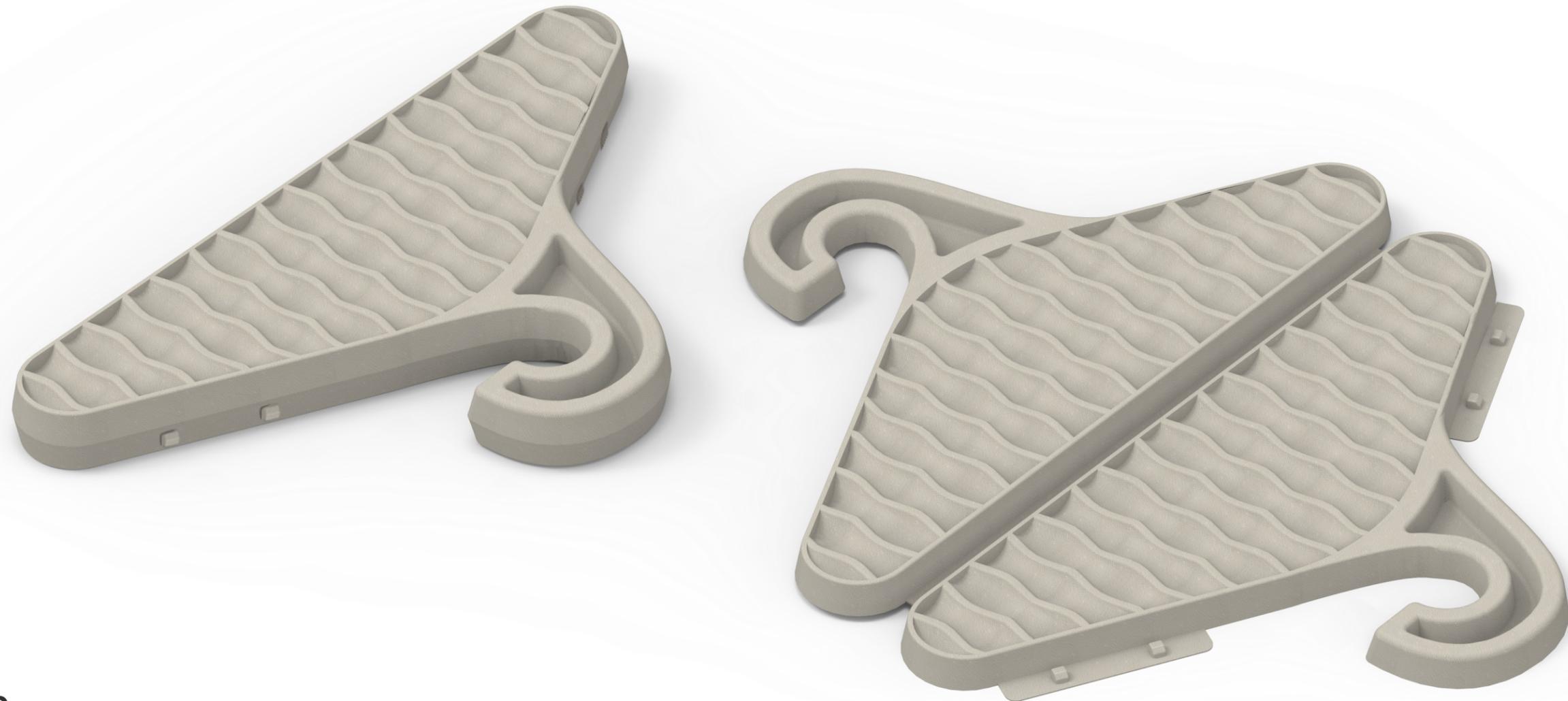
Does your product incorporate Aluminum as material component?: **No**

2

2.1 The Sway Fibre Hanger

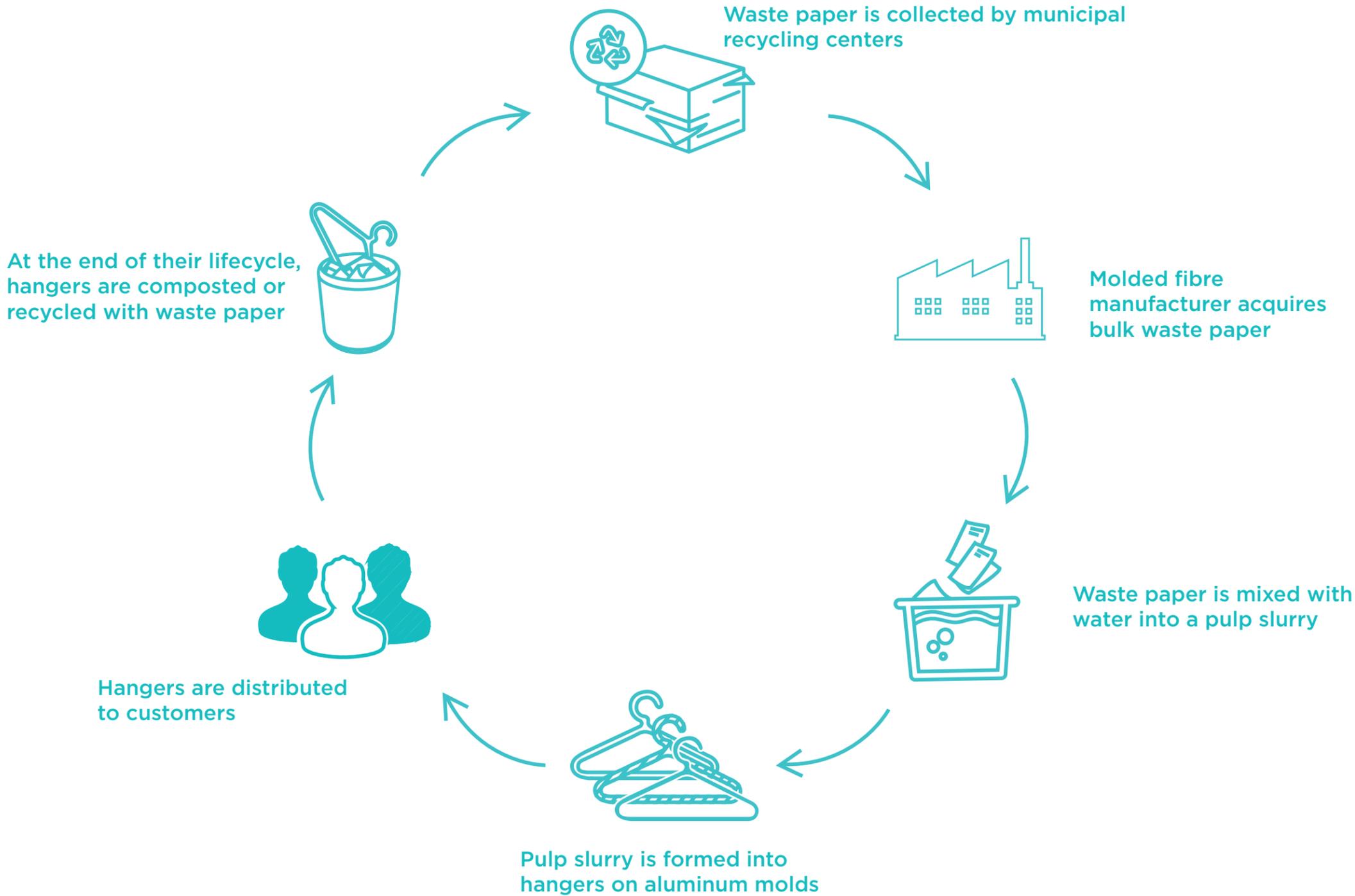
The Sway Fibre Hanger employs the exceptional ecological, structural, and economic qualities of molded paper fibre to create a desirable household product. Clothes hangers are typically made of metal and plastic which possess significant embodied energy and typically retire to landfills. Molded fibre hangers are manufactured from 100% recycled waste paper and can be 100% composted, making them a truly cradle-to-cradle product.

The Sway hanger's natural pattern transmits the beautiful texture of paper fibre, communicating density, unity and rigidity. Sway hangers are molded as two halves with a living hinge, similar to an egg carton. The user would purchase a nested pack of Sway hangers and fold them together at home.



2.2 Image

2.3 Illustration of Product's System



3

3.0 Reutilization Cycle & Business Model

The fibre hanger embodies the Cradle to Cradle fundamental "waste equals food." Fibre hangers are manufactured out of 100% recycled waste paper sourced from municipal recycling centers. This ensures that other materials are not contaminating the material supply. Because fibre hangers are made singularly of paper, they are 100% compostable and biodegradable.

Alternatively, a hanger that has reached the end of its useful life can be recycled into the same wastepaper stream that originally supplied its own material. Fibre hangers can be responsibly disposed of in a variety of ways that make a positive impact on the environment.

4

Material Selection

4.1 Overview

Molded fibre (MF) products are made of recycled paper waste. MF objects can be 100% recycled to create new fibre products.

MF's most prominent characteristic is physical lightness of weight. Forms made of paper fibre can achieve remarkable structural rigidity given their minimal weight. Structural rigidity is achieved through changes in geometry such as corners, edges, and ribs.

4.2 Material Reutilization

100% Recycled Content
Recyclable
Compostable

$$\frac{\left[\begin{array}{l} 100\% \text{ Recycled} \\ \text{or Rapidly renewable} \end{array} \times 1 \right] + \left[\begin{array}{l} 100\% \text{ Recyclable} \\ \text{or Compostable} \end{array} \times 2 \right]}{3} = 100$$

4.3 Material Health

The Sway Fibre Hanger is made entirely of healthy materials. It is singularly composed of recycled waste paper. Manufacturing requires no special chemicals or adhesives but rather uses the fibre's natural resins to bind the form together.

5

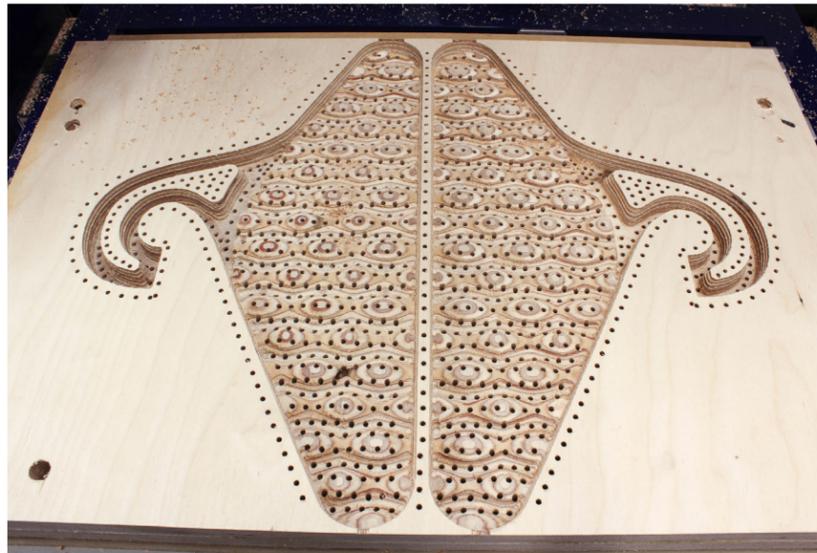
Design with Fusion 360™

Fusion 360 made a surprisingly powerful impact on our design process for the Sway Fibre Hanger. The ability to share models seamlessly through the cloud enabled us to rapidly iterate through numerous aesthetic and technical solutions. Paper fibre molds require significant consideration for manufacturing constraints.

Fusion 360 gave us the ability to work remotely in parallel and then come together to make decisions. We are both more experienced on working in other CAD programs, but because we own different versions of those platforms we were unable to share CAD files. Fusion 360 completely resolved that problem. Additionally, the Fusion 360 CAM tools are extremely intuitive and served to help keep strict mold-making schedules. Because Fusion 360 incorporates both CAD and CAM software, there was no need to export our model to another piece of software and tackle a new interface. Working in Fusion 360 provided a great experience for collaboration and quick design-to-production turnaround.



CNC Molds Designed with F360.



F360 Visualizations used to communicate ideas with team.

