

REVOLGY

# Making Timeless Chairs with Sustainability in Mind

Revology is an innovative design studio crafting beautiful objects from composite linen and bio-based resins. They are creators of beautiful objects designed for the new generation. Their commitment is not to release one-off products that are already outdated when they reach the market, but to design timeless objects, integrating high level materials and technologies, with beautiful design.

## The Product

The Chair is made from 100% recyclable, sustainably sourced composite linen fibers, bio-based resin and recycled brass. Designed to last for generations, it offers the flexibility to replace only worn or damaged parts that will again be recycled in their circular economy principle.

## Challenges

While Revology had a solid business model and design expertise, there were challenges in transition to from design to manufacturing processes.

## Solutions

Revology, along with their engineering partner, came to Flex with an overall design and mock-up. We took the project from the mock-up to production via:

- » Design for Manufacturing (DfM) – Original designs were modified to overcome production constraints.
- » Tool Design – Prototype and production tools were developed.
- » Prototyping – With molding, 3D printing, CNC, assembly and testing in our mechanical laboratory.
- » Manufacturing – We played the lead in applying suitable technologies and processing methods. In particular, scrap from bio-based resin are recycled and used to make non-aesthetic parts such as plastic inserts for chair legs. Also, making the seat required a mix of three innovations:

1. Production of a super thick 40 mm transparent part, looking like solid glass
  2. Over molding of 4 recycled brass inserts
  3. Injection of 1400 grs of bio-based resin in a 650 Tons machine
- » Automation – Making production more efficient and predictable.

### Key Success Factors

**Sketch-to-Scale Capabilities** – We were able to accommodate strong design language and enable production scalability through our expertise along any point of the product life cycle.

**Mechanicals Expertise** – Our mechanicals team at Zhuhai are leaders in managing materials, tooling and manufacturing products, including those with high aesthetic values.

**Production Automation** – Enabling processes that have complex requirements.

**Intense Collaboration** – We provided manufacturing know-how and while Revology supplied organic composite materials that make up the product.

### Results

- » Successful transition from product design to scale using recycled material
- » Original design aesthetics uncompromised in final product
- » Additional product feature with Flex designing a system to allow leg replacements in addition to seat replacements
- » First batch of production due in January 2019

### Revology has been amply recognized for its pioneering work:

- » Outstanding in Innovation – Ignite Wanaka Award, 2016
- » Gold - Melbourne Design Award, 2016
- » JEC Innovation Award - Design, Singapore 2016



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