

Scaling Up Upcycling: A Comparative Analysis of Furniture, Lighting and Bags Made Through Repurposing

Appendix 1A: Seating

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| Company / Brand              | Mister Wilson                                                                                                                                                                                                                 | Dvelas                                                                                                                                                                                                             | Veldtwerk                                                                                                                                                                                                                       | Bike Furniture Design                                                                                                                                        | Traels                                                                                                                               |
| Website                      | mister-wilson.com                                                                                                                                                                                                             | dvelas.com                                                                                                                                                                                                         | veldtwerk.info                                                                                                                                                                                                                  | bikefurniture.com                                                                                                                                            | traels.nu                                                                                                                            |
| Series/Object Name           | Drop Stool                                                                                                                                                                                                                    | Trimmer Chair                                                                                                                                                                                                      | Delino Chair                                                                                                                                                                                                                    | S-2 Barstool                                                                                                                                                 | Airbag Pouf                                                                                                                          |
| Price                        | EUR €139                                                                                                                                                                                                                      | USD \$606                                                                                                                                                                                                          | EUR €420                                                                                                                                                                                                                        | USD \$600                                                                                                                                                    | DKK 550                                                                                                                              |
| Waste Material               | Broken and discarded skateboards                                                                                                                                                                                              | Decommissioned sails                                                                                                                                                                                               | Natural linoleum covered birch plywood flooring from decommissioned regional trains, linoleum offcuts from building flooring.                                                                                                   | Rims and other bicycle parts: used, discontinued, warranty returns                                                                                           | Car airbags, non-compliant mattress latex foam, car seat belt, upholstery leather offcuts                                            |
| Waste Source Type            | Post-consumer                                                                                                                                                                                                                 | Post-consumer                                                                                                                                                                                                      | Commercial / Institutional                                                                                                                                                                                                      | Post-consumer                                                                                                                                                | Post-consumer                                                                                                                        |
| Uniformity                   | High                                                                                                                                                                                                                          | Medium                                                                                                                                                                                                             | Medium                                                                                                                                                                                                                          | Medium                                                                                                                                                       | High                                                                                                                                 |
| Waste Source                 | Skateshops and individual donations                                                                                                                                                                                           | Sail-makers<br>Individual donations<br>Sailing clubs                                                                                                                                                               | Dutch Railways<br>Flooring installers                                                                                                                                                                                           | Local bike shops<br>Individual donations<br>Ebay                                                                                                             | Car scrap yards<br>Mattress manufacturer                                                                                             |
| Incidence                    | Regular                                                                                                                                                                                                                       | Periodic                                                                                                                                                                                                           | Regular                                                                                                                                                                                                                         | Regular                                                                                                                                                      | Regular                                                                                                                              |
| New Materials                | Birch plywood, bolts, felt, spray paint, clear coat                                                                                                                                                                           | Steel tubes<br>Rope<br>Hardware                                                                                                                                                                                    | Hemp, resin, TPU seat mounts, fasteners                                                                                                                                                                                         | New upholstery materials<br>Fasteners                                                                                                                        | Thread                                                                                                                               |
| Design & Production Approach | Standardized structural form with unique artwork for each unit. Outsourced CNC routing of legs. Skateboard deck grip removal, hand tool cutting and contouring of seats. Sanding, painting, clear coating, assembly           | Sail cleaning, cutting, sewing to patterns. Steel tube cutting, bending, welding and powder-coating. Rope cutting, assembly, knotting                                                                              | Train flooring removal of cork, felt, metal, staples, screws. CNC routing of chair frame. Building flooring cutting, milling + vacuum form laminating of seat and backrest. TPU seat mount bracket 3D printing, chair assembly. | Part cleaning and categorization. Cutting, bending, welding, upholstery work, assembly. Custom upholstery and rim options                                    | Airbag washing and disassembly. Bag cutting to pattern and sewing, stuffing with foam, closure, handle sewing                        |
| Product Options              | Unique artwork on each seat                                                                                                                                                                                                   | Special editions with different sails, bar colours                                                                                                                                                                 | Seat and backrest colours and materials                                                                                                                                                                                         | Seat upholstery material and colours                                                                                                                         | No (colours depend on material supply)                                                                                               |
| Production Strategy          | Batch (form) + made-to-order components (seat design)                                                                                                                                                                         | Periodic batches<br>Custom made-to-order or batch to order                                                                                                                                                         | Batch (chair frame) + made-to-order components (seat and backrests)                                                                                                                                                             | Made-to-order only                                                                                                                                           | Batches to order - (minimum 10)                                                                                                      |
| Production Complexity        | Medium                                                                                                                                                                                                                        | Medium                                                                                                                                                                                                             | High                                                                                                                                                                                                                            | High                                                                                                                                                         | Medium                                                                                                                               |
| Scalability Enablers         | Prevalent material. Own sourcing network. CNC outsourcing. Precision hand cutting tools. Cutting templates                                                                                                                    | Own sourcing network. Use of new materials facilitates chair frame production.                                                                                                                                     | Abundant flooring materials from trains and building. CNC routing enables efficient batch production of chair frame.                                                                                                            | Own material sourcing network. New upholstery materials                                                                                                      | Abundant supply of materials. Hygienic quality of non-compliant mattress foam                                                        |
| Scalability Challenges       | Design and execution of artwork for each piece is labour intensive                                                                                                                                                            | Material transport logistics + costs. Labour intensity                                                                                                                                                             | Technical and labour intensive vacuum forming/laminating process                                                                                                                                                                | Sourcing increasingly rare used chrome rims and bike parts. Requires special experience with the metalforming process for this material                      | Multistep process                                                                                                                    |
| Viability Enablers           | Each stool is unique, with ready-to-ship options on the website + an inventory of over 100 seat designs in warehouse. Option of customer's own skateboard deck. Also works as a mini side table. Strong community of interest | Original design in a category with low innovation. Sailing community of interest. White works in many outdoor settings and can look like new material. Distribution through Architonic and 34 retailers worldwide. | Taps into nostalgia for trains. Promoted by Dutch Railways among other upcycling projects                                                                                                                                       | Strong community of interest among bike and motorcycle enthusiasts. Custom upholstery options increase uniqueness and suitability to different environments. | Employment of workers from vulnerable groups. Sales through sales agents to schools and libraries. Private labeling for other brands |
| Viability Challenges         | Self-distribution only. Several designers producing furniture from skateboards in different countries and selling on Etsy                                                                                                     | Unique design may affect perceptions of comfort and ergonomics, requiring in person trying before purchasing.                                                                                                      | Dining style chair in a mid-upper range of pricing, but with an unconventional mix of material aesthetics. Self-distribution only                                                                                               | Heavy weight is an obstacle to shipping. Self-distribution only                                                                                              | Danish market size. Currently limited internal sales and distribution resources. Colour availability depends on airbags received     |
| Instagram followers          | 1,500 +                                                                                                                                                                                                                       | 3,700 +                                                                                                                                                                                                            | 800 +                                                                                                                                                                                                                           | 1,900 +                                                                                                                                                      | 3,000 +                                                                                                                              |
| Staff size                   | 1                                                                                                                                                                                                                             | 8                                                                                                                                                                                                                  | 3                                                                                                                                                                                                                               | 1                                                                                                                                                            | 20                                                                                                                                   |
| Business started             | 2015                                                                                                                                                                                                                          | 2011                                                                                                                                                                                                               | 2017                                                                                                                                                                                                                            | 1990                                                                                                                                                         | 2016                                                                                                                                 |

Scaling Up Upcycling: A Comparative Analysis of Furniture, Lighting and Bags Made Through Repurposing

Appendix 1B: Small Tables

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|                              |                                                                                                                                                                                         |                                                                                                        |                                                                                                                                                                                                |                                                                                                                                                                                                      |                                                                                                                                                                                                                    |
| Company / Brand              | Moogoo                                                                                                                                                                                                                                                                   | Gym & Classics                                                                                                                                                                          | Piet Hein Eek                                                                                                                                                                                                                                                                    | Op Nieuw!                                                                                                                                                                                                                                                                               | Producer: Miles & More<br>Brand: Lufthansa<br>Designer/Manufacturer: B2L<br>milesandmore.com<br>lufthansa.com<br>b2l.group                                                                                                                                                                            |
| Website                      | moogoo-creative-africa.com                                                                                                                                                                                                                                               | gymandclassics.nl                                                                                                                                                                       | pietheineek.nl                                                                                                                                                                                                                                                                   | opnieuw.nl                                                                                                                                                                                                                                                                              | Upcycling Collection / A320-211 D-AIQH Coffee Table                                                                                                                                                                                                                                                   |
| Series/Object Name           | Post-Oil Stool & Side Table                                                                                                                                                                                                                                              | Tokyo '64                                                                                                                                                                               | Waste Coffee Cube in Scrapwood                                                                                                                                                                                                                                                   | Berlin Table                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                       |
| Price                        | EUR €179                                                                                                                                                                                                                                                                 | EUR €1,800                                                                                                                                                                              | EUR €3,014                                                                                                                                                                                                                                                                       | EUR €275                                                                                                                                                                                                                                                                                | EUR €529                                                                                                                                                                                                                                                                                              |
| Waste Material               | Discarded lubricant barrels                                                                                                                                                                                                                                              | Decommissioned gym floorboards and gymnastics equipment                                                                                                                                 | Reclaimed wood, offcuts                                                                                                                                                                                                                                                          | Ceiling panels from decommissioned regional trains, chair components from discarded office chairs, coat rack poles                                                                                                                                                                      | Fuselage skin and stringers from decommissioned aircraft,                                                                                                                                                                                                                                             |
| Source Type                  | Industrial                                                                                                                                                                                                                                                               | Institutional                                                                                                                                                                           | Commercial                                                                                                                                                                                                                                                                       | Commercial / Institutional                                                                                                                                                                                                                                                              | Commercial                                                                                                                                                                                                                                                                                            |
| Uniformity                   | High                                                                                                                                                                                                                                                                     | High                                                                                                                                                                                    | Medium                                                                                                                                                                                                                                                                           | Medium                                                                                                                                                                                                                                                                                  | High                                                                                                                                                                                                                                                                                                  |
| Waste Source(s)              | Construction, mining and other industrial companies                                                                                                                                                                                                                      | Gym associations, municipalities, individuals, manufacturers                                                                                                                            | Renovation projects, mills, woodshops                                                                                                                                                                                                                                            | Dutch Railways<br>Private companies                                                                                                                                                                                                                                                     | Lufthansa Technik                                                                                                                                                                                                                                                                                     |
| Incidence                    | Regular                                                                                                                                                                                                                                                                  | Sporadic                                                                                                                                                                                | Regular                                                                                                                                                                                                                                                                          | Regular                                                                                                                                                                                                                                                                                 | Periodic                                                                                                                                                                                                                                                                                              |
| New Materials                | Steel sheet pieces                                                                                                                                                                                                                                                       | Steel tubes                                                                                                                                                                             | Fasteners, sheet metal, glue, lacquer                                                                                                                                                                                                                                            | Fasteners, steel for table base plate                                                                                                                                                                                                                                                   | FSC/PEFC certified low-emission particleboard, oak veneer, fasteners                                                                                                                                                                                                                                  |
| Design & Production Approach | Equitably produced in Burkina Faso. Barrel cleaning. Metal cutting, forming, welding, grinding, clear coating.                                                                                                                                                           | Floorboard sections selection, cutting, and varnishing. Steel tube cutting, welding + powder-coating Customization options                                                              | Application of established designs to available wood: wood sorting, selection, cleaning, removing nails, planing, thickening, drilling, assembly, sanding, finishing                                                                                                             | Train ceiling section removal fastener removal and cleaning, CNC routing, table base plate manufacturing. Office chair and coat rack disassembly and parts classification. Table leg cutting to size, table assembly. Powder coating as Custom tabletop sizing RAL leg colours          | Lufthansa Technik: fuselage skin & stringer sectioning, loading on pallets. B2L: pattern application, cutting to size, edge grinding, cleaning. Panel supplier: panel cutting to size, veneer gluing & coating. B2L: fastener installation and White or bicolour pattern fuselage skin                |
| Product Options              | -                                                                                                                                                                                                                                                                        | Leather top<br>Markings or not                                                                                                                                                          | Several pieces to choose from with colour and texture variations. Custom sizing and colour approaches                                                                                                                                                                            | Custom tabletop sizing<br>RAL leg colours                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                       |
| Production Strategy          | Periodic batches                                                                                                                                                                                                                                                         | Made-to-order only                                                                                                                                                                      | Periodic batches<br>Custom made-to-order                                                                                                                                                                                                                                         | Made to order only                                                                                                                                                                                                                                                                      | Periodic batches                                                                                                                                                                                                                                                                                      |
| Production Complexity        | Medium                                                                                                                                                                                                                                                                   | Medium                                                                                                                                                                                  | High                                                                                                                                                                                                                                                                             | Medium                                                                                                                                                                                                                                                                                  | Medium                                                                                                                                                                                                                                                                                                |
| Scalability Enablers         | Abundant, uniform material. Simple production processes using common skills                                                                                                                                                                                              | Large quantities of material from each source. Simple production process using common skills                                                                                            | Well-established material sourcing partner networks. Established design. Batch processes for webshop inventory help efficiency                                                                                                                                                   | Abundant ceiling paneling from trains + discarded office chairs. Chair parts dismantled and stocked by type, size, etc. CNC routing enables efficient batch                                                                                                                             | B2L: design using outsourced wood panels simplifies manufacturing. Miles & More: distribution facilities & systems                                                                                                                                                                                    |
| Scalability Challenges       | Labour intensive                                                                                                                                                                                                                                                         | Gym overhaul or demolition projects are relatively rare. Labour intensive                                                                                                               | Multistep, labour-intensive production process. Most orders are custom made according to client wishes. Multiple products in the collection means production must be reorganized for each one                                                                                    | Multistep process mostly carried out by hand currently.                                                                                                                                                                                                                                 | Technical process of fuselage sectioning and removal                                                                                                                                                                                                                                                  |
| Viability Enablers           | Unique design with dual purpose as a table or a stool. Storytelling through past identity that dramatizes the transformation from pollution to circular material. African design and production adds to social sustainability. Low cost of labour. Competitively priced. | Unique design with dual purpose as a table or a daybed base. Custom design option. Storytelling through easily discernable past identity that leverages nostalgia for school gymnasiums | High past identity salience feeds storytelling. Highly crafted finish adds value. Custom options add uniqueness and environment suitability. Pioneering upcycling designer with a well-recognized name and aesthetic. Collaborations and special projects ensures sustainability | Adjustable height and casters add useful functionality. Neutral colour that fits in a variety of environments. Price is competitive compared to new office quality side tables. Rated level 3 (highest) in terms of social enterprise performance, cost to the customer, time to market | Table can be used as a coffee table or turned on its side as "C-type" sofa side table. Relatively affordable table among Lufthansa's upcycling collection. Distribution through Miles & More (36 million members across Lufthansa + partners), 8 physical World Shops, plus to date, online & pop-ups |
| Viability Challenges         | Rough aesthetic may not fit in a wide range of decors. Distance makes shipping expensive and impacts sustainability. Self-distribution only                                                                                                                              | Sports aesthetic may not fit in a wide range of decors. High price. Large size make shipping expensive. Self-distribution only                                                          | Periodicity of batches & custom sized designs can imply a long waiting time for delivery. Heavy weight can involve high shipping costs depending on location                                                                                                                     | Only one colour, which may not be the most appealing. Self-distribution only                                                                                                                                                                                                            | Relatively limited supply of decommissioned Lufthansa aircraft. Costs of fuselage section removal & transportation. This table is less immediately recognizable as an aircraft component than others in Worldshop: 11,000 + B2L: 800+                                                                 |
| Instagram followers          | 1,400 +                                                                                                                                                                                                                                                                  | 200 +                                                                                                                                                                                   | 76,100 +                                                                                                                                                                                                                                                                         | 700 +                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                       |
| Staff size                   | 8                                                                                                                                                                                                                                                                        | 1                                                                                                                                                                                       | 40                                                                                                                                                                                                                                                                               | 40                                                                                                                                                                                                                                                                                      | Miles & More: 300<br>B2L: 9                                                                                                                                                                                                                                                                           |
| Business started             | 2015                                                                                                                                                                                                                                                                     | 2017                                                                                                                                                                                    | 1990                                                                                                                                                                                                                                                                             | 2015                                                                                                                                                                                                                                                                                    | Miles & More: 1993<br>B2L: 2010                                                                                                                                                                                                                                                                       |

Scaling Up Upcycling: A Comparative Analysis of Furniture, Lighting and Bags Made Through Repurposing

Appendix 1C: Lighting

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| Company / Brand              | Tolhuijs Design                                                                                                                                                                                                   | Herrwolke                                                                                                                                                                                      | Anti                                                                                                                                                                                      | Rebottled                                                                                                                                                                                                                                                | Manufacturer: Delta Light<br>Designer: MVRDV                                                                                                                                                                      |
| Website                      | tolhuijs.nl                                                                                                                                                                                                       | herrwolke.com                                                                                                                                                                                  | anti-waste.com                                                                                                                                                                            | rebottled.com                                                                                                                                                                                                                                            | deltalight.com                                                                                                                                                                                                    |
| Series/Object Name           | Bendy                                                                                                                                                                                                             | Beute                                                                                                                                                                                          | Desk Lamp                                                                                                                                                                                 | Lamp                                                                                                                                                                                                                                                     | High Profile W                                                                                                                                                                                                    |
| Price                        | EUR €69.95                                                                                                                                                                                                        | EUR €380                                                                                                                                                                                       | GBP £160                                                                                                                                                                                  | EUR €49                                                                                                                                                                                                                                                  | EUR €516 to €668                                                                                                                                                                                                  |
| Waste Material               | Steel fence post + other metal product offcuts. Wooden pallets                                                                                                                                                    | Used cardboard packaging                                                                                                                                                                       | Discarded & lost umbrellas                                                                                                                                                                | Used wine bottles                                                                                                                                                                                                                                        | Extruded aluminum profile lighting offcuts                                                                                                                                                                        |
| Source Type                  | Industrial                                                                                                                                                                                                        | Commercial                                                                                                                                                                                     | Post-consumer                                                                                                                                                                             | Commercial                                                                                                                                                                                                                                               | Industrial                                                                                                                                                                                                        |
| Uniformity                   | High                                                                                                                                                                                                              | Medium                                                                                                                                                                                         | Medium                                                                                                                                                                                    | Medium (colour variations)                                                                                                                                                                                                                               | High                                                                                                                                                                                                              |
| Waste Source                 | Fence manufacturer + metalshops                                                                                                                                                                                   | Business discards                                                                                                                                                                              | Street finds<br>Lost & found services                                                                                                                                                     | Restaurants                                                                                                                                                                                                                                              | Production offcuts                                                                                                                                                                                                |
| Incidence                    | Regular                                                                                                                                                                                                           | Continuous                                                                                                                                                                                     | Regular                                                                                                                                                                                   | Constant                                                                                                                                                                                                                                                 | Regular                                                                                                                                                                                                           |
| New Materials                | Lighting socket, braided wire, LED light bulb, ceiling plate, powder coating                                                                                                                                      | Lamp socket, wire, mounting plate                                                                                                                                                              | Recycled plastic<br>Lamp socket, wire<br>Steel bracket, thumb screw, silicone feet                                                                                                        | Lighting socket, cork stopper, braided wire, LED light bulb, ceiling plate                                                                                                                                                                               | Assembly bolts                                                                                                                                                                                                    |
| Design & Production Approach | Fence post cutting, bending, grinding edges, wire bracket welding, powder coating. Wood end piece cutting, drilling, sanding and finishing. Wirecutting, assembly, wire tension adjustment                        | Cardboard cutting, separating layers. Positioning cardboard shades and graphics. Gluing. Assembly                                                                                              | Umbrellas dismantling, categorization, cutting parts. 3D printing lampshades + base support, cleaning, painting. Assembly                                                                 | Wine bottle label removal, cleaning, cutting, grinding, polishing, assembly                                                                                                                                                                              | Cutting profile offcuts to size, grinding edges, drilling, powder coating, assembly                                                                                                                               |
| Product Options              | 4 colours + galvanized versions                                                                                                                                                                                   | –                                                                                                                                                                                              | Silver or black powder coated – metal components                                                                                                                                          |                                                                                                                                                                                                                                                          | 4 colours                                                                                                                                                                                                         |
| Production Strategy          | Periodic batches                                                                                                                                                                                                  | Periodic batches<br>Custom made-to-order                                                                                                                                                       | Periodic batches                                                                                                                                                                          | Periodic batches                                                                                                                                                                                                                                         | Periodic batches                                                                                                                                                                                                  |
| Production Complexity        | Low                                                                                                                                                                                                               | High                                                                                                                                                                                           | Medium                                                                                                                                                                                    | Low                                                                                                                                                                                                                                                      | Low                                                                                                                                                                                                               |
| Scalability Enablers         | Consistent source of material. Multistep but relatively simple process requiring common skills                                                                                                                    | –                                                                                                                                                                                              | 3D printed parts allow faster assembly                                                                                                                                                    | Outsourced production, storage and assembly                                                                                                                                                                                                              | Regular generation of profile offcuts. Designed for a simple production process integrated within company's existing operations                                                                                   |
| Scalability Challenges       | Availability of fence post offcuts to respond to periods of higher demand                                                                                                                                         | Labour intensity and experience in cutting pieces and aligning shades and text to create the right patterns                                                                                    | High cost of 3D printing parts using recycled materials                                                                                                                                   | Specialized equipment for glass cutting, grinding & polishing                                                                                                                                                                                            | –                                                                                                                                                                                                                 |
| Viability Enablers           | Unique design also available with variations. Work outsourced to a correctional enterprise offering vocational training for inmates. Competitively priced. Distributed through website and several online stores. | Distinctive graphics from packaging helps to differentiate from other cardboard lamps. Possibility of customizing graphics to suit customer desires. Light weight for shipping. True amd cases | 3D printed parts allow faster, cost-efficient assembly. Sleek, distinctive design gives it strong Instagram potential. Two colour options increases ability to suit various environments. | Sustainable packaging materials. Partner workshops employ workers from vulnerable groups. Competitively priced. Distributed through website + multiple retailers and online stores primarily in Netherlands + the EU. B2B sales to hospitality customers | Production offcut repurposing makes a strong sustainability statement. Distinctive aesthetic aligns with the revival of brutalism in architecture and design. Well-established international distribution network |
| Viability Challenges         | Metal shops often require payment for offcuts. Past identity is not easy to discern and relies on communications. Relatively limited distribution outside of the Netherlands                                      | Labour intensity. Cardboard lamps have become very commonplace. High price compared to most others                                                                                             | Self-distribution. Larger footprint as a desk lamp may be limiting for people with small desks.                                                                                           | Many competitors are producing lamps from wine bottles. The brand and its communications are primarily focussed on drinking glasses. Limited distribution outside of the Netherlands                                                                     | Non-consensual aesthetic may limit the commercial appeal of the product to very design-forward applications                                                                                                       |
| Instagram followers          | 8,000 +                                                                                                                                                                                                           | –                                                                                                                                                                                              | 900+                                                                                                                                                                                      | 7,000+                                                                                                                                                                                                                                                   | 65,500+                                                                                                                                                                                                           |
| Staff size                   | 2                                                                                                                                                                                                                 | 1                                                                                                                                                                                              | 1                                                                                                                                                                                         | 7                                                                                                                                                                                                                                                        | 750                                                                                                                                                                                                               |
| Business started             | 2017                                                                                                                                                                                                              | 2016                                                                                                                                                                                           | 2021                                                                                                                                                                                      | 2016                                                                                                                                                                                                                                                     | 1987                                                                                                                                                                                                              |

Scaling Up Upcycling: A Comparative Analysis of Furniture, Lighting and Bags Made Through Repurposing

Appendix 1D: Bags

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| Company / Brand              | Mariclaro                                                                                                    | Elvis & Kresse                                                                                                                                                             | Salty Bag                                                                                                                                                          | Alchemy Goods                                                                                                                                                                                                       | Freitag                                                                                                                                                                                                        |
| Website                      | mariclaro.ca                                                                                                 | elvisandkresse.com                                                                                                                                                         | saltybag.com                                                                                                                                                       | alchemygoods.com                                                                                                                                                                                                    | freitag.ch                                                                                                                                                                                                     |
| Series/Object Name           | Weekender - Purple Wow                                                                                       | Weekend Bag                                                                                                                                                                | Ikaria                                                                                                                                                             | Brooklyn Backpack                                                                                                                                                                                                   | F306 Hazzard                                                                                                                                                                                                   |
| Price                        | CAD \$279                                                                                                    | GBP £310                                                                                                                                                                   | EUR €260 to €290                                                                                                                                                   | USD \$150                                                                                                                                                                                                           | CHF 314.50                                                                                                                                                                                                     |
| Waste Material               | Decommisioned aircraft seat leather and seatbelts                                                            | Decommissioned fire hoses, and parachutes<br>Used printing blankets<br>Leather offcuts<br>Event banner                                                                     | Boat cover production offcuts<br>Decommissioned sails                                                                                                              | Used bicycle inner tubes                                                                                                                                                                                            | 76% upcycled/ recycled: Decommissioned truck tarpaulin, post-consumer PET bottles, B-stock car seat belt                                                                                                       |
| Waste Sources                | Aircraft seats and seatbelts                                                                                 | London Fire Brigade, military supplier, printers, Burberry workshop, auction house                                                                                         | Boat cover offcuts: Sunbrella. Sailcloth (Dacron): sail-makers, clubs, individuals                                                                                 | Network of bicycle stores using Alchemy's innertube donation boxes                                                                                                                                                  | Truck companies, recycled fabric co., seat belt suppliers                                                                                                                                                      |
| Source Type                  | Commercial                                                                                                   | Commercial / Institutional                                                                                                                                                 | Industrial<br>Post-Consumer                                                                                                                                        | Post-Consumer                                                                                                                                                                                                       | Commercial                                                                                                                                                                                                     |
| Incidence                    | Sporadic                                                                                                     | Regular                                                                                                                                                                    | Regular                                                                                                                                                            | Regular                                                                                                                                                                                                             | Regular                                                                                                                                                                                                        |
| Uniformity                   | Medium (colour variations)                                                                                   | High                                                                                                                                                                       | High                                                                                                                                                               | High                                                                                                                                                                                                                | Medium (truck tarp colours and designs)                                                                                                                                                                        |
| Additional Materials         | Zipper                                                                                                       | Zipper<br>Steel hardware                                                                                                                                                   | Polyester mesh, plastic & metal clips & tension-locks, high-tensile polyester yarn, hook & loop closures, metal zipper                                             | Nylon, foam padding, zipper, nylon hardware                                                                                                                                                                         | Webbing, piping, foam, velcro fastener, tension buckle, zipper, thread, 25% recycled PVC label                                                                                                                 |
| Design & Production Approach | From one batch of leather, several one-off pieces of different styles of bags are made over a period of time | Made in UK + outsourced to fairtrade manufacturer in Turkey. Firehoses and other materials cleaned, cut and sewn into bags                                                 | Cleaning and cutting material. Cutting and sewing to back sections to pattern, bag sewing assembly, strap threading                                                | Inner tube cleaning and cutting, cutting and sewing to pattern, assembly                                                                                                                                            | Wide variety of versions of each model using different tarps and patterns. Tarp removal + testing, disassembly, washing, drying, bag design, outsourced sewing, quality control, photography, shipping         |
| Product Options              | -                                                                                                            | 4 colour options                                                                                                                                                           | 2 colour + 2 size options                                                                                                                                          | Zipper colour options                                                                                                                                                                                               | -                                                                                                                                                                                                              |
| Production Strategy          | Periodic batches<br>Custom batches to order                                                                  | Periodic batches                                                                                                                                                           | Periodic batches                                                                                                                                                   | Periodic batches<br>Custom batches to order (minimum 50 units)                                                                                                                                                      | Periodic batches<br>Custom batches to order                                                                                                                                                                    |
| Production Complexity        | Medium                                                                                                       | High                                                                                                                                                                       | Low                                                                                                                                                                | Low                                                                                                                                                                                                                 | High                                                                                                                                                                                                           |
| Scalability Enablers         | Larger quantities of aircraft leather. Same patterns used across various material sources                    | Abundant waste materials                                                                                                                                                   | Located on the island of Corfu, close to sailboats and their material suppliers                                                                                    | Large material sourcing network of bike stores                                                                                                                                                                      | Scale of operations built up over time with established sourcing network, large scale storage systems, washing machines, etc.                                                                                  |
| Scalability Challenges       | Limited amount of leather from a given source. Process and labour intensity                                  | Technical difficulty of working with firehose material to quality standards makes it difficult to find qualified workers                                                   | Labour intensity                                                                                                                                                   | Labour intensity                                                                                                                                                                                                    | Process and labour intensity                                                                                                                                                                                   |
| Viability Enablers           | Exclusiveness of one-off editions. Better margins for rare materials                                         | Relative uniqueness of fire hose as a material. Established sustainable luxury brand reputation. Affordable prices for luxury quality. 50% of profits donated to charities | Multipurpose bag suitable for casual or professional use, with three ways of carrying. Relatively light materials reduces shipping costs                           | Relative uniqueness and sleek look of innertubes as a material. Self-distribution + etailers including Amazon + wholesale through 165 retail outlets. Corporate and private label orders with a minimum of 50 units | Iconic sustainable bag brand/ independent Swiss brand. Certified "Advanced" sustainable company across its operations                                                                                          |
| Viability Challenges         | Self-distribution. Certain colours have broader appeal than others                                           | Craft processes and labour intensity limit ability to ensure items are always in stock. Self-distribution + small numer of independent stockists, mainly in the UK         | Bag with a relatively high price point for a small brand without a high profile or significant marketing support behind it. Limited distribution outside of Europe | Relatively low margins considering those required by third-party distributors, and investments in online advertising                                                                                                | Cost of fair wages in Switzerland and other EU counties + high value of Swiss franc = high prices. Many competitors in other countres making cheaper bags from similar material with much lower cost structure |
| Instagram followers          | 9,700+                                                                                                       | 35,100+                                                                                                                                                                    | 6,600+                                                                                                                                                             | 3,600                                                                                                                                                                                                               | 192,000                                                                                                                                                                                                        |
| Staff size                   | 4                                                                                                            | 30                                                                                                                                                                         | 4                                                                                                                                                                  | 10                                                                                                                                                                                                                  | 250                                                                                                                                                                                                            |
| Business started             | 2008                                                                                                         | 2005                                                                                                                                                                       | 2013                                                                                                                                                               | 2009                                                                                                                                                                                                                | 1993                                                                                                                                                                                                           |