

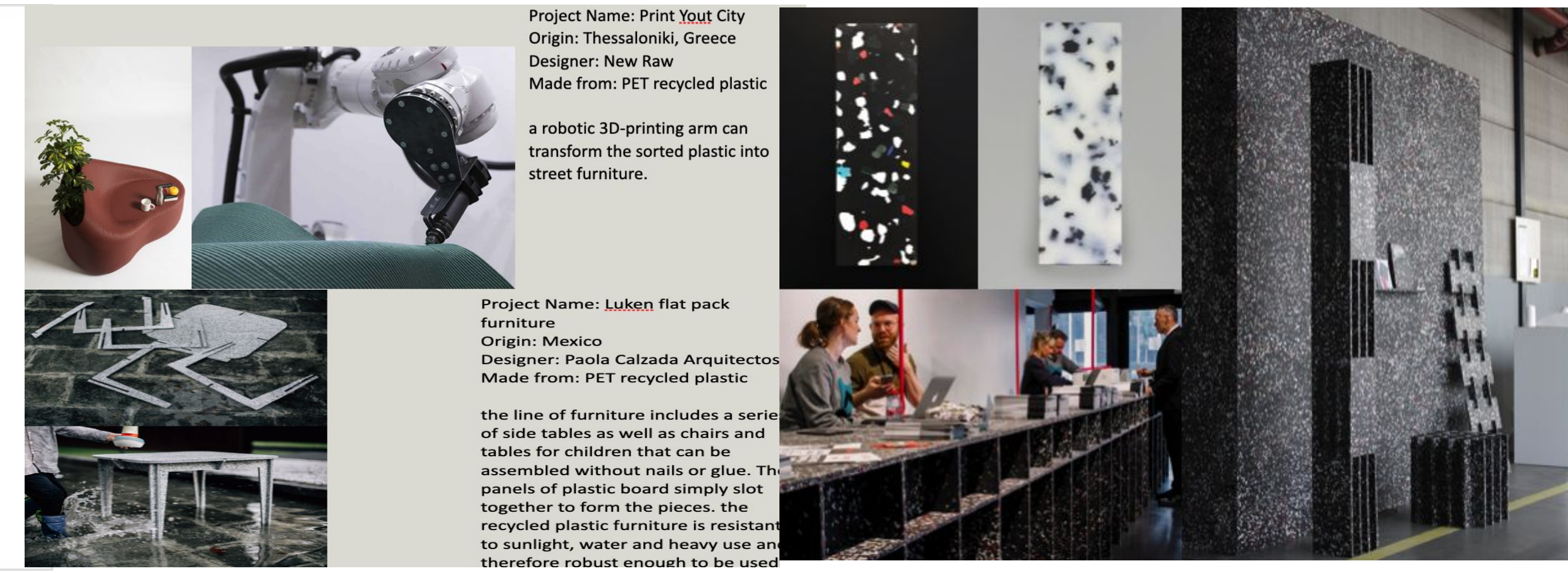
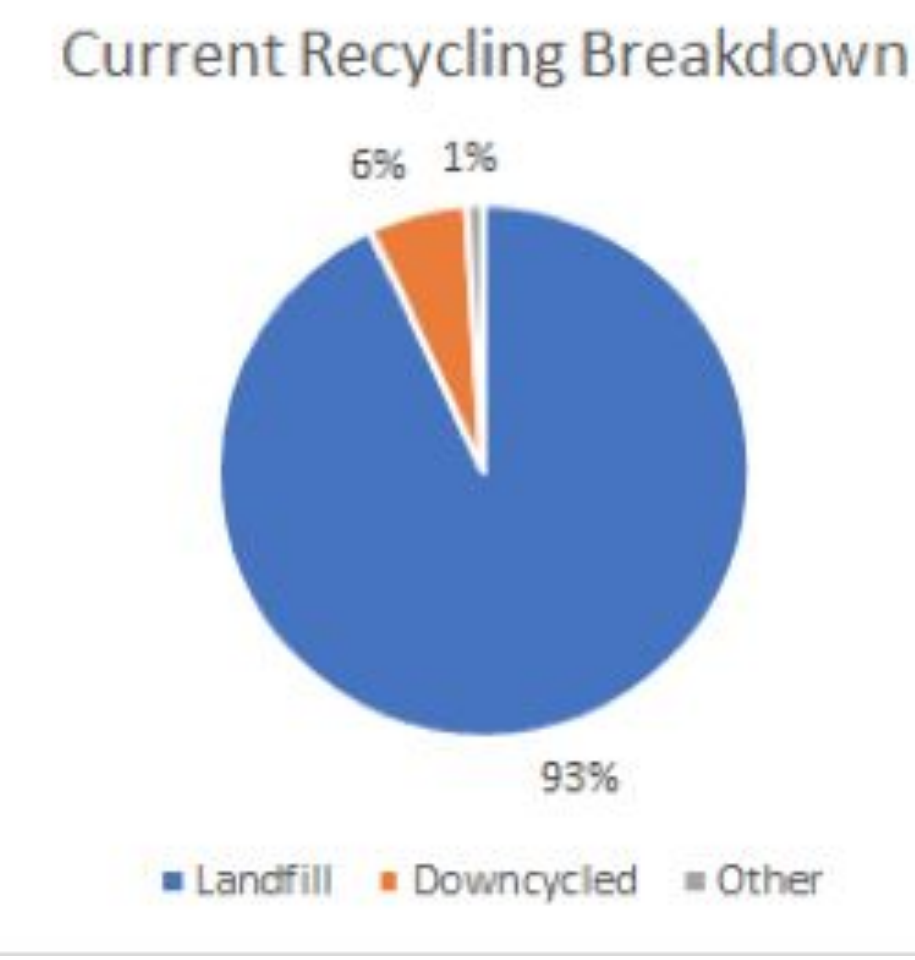
Alejandro Borges (Architecture), Weiling He (Architecture), Terry Creasy (Mechanical Engineering)



T3: TEXAS A&M TRIADS FOR TRANSFORMATION
A President's Excellence Fund Initiative

PLASTIC RECYCLING

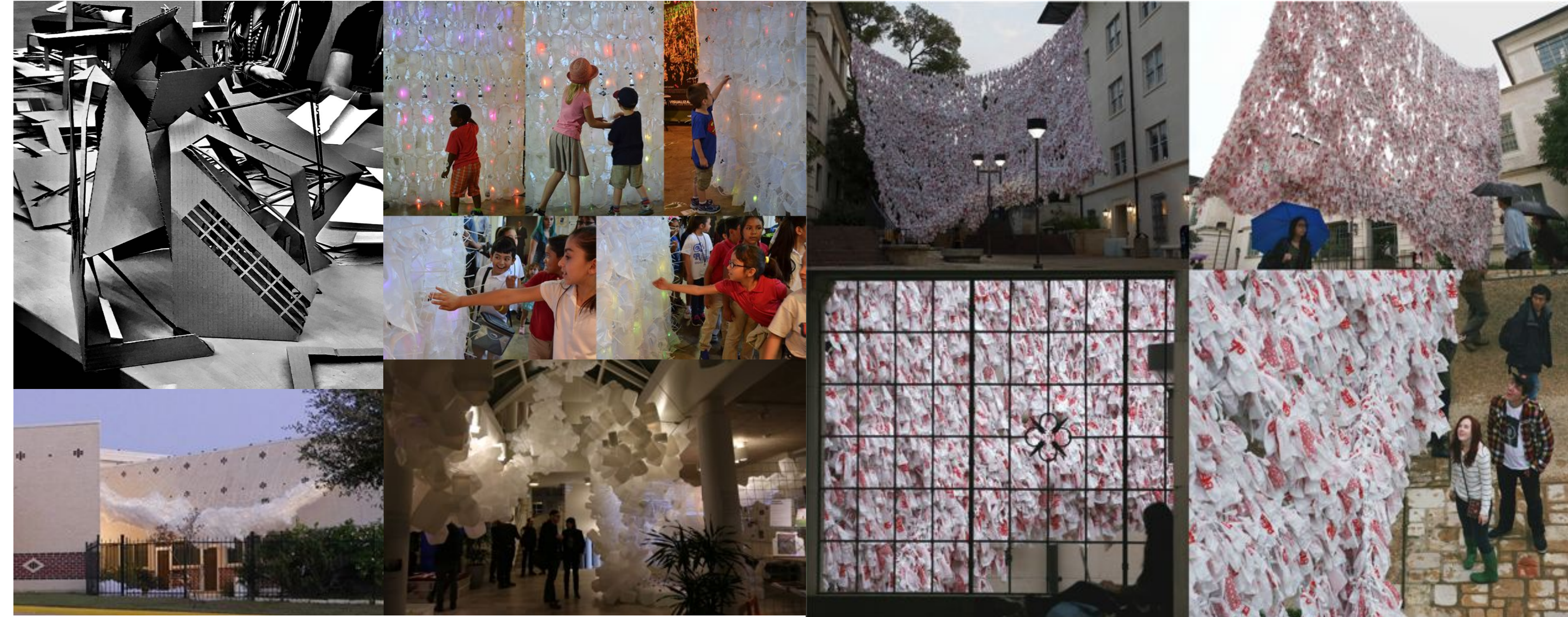
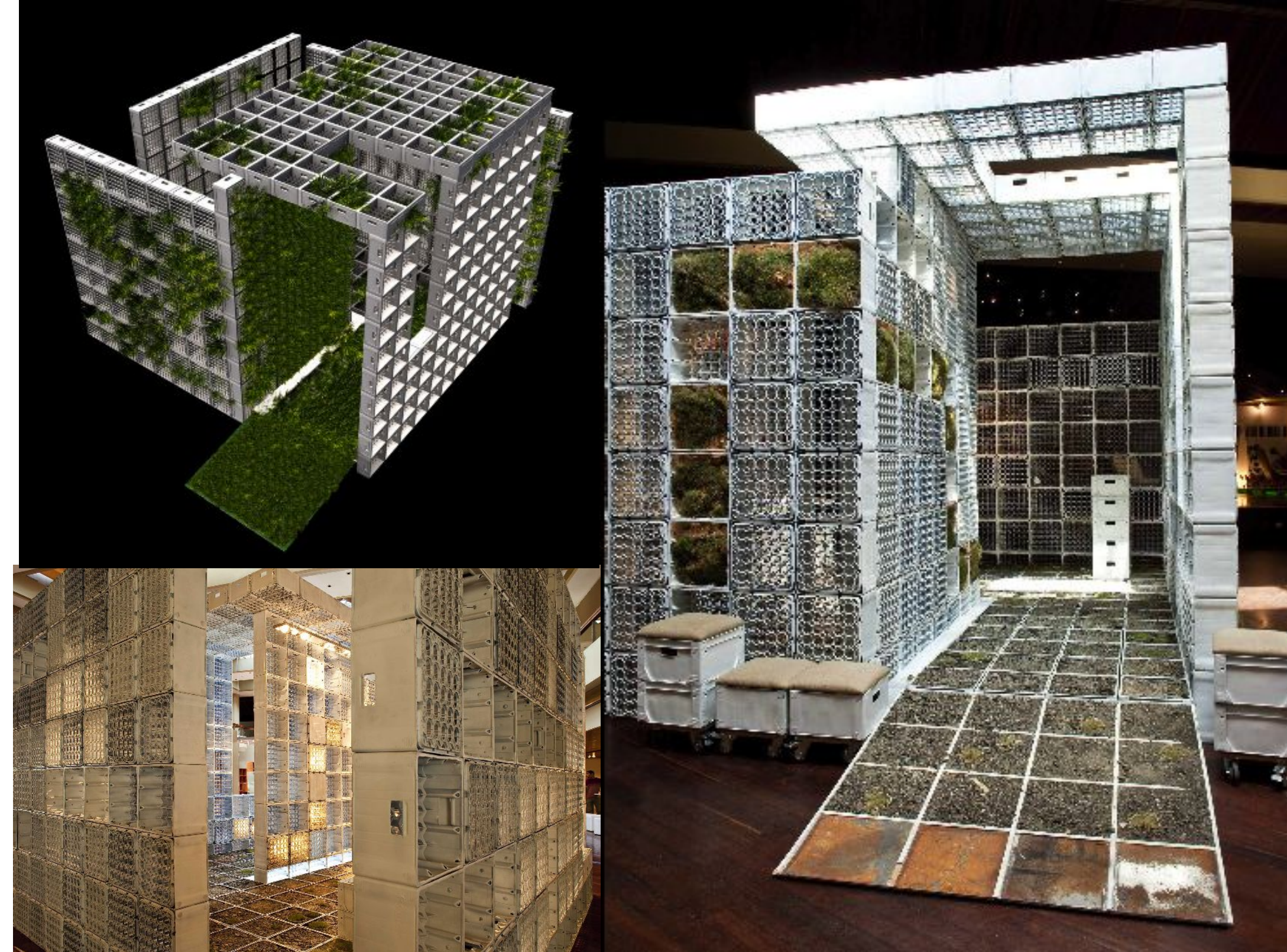
This project's objective is to develop and design strategies for using recycled plastics to 3D print architectural components and urban furniture. Specific to the current stage of the project, the team has been focused on outdoor playground equipment that revitalizes public spaces negatively impacted by waste plastics and neglect. The interdisciplinary team, composed of one material scientist and two designers, investigated the material characteristics of recycled plastics and plastic recycling technology. While connected with Mechanical Engineering undergraduate capstone classes for two years, we created schematic designs defining a recycling system that can be created with mostly off-the-shelf materials. Also, the team designed playground modules that can be 3D printed from recycled plastics. These modules can be combined in various ways to both accommodate space constraints and provide varied activities for children. Using Downtown Bryan as a case study, the team has made a design proposal to implement the project. The project's new phase is to engage the city and the downtown Bryan community to fabricate and install the designs. Our long-term goal is to publish our research on an online open source web journal to benefit people around the world.



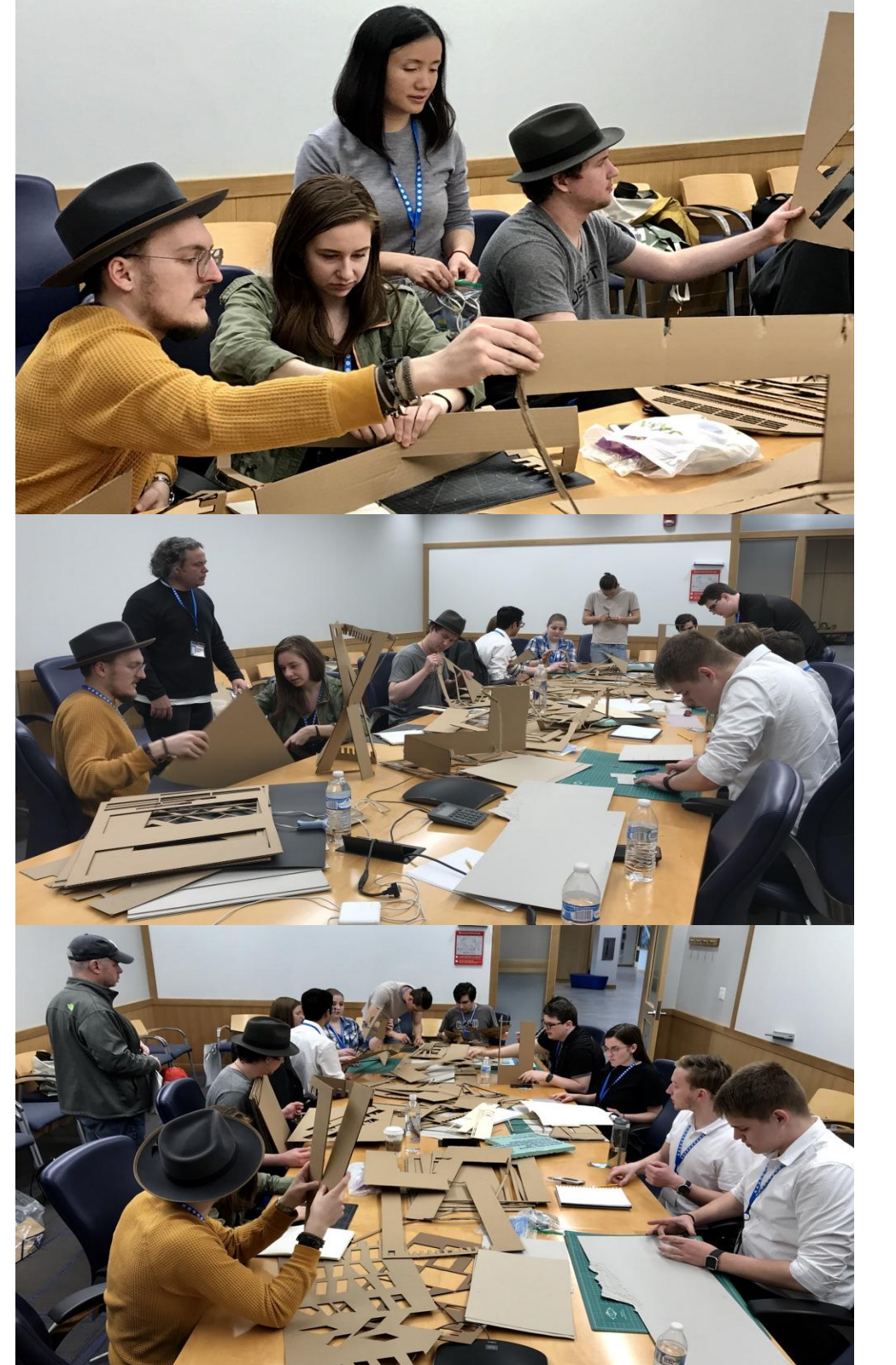
Project Name: [plasticiet](#)
Origin: Rotterdam, Netherland
Designer: Marten van Middelkoop and Joost Dingemans
Made from: recycled plastic from recycling companies

[Plasticiet](#) produces sheet-plastic materials that are similar in appearance to manmade stone composites like terrazzo. These sheets are processed to some furniture. The pattern are controlled by the color of

PLASTIC RECYCLING DESIGN STUDIES



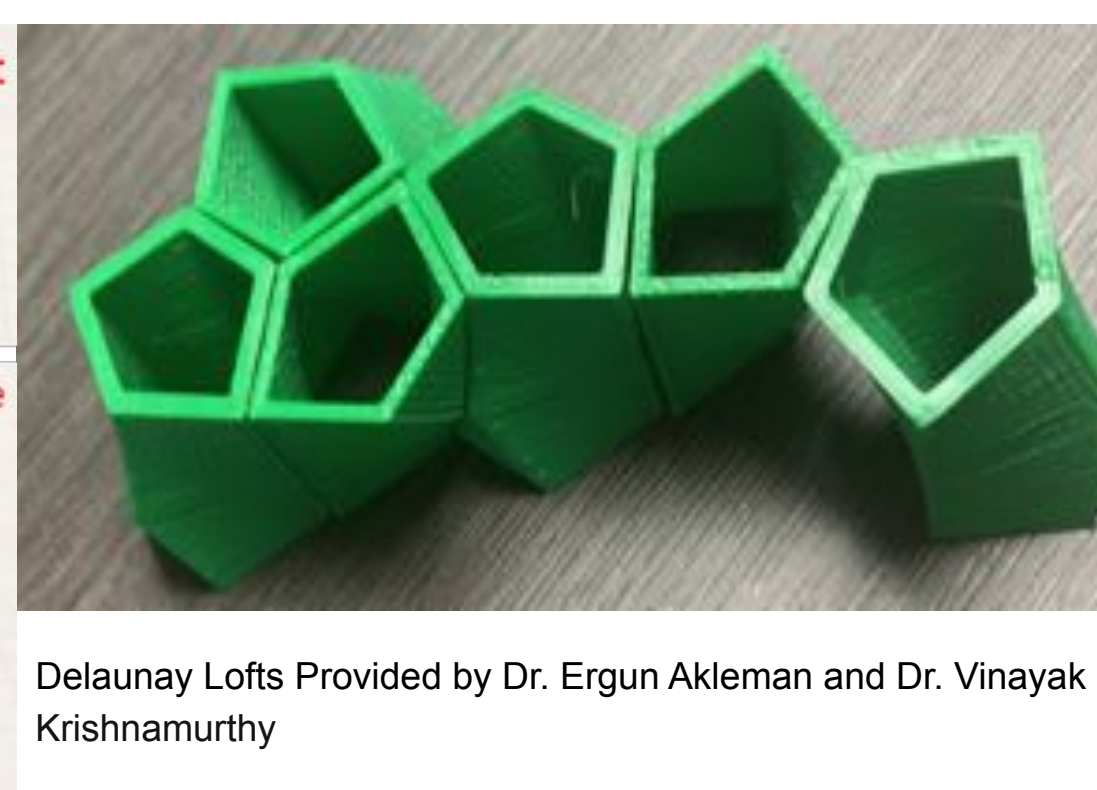
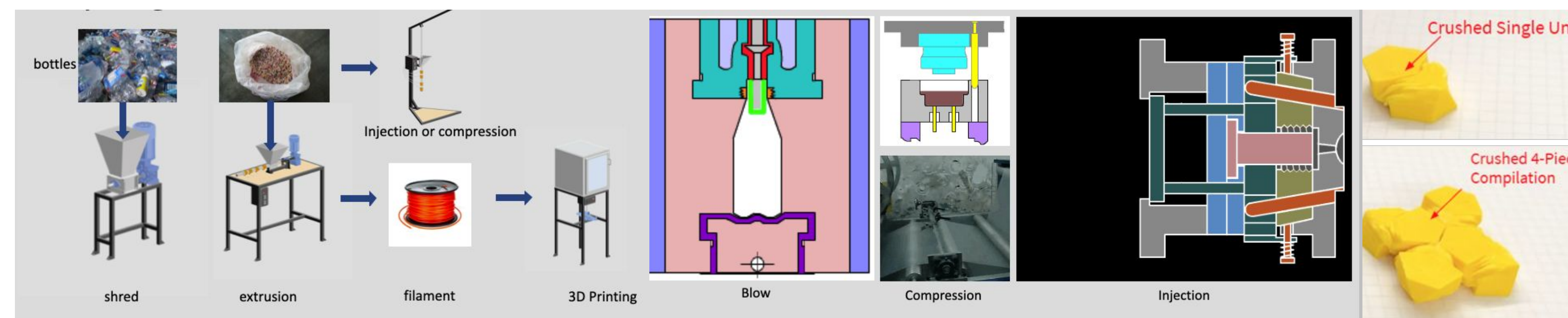
WORKSHOP



PROJECTS WITH RECYCLED PLASTICS BY ALEJANDRO BORGES

PROJECTS WITH RECYCLED PLASTICS BY WEILING HE

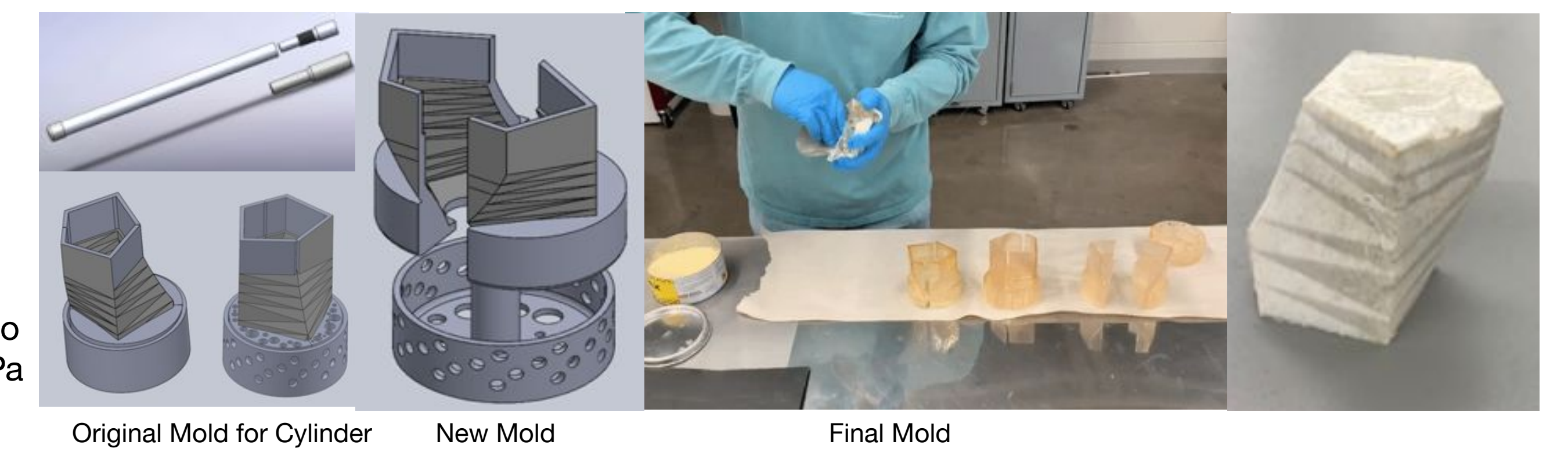
MATERIAL & FABRICATION RESEARCH



Preliminary Compression Test

Hypothesis: The Delaunay Loft exhibits greater strength in groups than as a single unit

Results: 4 connected units displayed an ultimate strength of 16.9 MPa, compared to a single unit's ultimate strength of 15.7 MPa



URBAN FURNITURE PROPOSAL

