TESSEMBLY

PARTNER KIT

GRJ-003 · INV-01 · 2026

Assembly through tessellation. One geometry, every surface.

WHAT IT IS

Tessembly™ is a modular assembly system built from one repeated piece, the Tesscell. Each Tesscell locks into the next through its own geometry: no adhesives, no tools, no fasteners. The same piece forms floors, platforms and floating surfaces, on land or on water. It began as my undergraduate thesis at Universidad de los Andes, grounded in fieldwork with flood-affected communities on Colombia's Caribbean and Pacific coasts.



A 4 × 4 ASSEMBLY OF TESSCELLS

WHY IT MATTERS

1,81B

people directly exposed to 1-in-100-year floods

Rentschler et al., Nature Communications, 2022

+134%

flood-related disasters since 2000, compared with the two previous decades

WMO, 2021

APPLICATIONS

Modular flooring and platforms. Events, festivals and construction: floors and stages assembled by hand.

Floating docks and platforms. Marinas, waterfront tourism and aquatic solar.

Disaster resilience. Municipalities, NGOs and humanitarian response: dry ground, built fast.

EVIDENCE

Simulated under pedestrian load (finite element analysis, ANSYS): 70 kg per module, minimum safety factor 1.78; 187,544-node model.

Functional prototypes at 1:4 scale, 3D printed: assembly and release by hand.

1st place, SCADapult Business Pitch Competition, SCAD, May 2026, among 75+ projects.

Nominated by SCAD faculty for SXSW Pitch 2027.

INTELLECTUAL PROPERTY

PCT application published (WO2026/126124)

Industrial design granted, Colombia (SIC Resolution 15006, 3 Mar. 2026; valid 10 Dec. 2024 to 10 Dec. 2034)

Invention patent in substantive examination, Colombia

Trademark application filed with the SIC (Colombia), Nice classes 19, 20 and 42, in substantive examination

HOW WE WORK TOGETHER

Licensing or strategic alliance on the patent and the concept. Pieces are not for sale. Material, manufacturing process and application are evaluated jointly with each partner.

CONTACT

MIGUEL BELTRÁN

Inventor, Tessembly™ · Savannah, Georgia

miguel.beltran@gorgojote.com

gorgojote.com/tessembly

Structural figures come from simulation, not from physical load tests. Market scenes on the website are concept visualizations.