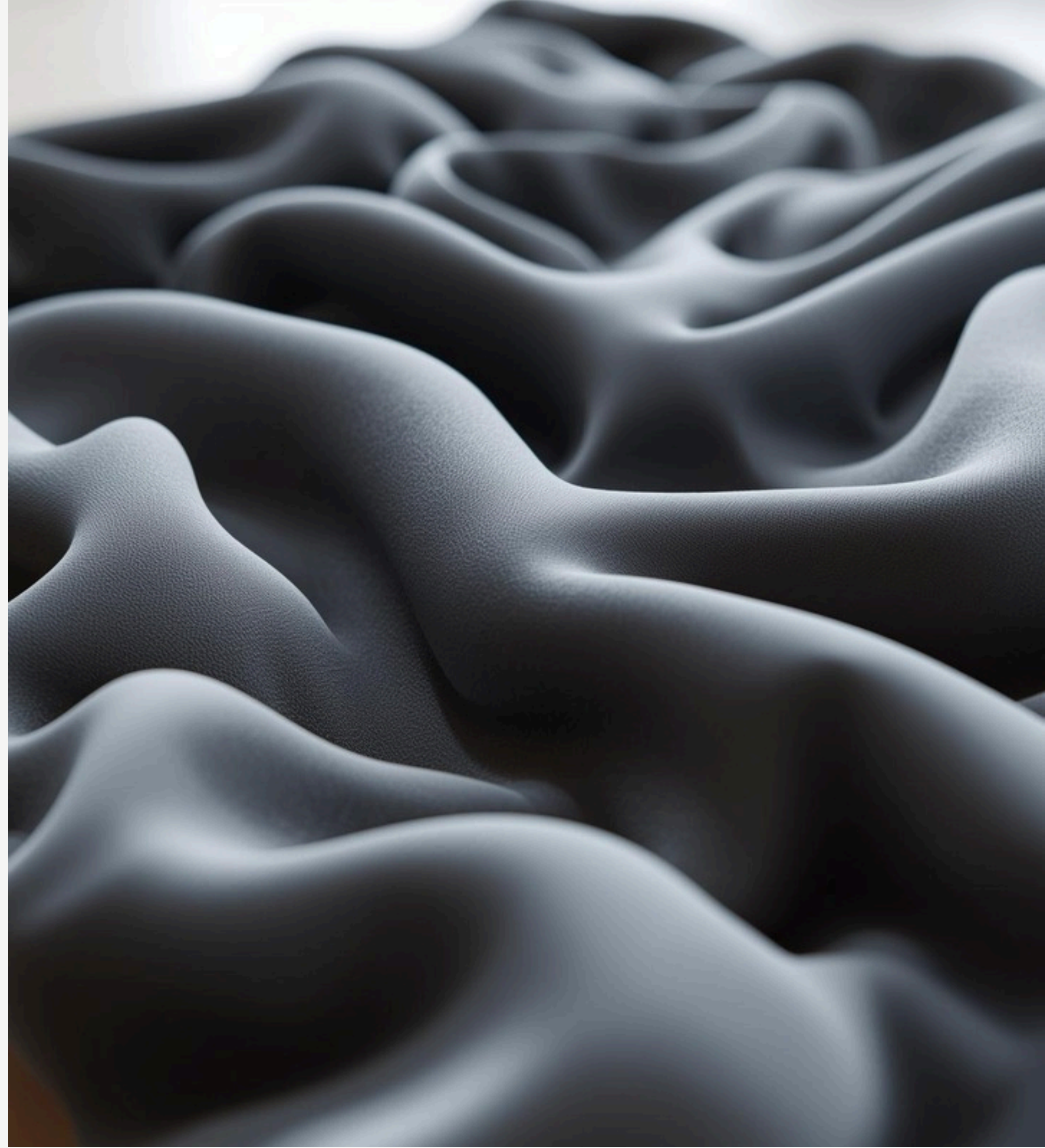# Adaptive inflatable textiles

Fabricademy
Alberto Blanco

What?

Research-driven exploration of inflatable textiles as adaptative material systems.

Knowledge > object

What?
Project scope

- Inflatable textile structures
- Soft actuation and air behaviour
- Wearable-scale applications

Why?
Why rethink textiles?

Clothing is our protection against the elements, yet most garments remain passive in changing environments.

Adaptation > Resistance

Why? Context & State of the art

Alpha Dance costumes
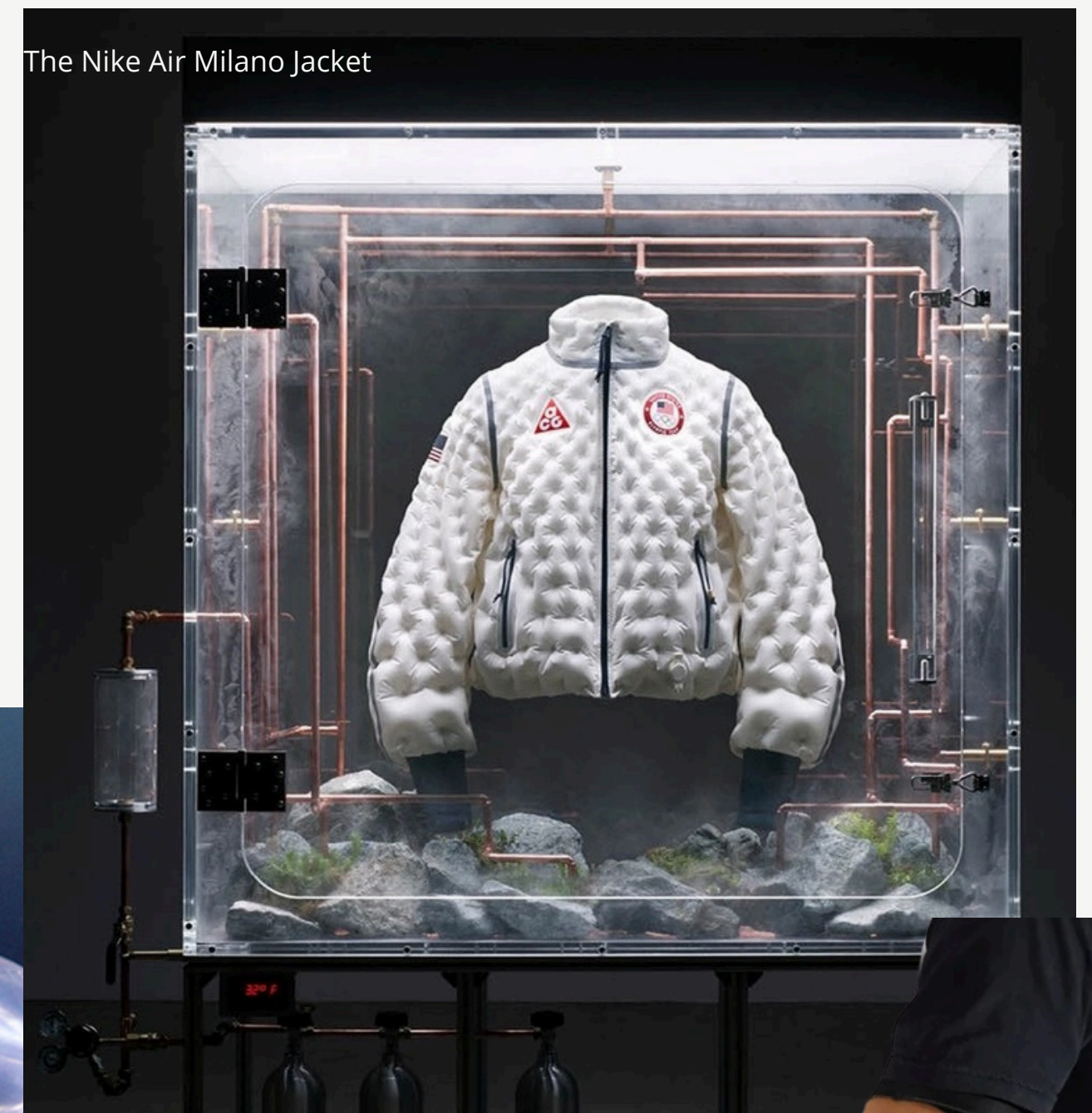
Nike ACG Inflatable Jacket

The Nike Air Milano Jacket

Louis Vuitton Mens | Inflatable Puffa | Spring '21

Craig Green | FW '22

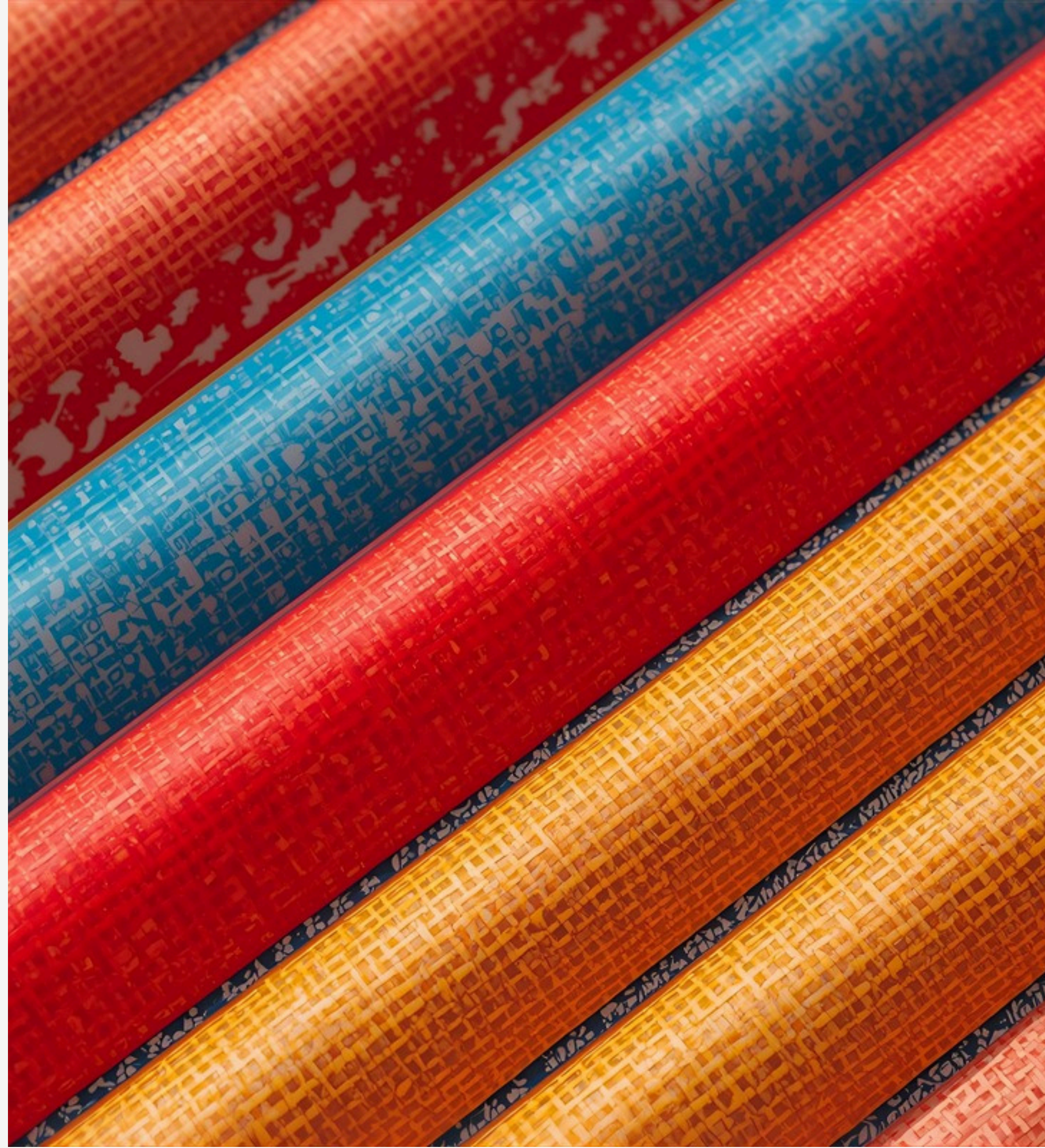Blow Armchair - Zanotta

MIT Self-assembly Lab

Why?
Why research, not product?

Existing projects focus on outcomes, this project's purpose is understanding the behavior of materials and techniques.
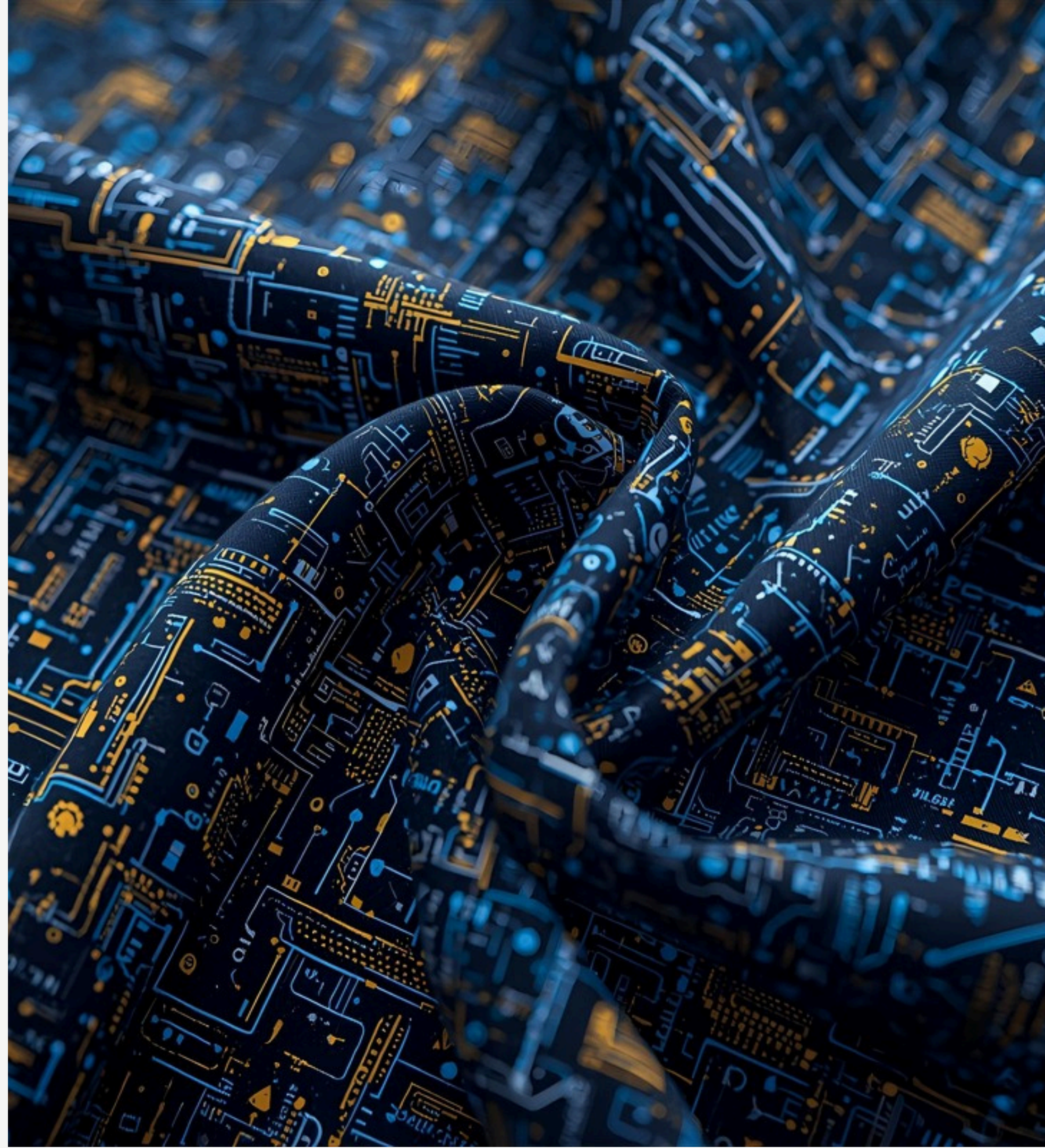
From product to material system.

Who?
Who benefits from the knowledge?

Anyone designing adaptive textiles can build upon this research.

- Designers
- Researchers
- Textile innovators
- Wearable technologists
- Medical & health practicioners

For who?
Beyond Fashion

One system, multiple applications

- Wearable thermal regulation.
- Medical compression garments.
- Research & education platforms.

How?

How does this project works?

Through iterative experimentation with inflatable textiles, air chambers, and sensing systems.

- Materials
    - Easy to get
    - Not expensive
- Sealing methods
    - Adhesives
    - Heat sealing
    - Stitching
- Geometry
    - Inflatable chambers shape
- Inflation methods
    - Manual
    - Electronic
- Comfort

How?
Validation & outcomes

- Reproducible experiments.
- Documented failures and successes
- Transferable design knowledge

The outome is a framework, not a product; I want
my Fabricademy website to become a library.

This project does not end with a jacket, but with a framework for designing future inflatable wearables.

Thank You

Alberto Blanco
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