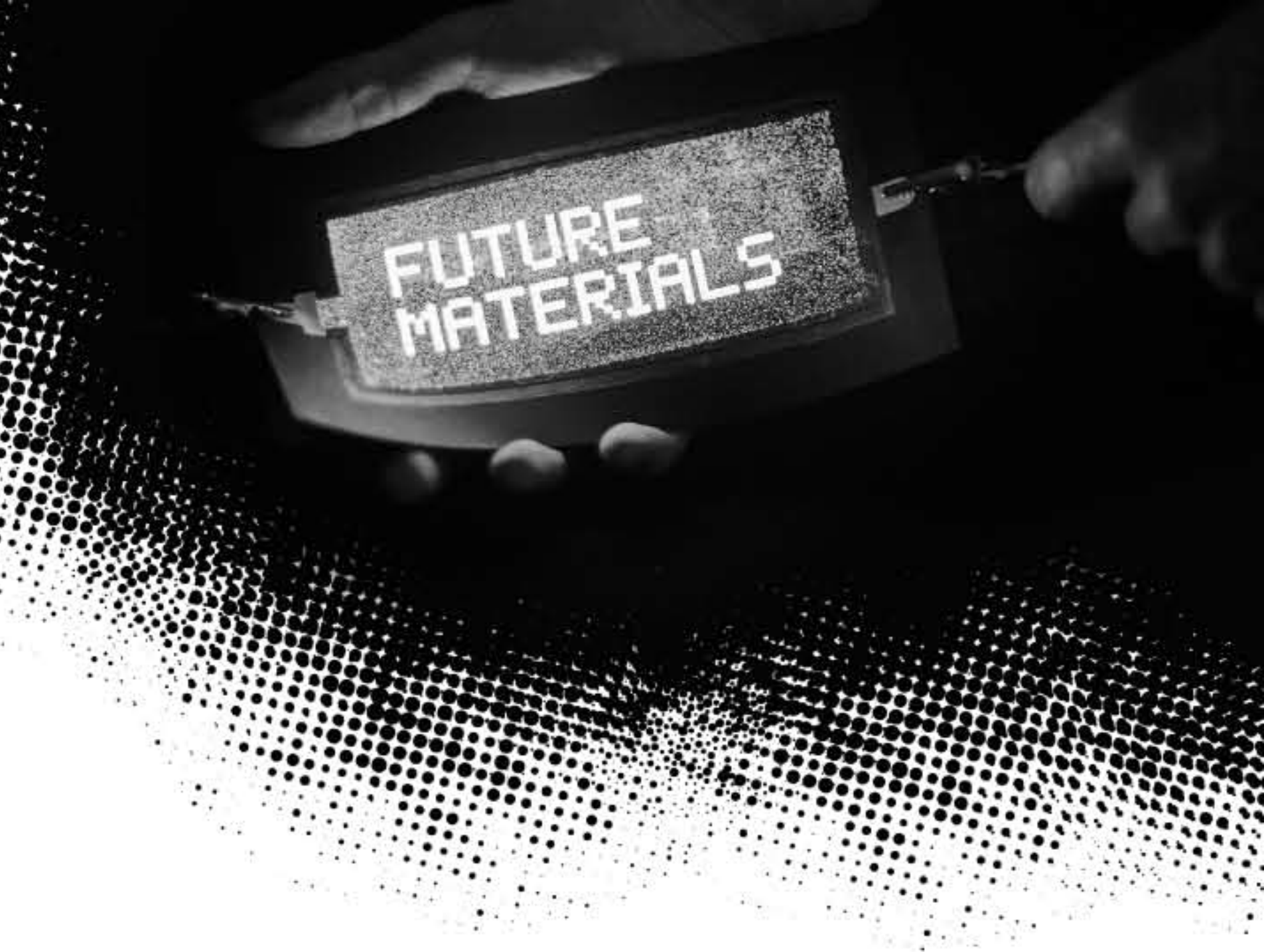


# LIGHT.TOUCH.MATTERS

## DESIGNERLY UNDERSTANDING

### OF SMART MATERIALS



MY RESEARCH LOOKS INTO THE INTERACTION DESIGN SPACE WITH SMART MATERIALS AND PROVIDES A STRUCTURED APPROACH AND TOOLS FOR AN UNDERSTANDING OF THEIR TECHNICAL AND EXPERIENTIAL QUALITIES.

#### THEORY AND DEFINITION TAKE AWAY

##### WHAT IS A DESIGNERLY UNDERSTANDING

Designing with (smart) materials requires an understanding of 'what it is' and 'what it does' (also to people who interact with it).

##### HOW CAN SUCH MATERIAL UNDERSTANDING BE OBTAINED?

In materials driven design, the designerly understanding of a material is achieved by making material samples, conducting user studies on how people experience them, and benchmarking existing ideas, materials and applications.

#### EXPLORATION PHASE

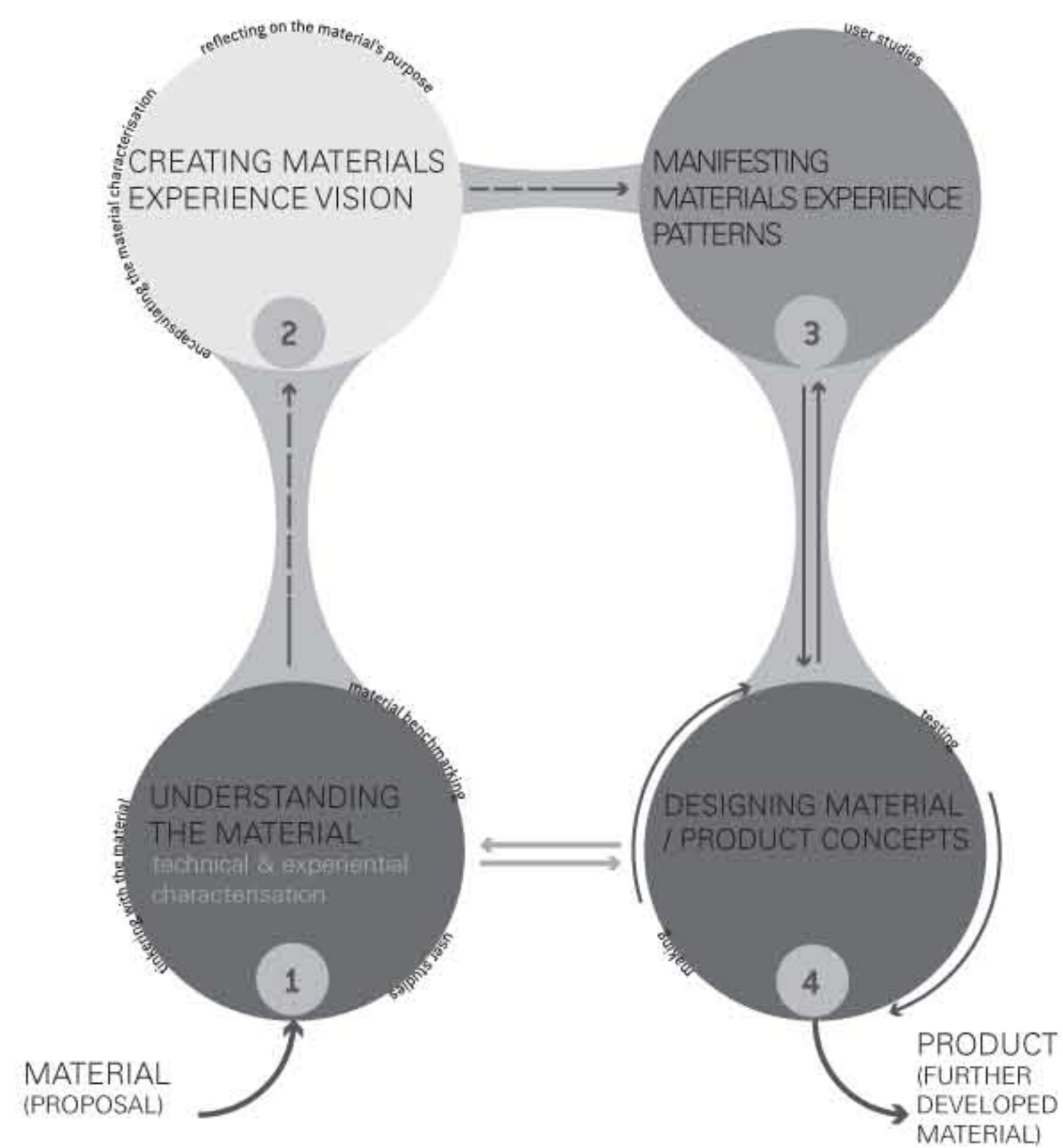
At the beginning of my research, I closely looked at a few design processes with the objective of designing meaningful applications with the LTM materials. I was particularly interested in identifying the strategies and tools that design students use to support their understanding of the LTM materials from technical and experiential frames of reference.



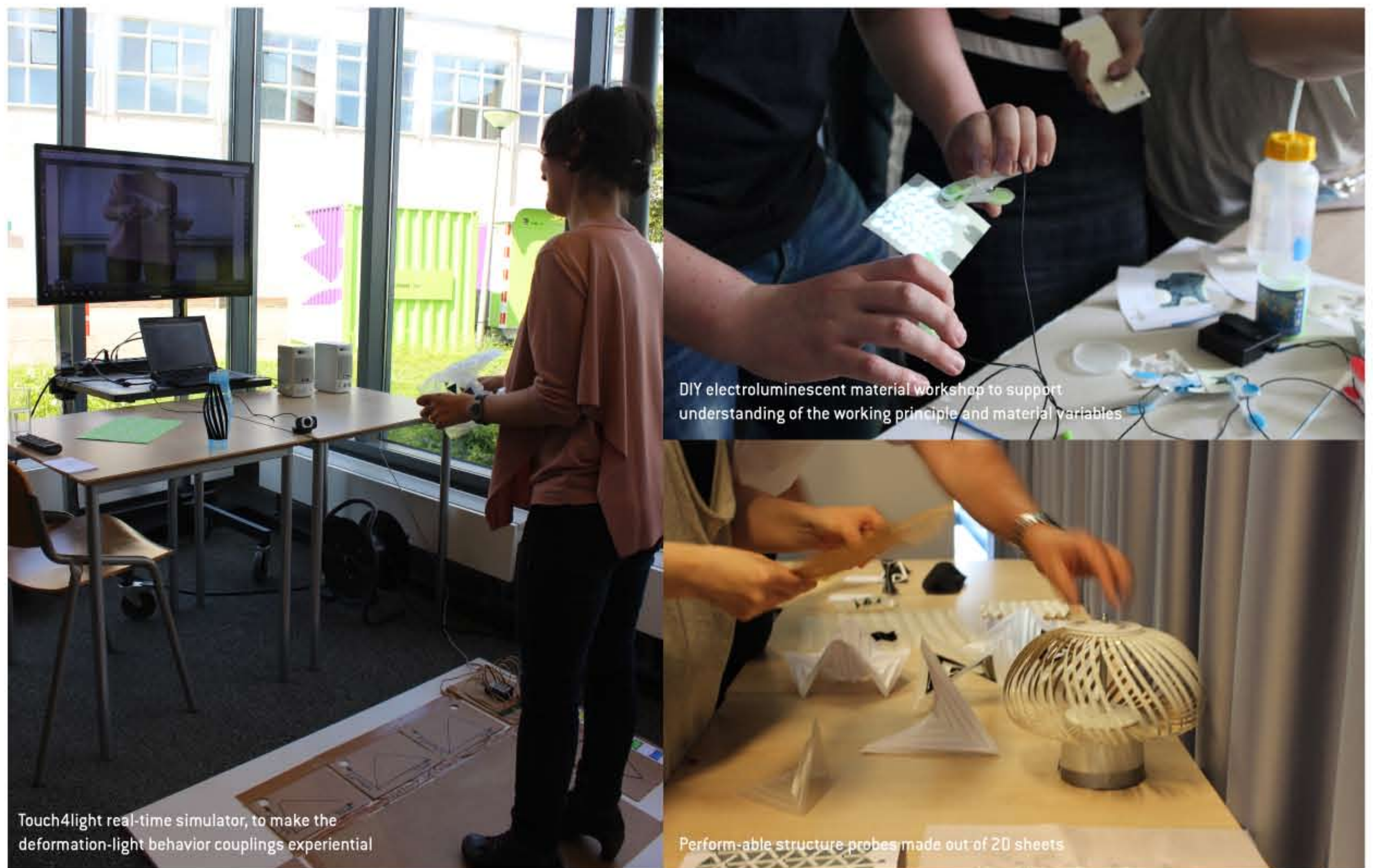
Three product applications with the LTM materials, envisioned and prototyped by design students

#### HOW CAN WE SUPPORT DESIGNERS IN AN UNDERSTANDING OF THE DYNAMIC QUALITIES OF SMART MATERIALS?

#### CREATION PHASE



A step-wise approach from understanding the material to designing product concepts (Material-Driven Design Method, Karana et al, 2015)



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SUPPORTING DESIGNERS IN UNDERSTANDING THE  
EXPERIENCE DESIGN SPACE WITH SMART MATERIALS

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the product is the interface