

BumpMarker: 3D-printed marker for simultaneous tagging and weight measurement

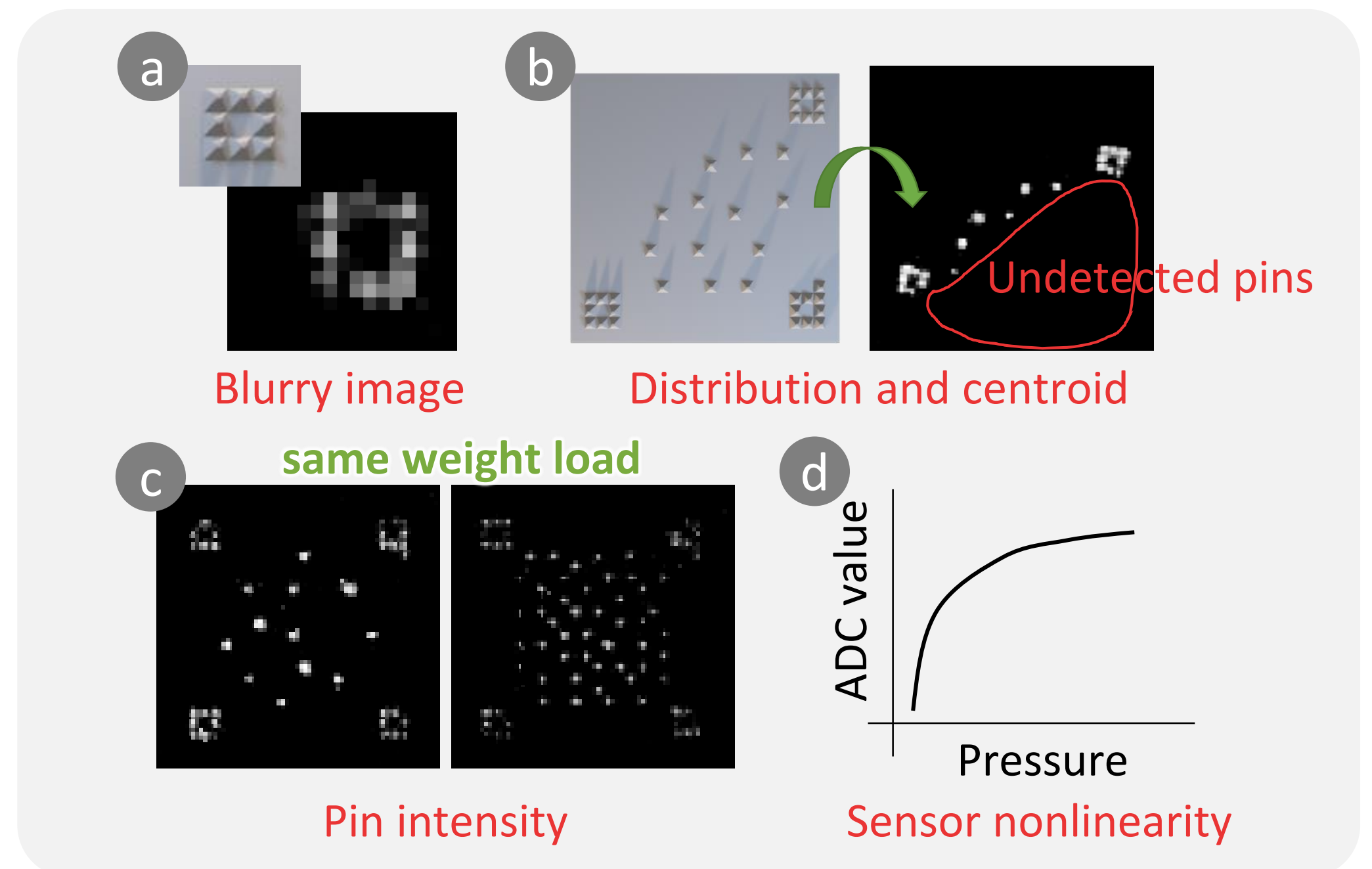
Changyo Han, Takeshi Naemura (The University of Tokyo) contact: hanc@nae-lab.org



BumpMarker is a 3D-printed tangible marker which performs:

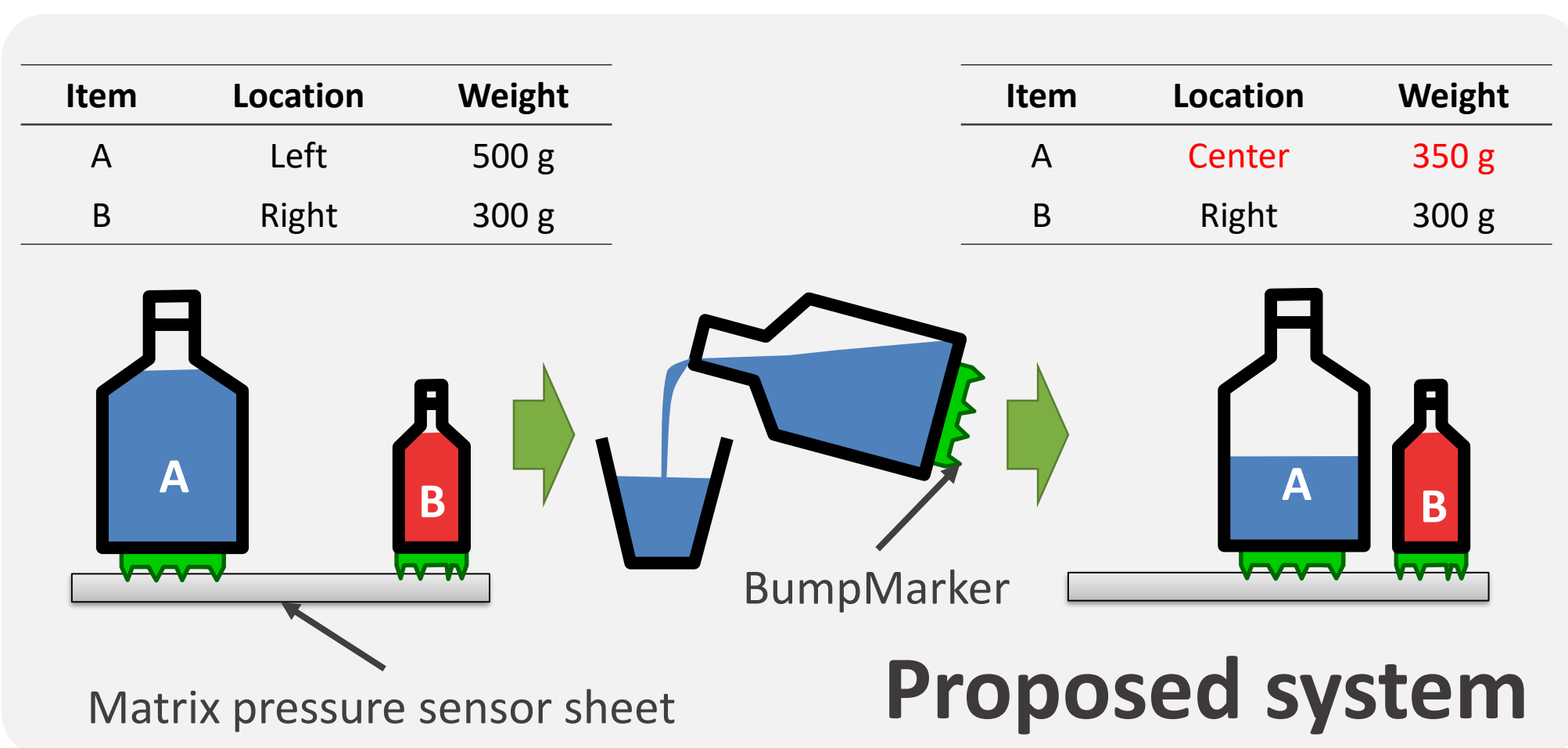
- **Tagging:** Machine-readable tagging to identify items.
- **Position tracking:** Track relocated positions of items.
- **Weight monitoring:** Record the weight changes of containers.

Design problems

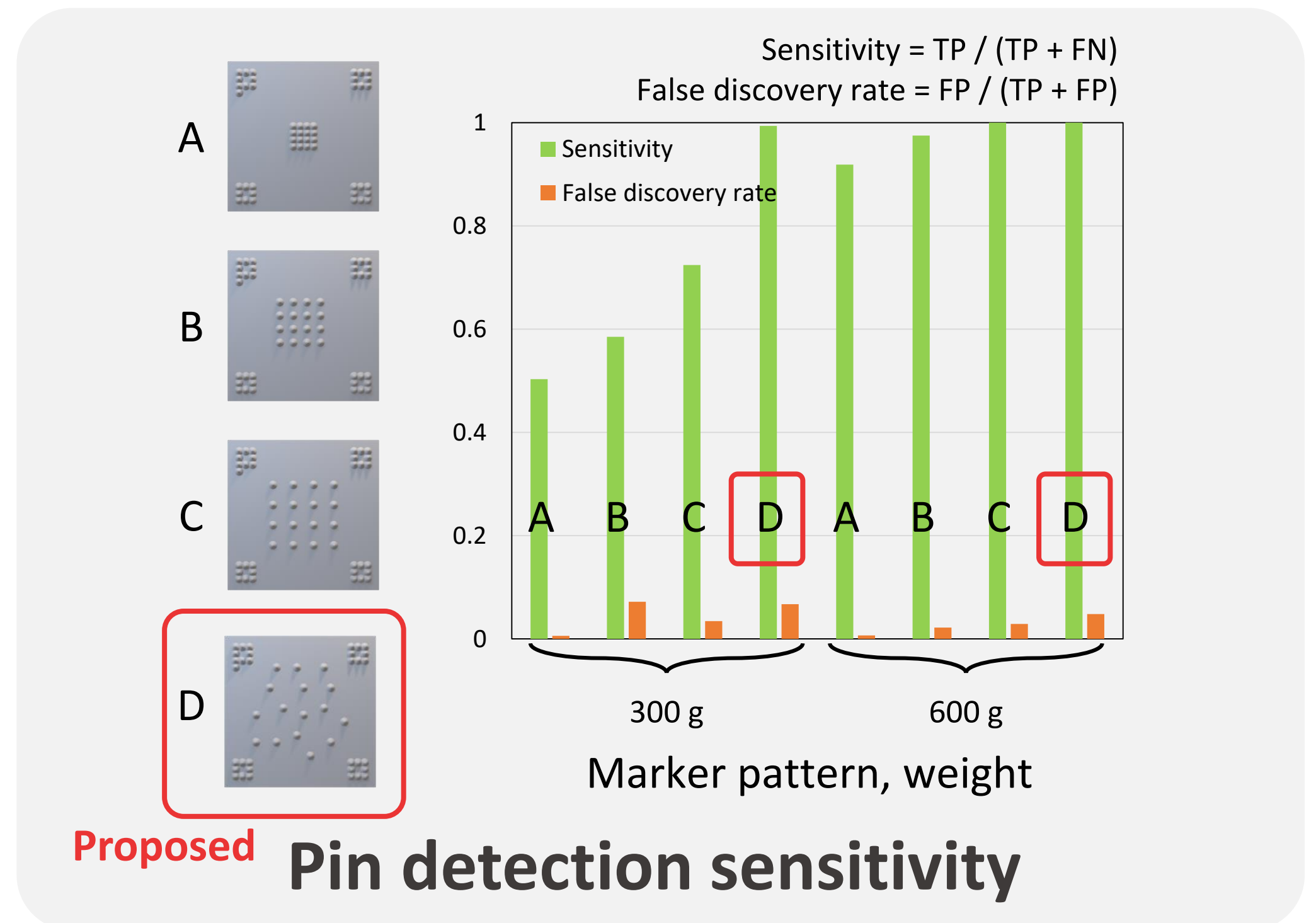


Motivation & Proposal

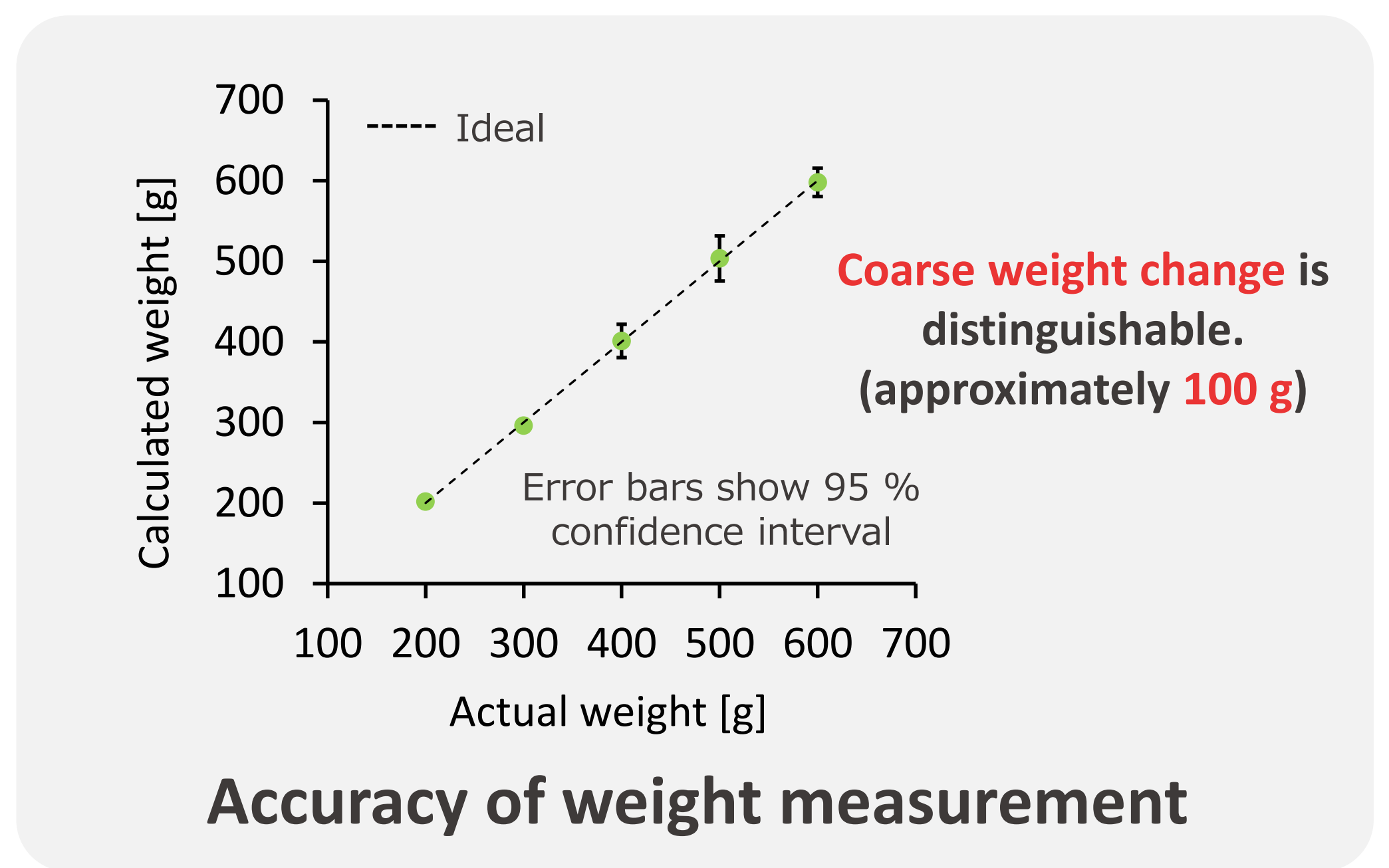
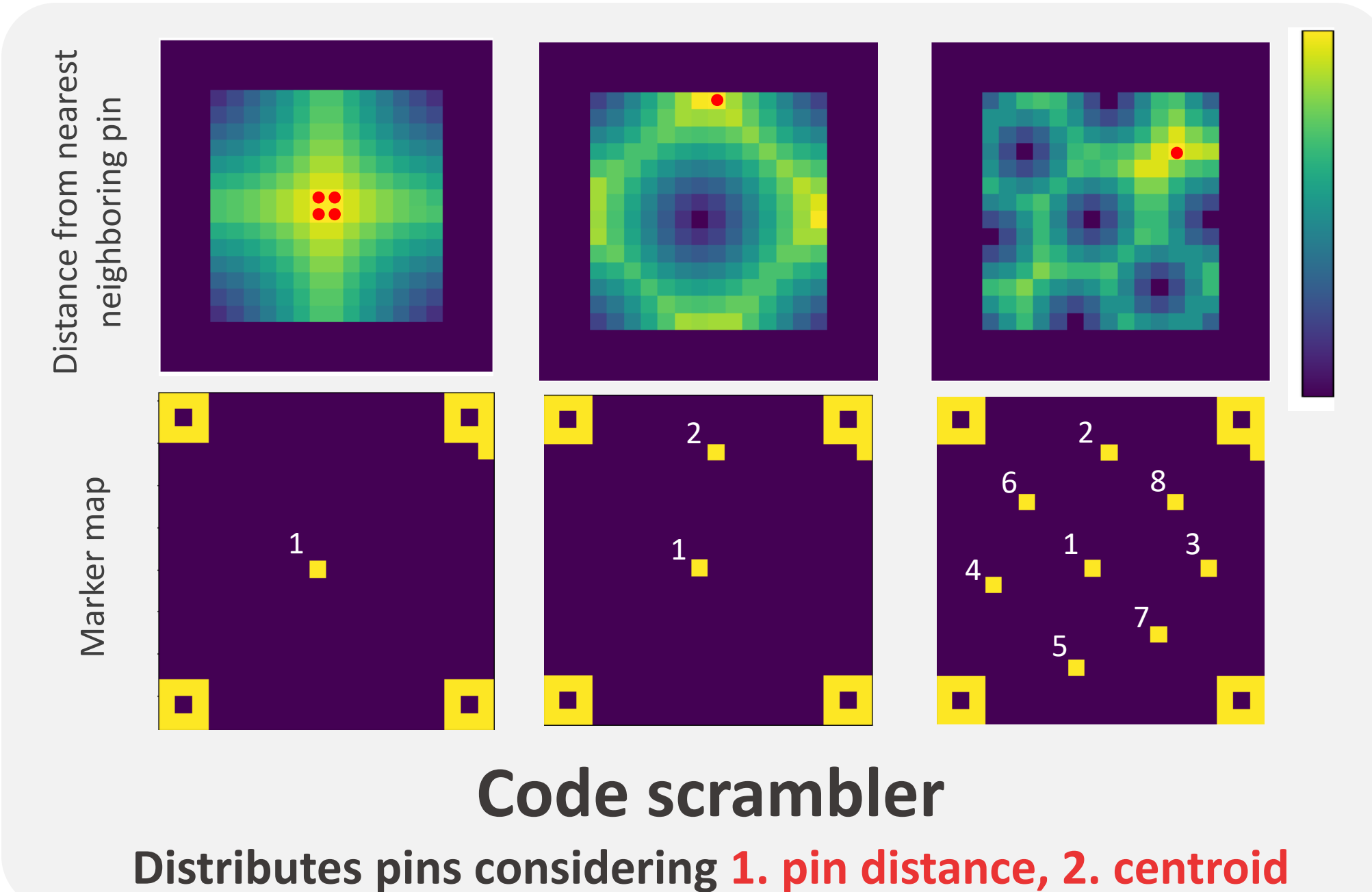
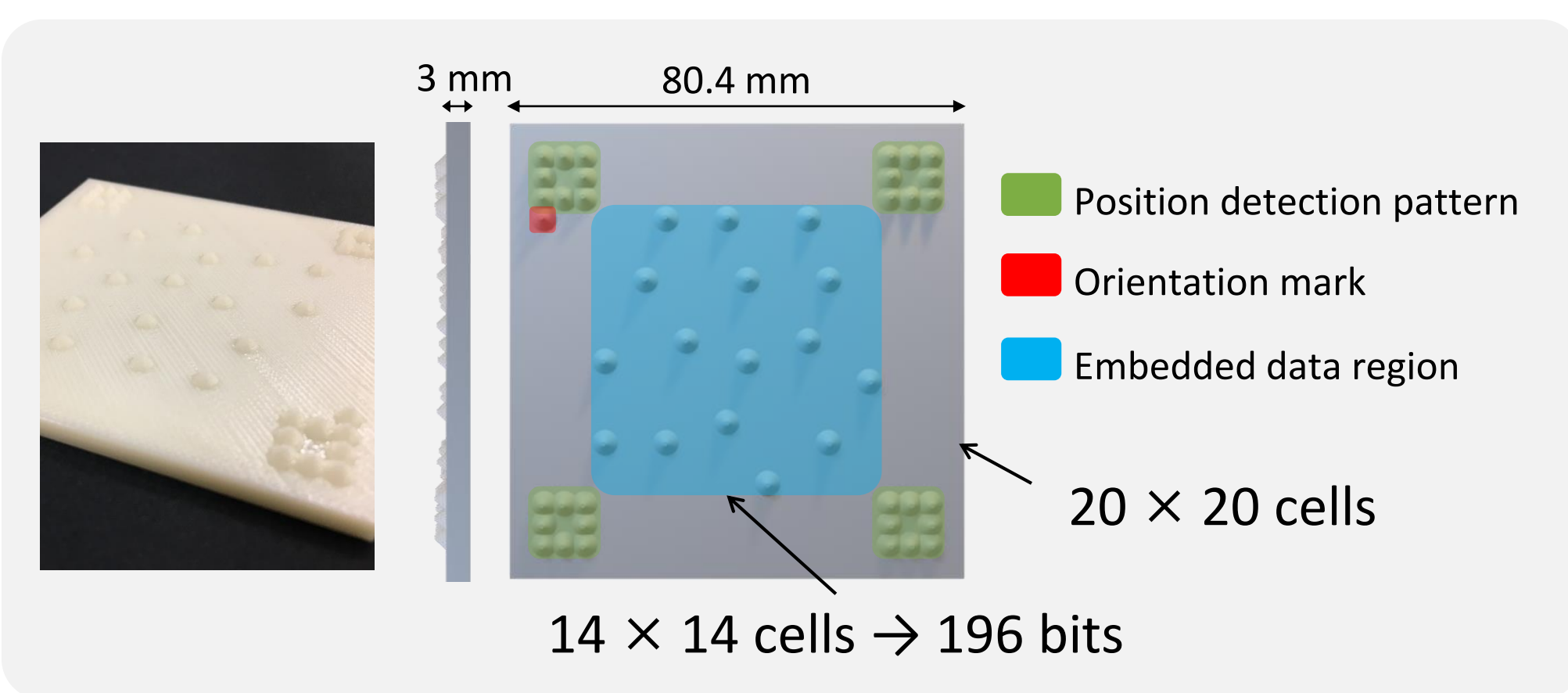
Difficult to monitor **amount of liquids in containers**
 → Use a high-resolution pressure sensor sheet as a bed
 → Read bottom patterns and calculate weight



Evaluation



Design & Fabrication



Acknowledgement

This work was partially supported by the NEDO, New Energy and Industrial Technology Development Organization, Japan.