Flexure-based robot grippers for argo/food

Handle with care

Boi Okken, Filip Šunjić, Mohaddese Hazini, Koen Dwarshuis, Martin Tschiersky, Jan de Jong, Janset Dasdemir, Dannis Brouwer

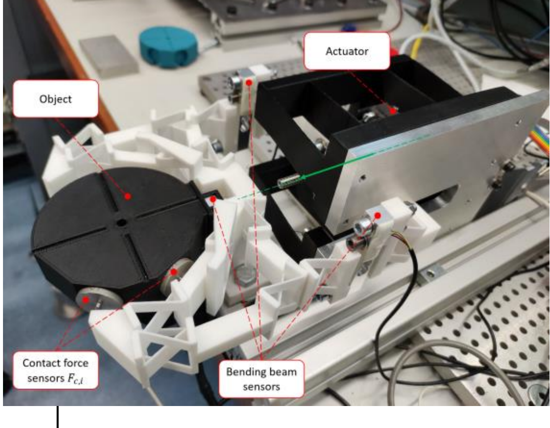
ROBOTICS CENTRE
UNIVERSITY OF TWENTE.

Robotizing agro/food industry reduces

- Human labour shortage
- Monocultures reliance
- Pesticide usage

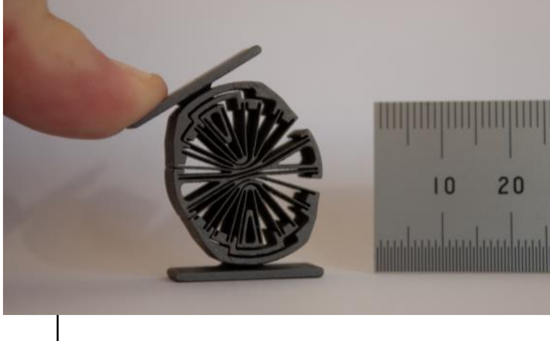
Challenges in robotic agro/food handling

- Variety of object shapes
- Fragility of produce
- Hygiene and harsh conditions
- High throughput



Flexure-based gripper advantages

- Compliant adaptation
- Cleanable and disposable
- Predictable
- Minimal set of sensors and actuators
- Function integration with minimal assembly



Ongoing research

- High-load miniature flexure joints
- Gripper lay-out design methods
- System integration
- Minimal sensor and control strategies