FlexTECH:

Taking the next step with 'Printed Electronics'

Flexural Thermal Expansion by Conductive Heating

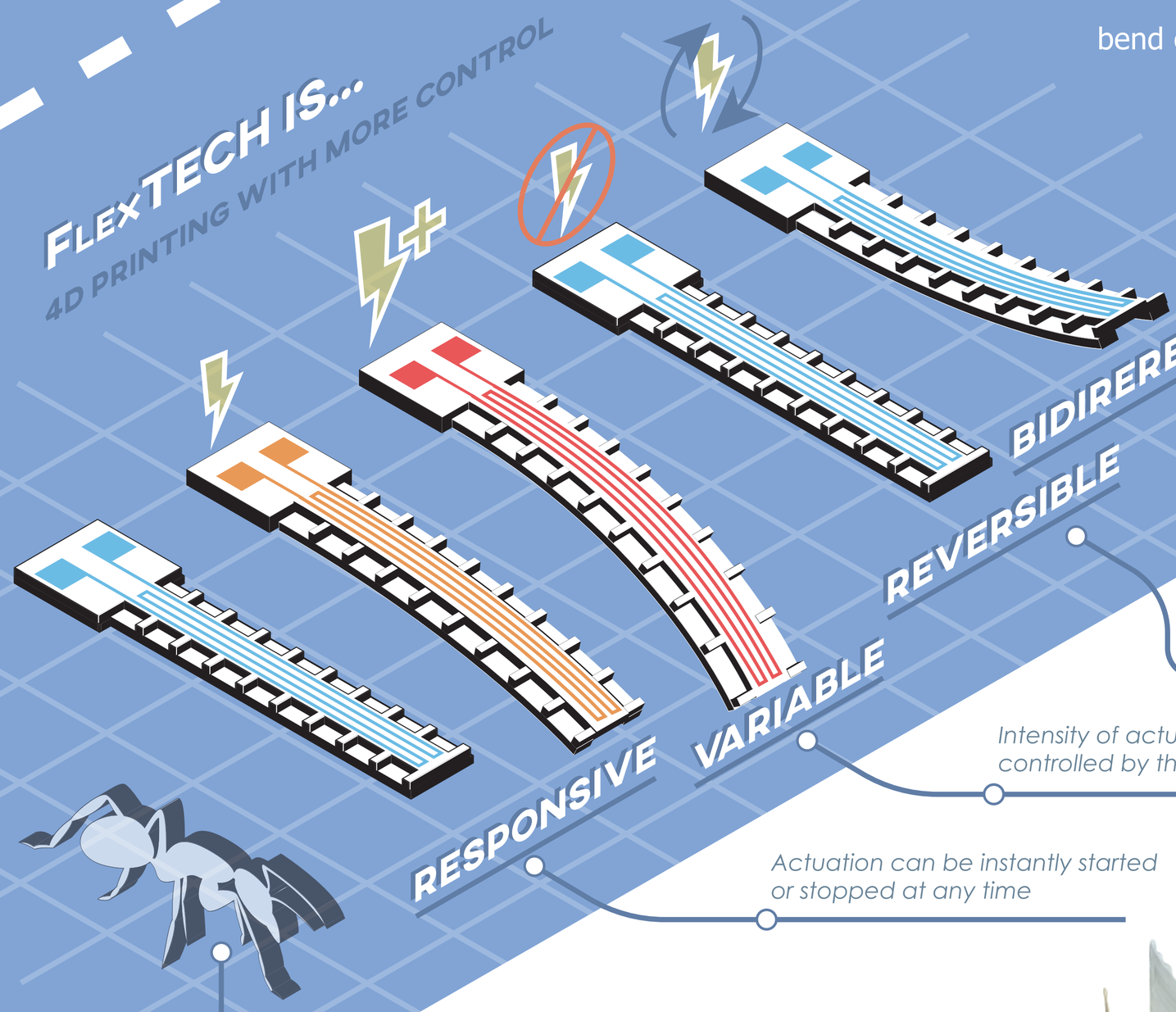
// *The material bends...*

// *due to a temperature difference..*

// *caused by a resistor circuit.*

FlexTECH is a new technology that combines Printed Electronics and 4D Printing to create a material that can bend on command. The actuators can be printed as a single component, and have the potential to reduce complexity, cost, and weight in robotics.

FlexTECH IS...
4D PRINTING WITH MORE CONTROL



BIDIRERECTIONAL

The actuator can move in either direction, depending on which side is stimulated

REVERSIBLE

The actuation is undone by disabling the stimulus, i.e. current

VARIABLE

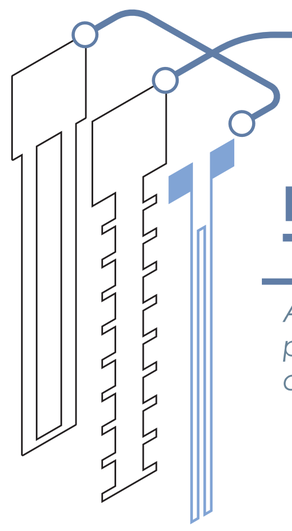
Intensity of actuation can be controlled by the power supply

RESPONSIVE

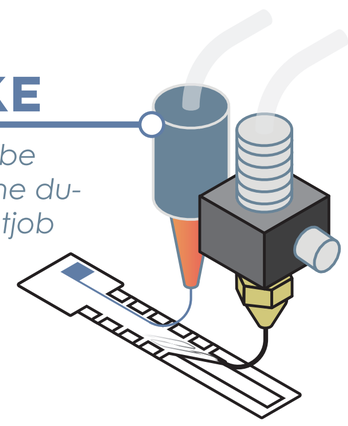
Actuation can be instantly started or stopped at any time

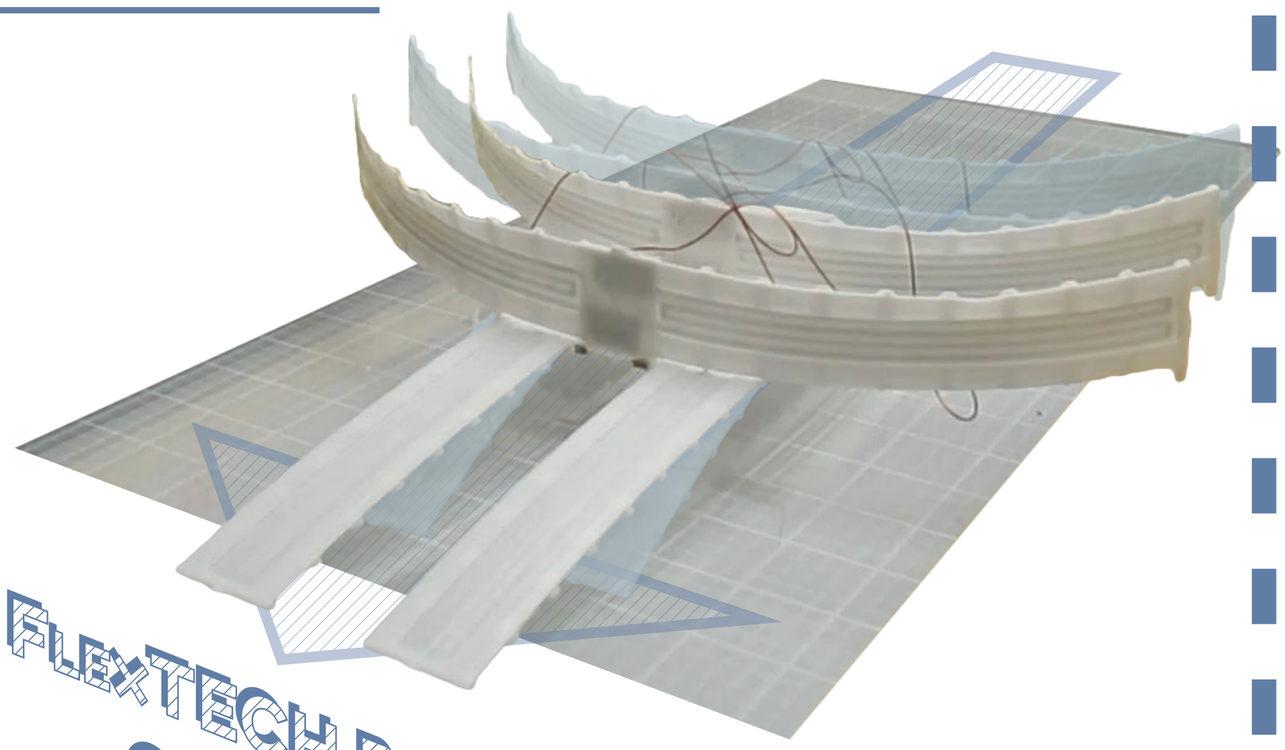
LIGHTWEIGHT
Actuators weigh only a couple grams but have a relatively high force-to-weight ratio

RUDIMENTARY
The actuator is a single component consisting of 3 parts and 2 materials.



EASY TO MAKE
Actuators can be produced in one dual-material printjob





FLEXTECH ROBOTS CAN MOVE

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FlexTECH: Taking the next step with 'Printed Electronics'
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Integrated Product Design

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