

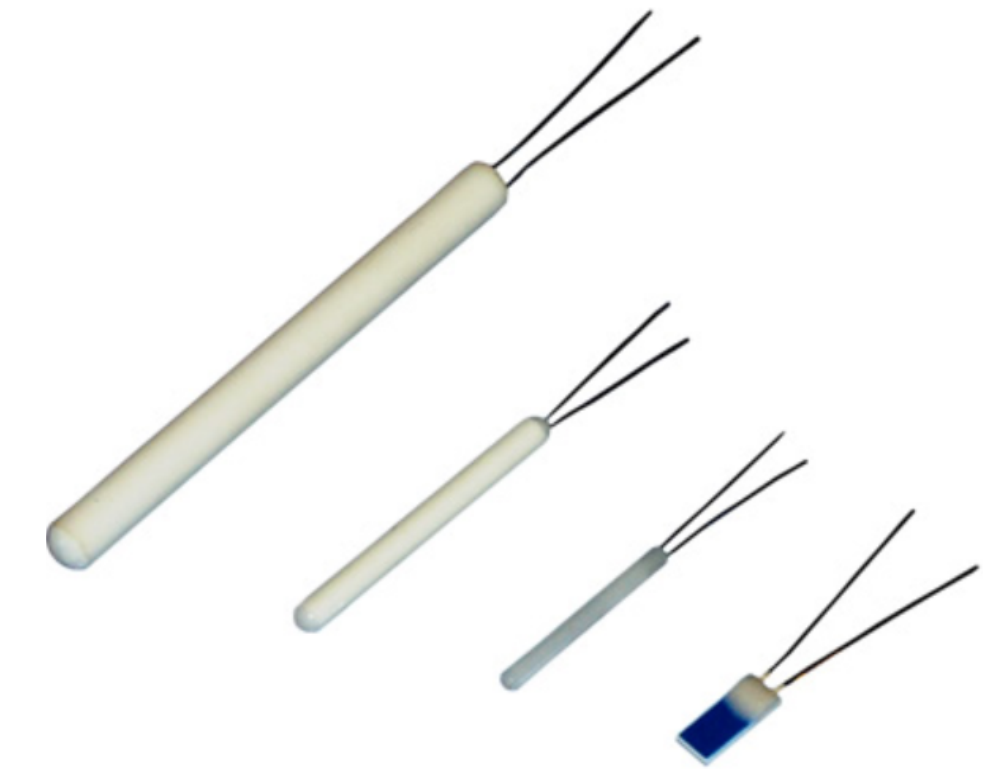


FLEXIBLE GRAPHENE TEMPERATURE SENSOR (RTD)

GAPS OF TODAY'S SENSING

WHAT IS THE CHALLENGE

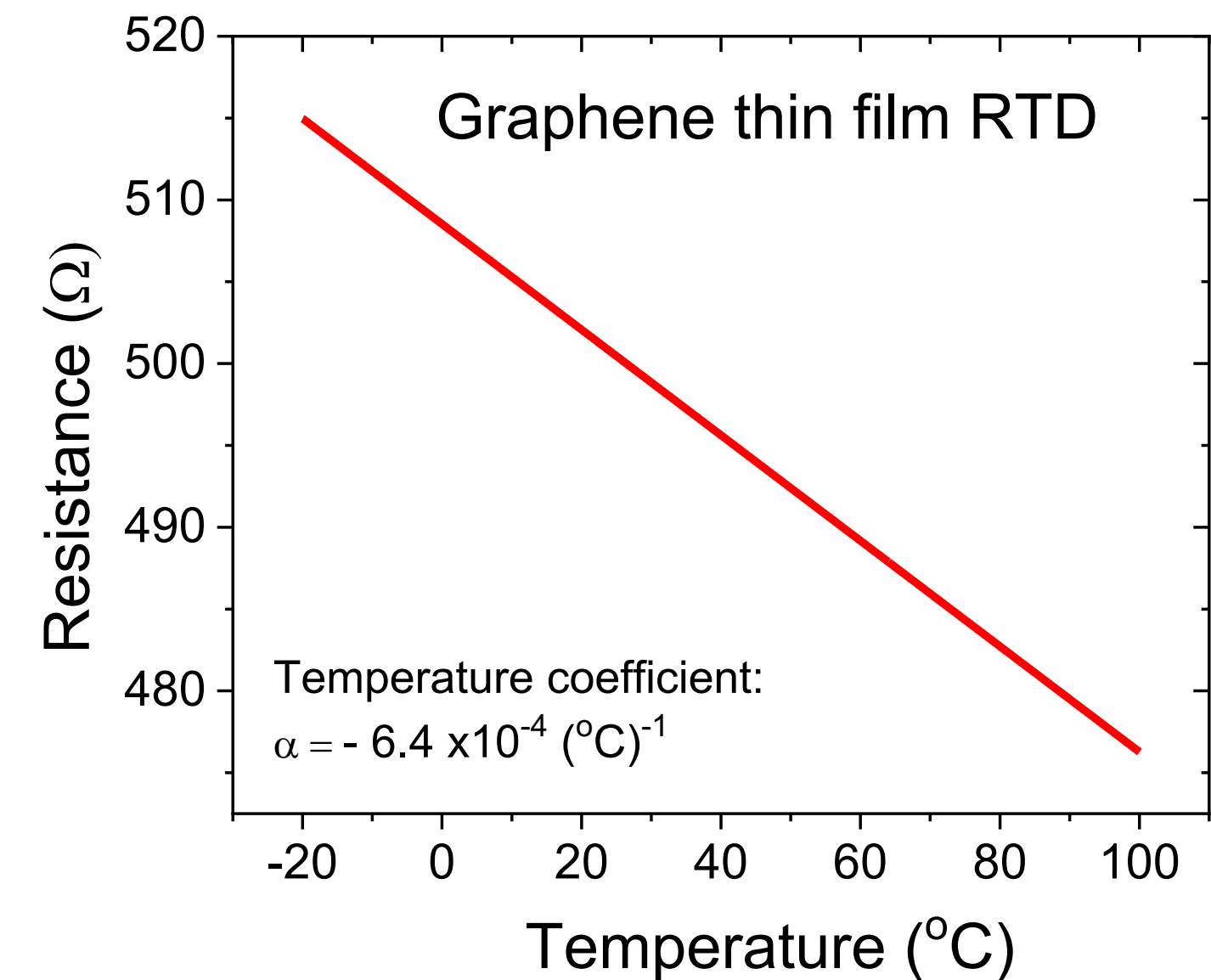
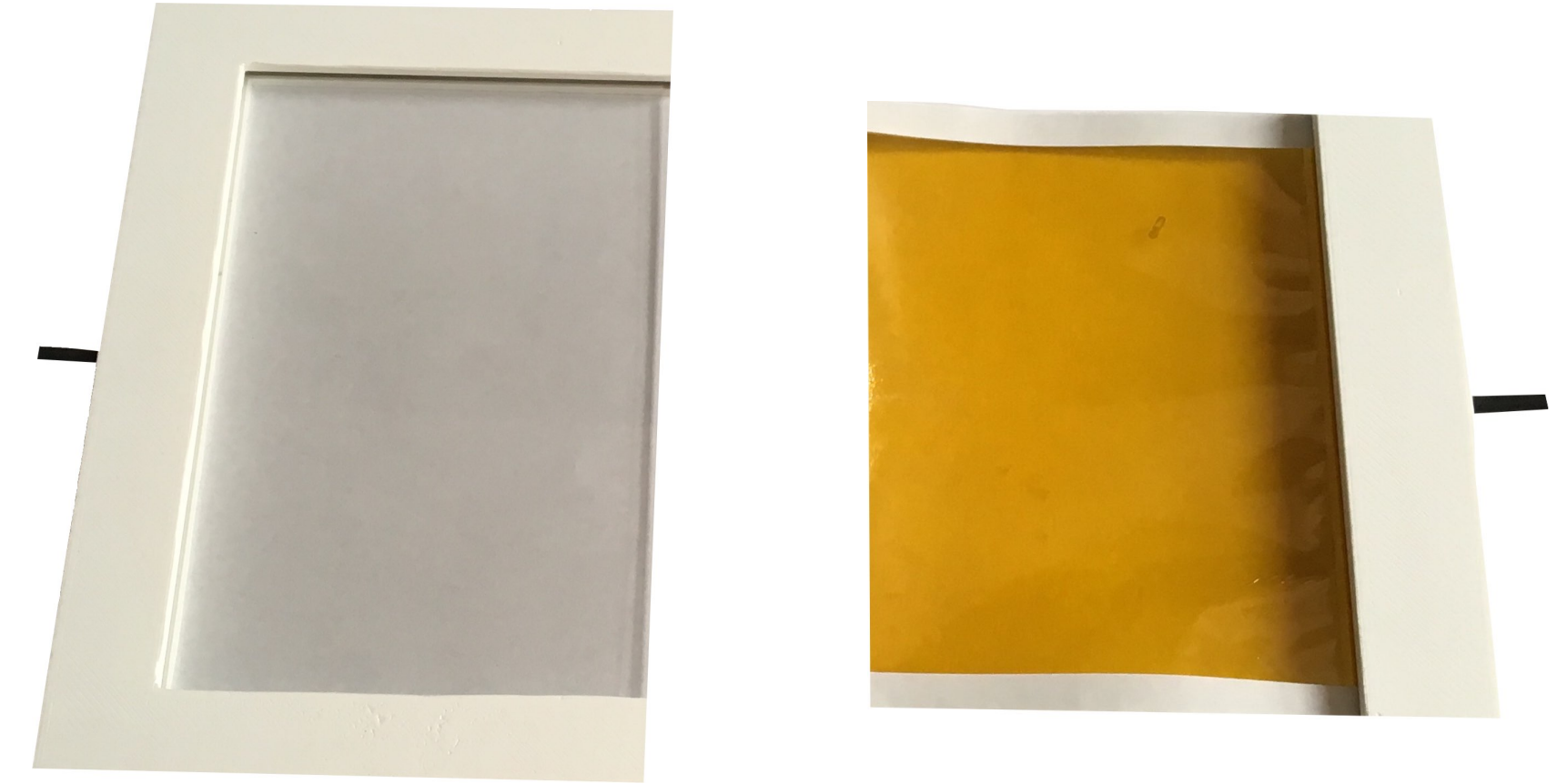
- Today's RTDs are **local, heavy and bulky** for some applications
- Sensing **not directly on the surface of large areas**
- Lacking sensors for **very fast response**
- **High price of material** for today's industry standard RTDs (platinum)
- **Mapping of local overheating** of devices with low heat-conductive surface
(most sensors cover only small areas)



FLEXIBLE GRAPHENE TEMPERATURE SENSOR

FEATURES AND BENEFITS

- Very thin - less than 1 μm
- Light-weight and flexible
- Fast response due to low heat capacity
- Low power consumption
- Deposition of sensing material directly on surface
- Large sensing area (from mm^2 to m^2)
- Precision of temperature value $\pm 0.5^\circ\text{C}$
- Application on various substrates



FLEXIBLE GRAPHENE TEMPERATURE SENSOR

POTENTIAL APPLICATIONS

APPLICATIONS

- Temperature sensing of flexible surfaces/objects
- Sensor for rechargeable batteries
- Heat trace detection
- Mapping of temperature distribution
- Ultra-fast heater, Low heat capacity
- Temperature control and compensation in electric circuits

INDUSTRIES

- Health care & life science
- Aviation
- Automotive
- Electronics
- Transport & logistics
- Energy management
- Process monitoring