

TECHNOLOGY INTEGRATION FOR FASHION

Technology integration in fashion combines innovative materials and digital tools to create smart, functional clothing. This includes smart textiles and wearable tech that enhance aesthetics and utility, allowing garments to respond to environmental changes and user needs.

KEY CONCEPTS

- **Smart Textiles:** Fabrics that detect and react to environmental changes, such as temperature or light.
- **Passive Smart Textiles:** Alter characteristics in response to stimuli, including hydrophobic (water-repellent), hydrophilic (water-absorbing), and shape memory materials that return to original form after deformation.
- **Active Smart Textiles:** Incorporate sensors and actuators to detect signals like temperature, light intensity, or pollution, and respond dynamically, such as in heated coats or sensory dresses.
- **Applications:** Extend to smart fabrics that automatically adjust to thermal, chemical, or mechanical changes, and shape memory textiles offering high deformation recovery, shock resistance, and flexibility under various conditions.

BENEFITS

- Enhances functionality, such as providing warmth or repelling water without additional layers.
- Promotes sustainability by using advanced materials that adapt rather than requiring multiple garments.
- Enables interactive experiences, like fabrics that change color or pattern based on user input or surroundings.

EXAMPLES

