

## 2. Related Work

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### Smart fabrics as a broad field

Hassabo et al.[8] provide a comprehensive overview of the extensive field of research in smart fabrics. Smart fabrics can be an umbrella term for various approaches to creating smart functionality on any type of fabric. The "Fabric" in smart fabrics does not necessarily need to be a textile, but can be any composite material consisting of smart components. Additionally, "Smart" lacks a concrete definition. It may involve computation, sensing, actuation, modification of the fabric's responses or behavior, or passively provided features beyond the norm.

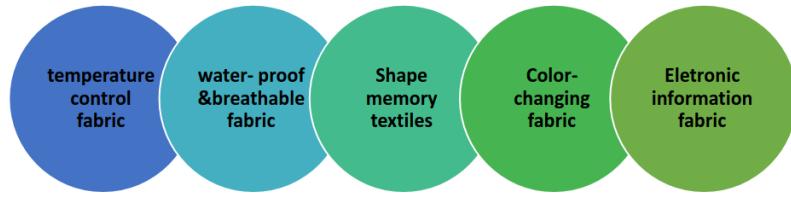


Figure 2.1.: Applications of SMART fabrics, from Hassabo et al[7]

Examples of these different smart features might include materials with varying stiffness, as demonstrated by Yuen et al.[32], or shape memory materials, as developed by Huan et al.[12]. Passive features might be better temperature regulation[13, 10] or water evaporation[5, 14], for example.

### Sensing smart fabrics

Many approaches to smart fabrics, classified as passive smart fabrics, focus on sensing the environment of the fabric in a new way and making these measurements accessible to