

Abstract

Sustainability of Smart Textiles and Legislative Change – the EU waste management law

Fabian Schoden ^{1,*} and Eva Schwenzfeier-Hellkamp ¹

¹ Institute for Technical Energy Systems (ITES), Bielefeld University of Applied Sciences, 33619 Bielefeld, Germany; eva.schwenzfeier-hellkamp@fh-bielefeld.de (E.S.-H.)

* Correspondence: fabian.schoden@fh-bielefeld.de; Tel.: +49 521106-7386

Abstract

Smart textiles have a huge potential to enable a variety of additional functions and applications for textiles. However, in view of the climate and resource crisis, the development of sustainable and recyclable smart textiles is becoming increasingly urgent. Therefore, we will show what smart textiles are made of and what role electronics, nanoparticles or finishings play. Four steps are described to show how circular or sustainable smart textiles could be developed. Finally, EU waste management law and legislative change will be described and the opportunities and challenges for 2025 will be highlighted.