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Summary

In the present study within the 28th call for tenders for the production of the future, the potentials, challenges, strengths and weaknesses of the innovation ecosystem Smart Textiles in Austria were examined. The main focus of the study was to identify research and development topics with high future potential and on the other hand to elaborate options for action in order to exploit the best possible use of the potentials of and for Smart Textiles in research and industry in an Austrian context in the future.

Smart Textile technologies undoubtedly offer today's textile companies new opportunities for innovation. First estimations of potential market volumes of Smart Textiles applications nationally and worldwide point to a significant and continuous increase in gross value added by Austrian Smart textiles producers of up to 475 million euros in 2030. However, this implies that companies will have to invest at a time when this new technology is still in its "infancy". In any case, a development towards Smart Textiles will involve a structural change: the textile industry will shift towards the electronics industry. It is therefore necessary to address the transformation challenges of existing, mostly small-structured and "low-technology" companies in the textile and clothing industry and to support investment in "smart technologies".

The expert consultation in the course of this project showed that a wide variety of R&D topics of the future must be tackled in close cooperation with or even driven by the electronics industry. Some effort is needed to join up the different value-added areas for cooperation in the development of Smart Textiles applications throughout Austria. From the point of view of the textile industry, there is a lack of suppliers and development partners, especially from the electronics and software sector.

Innovations in the field of smart textiles can be stimulated by appropriate cooperative, interdisciplinary and application-oriented research and innovation with Austrian (and international) university and non-university research institutions, as well as by strategic priority setting and public funding measures. In addition, networking and awareness-raising measures must be carried out in order to develop and establish a cross-sectoral and interdisciplinary innovation ecosystem Smart Textiles. In combination with appropriate training and education in secondary, tertiary and entrepreneurial areas, it will be possible for more and more, especially young people to become enthusiastic about the Smart Textiles sector and thus to develop the necessary skills and capacities in the area of human

resources. Additionally, appropriate measures for employees in the textile and clothing industry need to be introduced in a timely manner.

In order to exploit the potential of Smart Textiles applications, public RTI and location policy measures must be introduced to increase respective research activities and thus the research quota, to further develop the innovation ecosystem, to open up markets, to strengthen the necessary human resources and, last but not least, to stimulate entrepreneurial investment and activities in the Smart Textiles sector.