Projecttitel: SurfTexAntenna

"Development of a production process and a development methodology for textile antennas"

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Mission Statement:

The increasing level of digitisation is a highly discussed topic in society, politics and business. The shift towards the working world 4.0, smart homes and industry 4.0 holds many opportunities and risks. For example, the tolerable transition to the world of work 4.0 strongly depends on people being well integrated into their networked world. New risks arising from digitisation must be compensated in time by suitable technical measures. In areas such as catastrophe protection, technical emergency services, police, fire brigades or security services, light and soft technical solutions are required in order to be able to contact their colleagues via radio safely and quickly and without physical impairments.

If the use of hard components can be dispensed with here, the comfort and safety of the emergency forces can be improved. For this reason, new antenna technologies are required which are characterised by a high level of wearing comfort, freedom of movement and a light structure with excellent radio quality at the same time.

Approach:

The textile antenna technology to be developed in this project for the realization of new, comfortable Smart Textile solutions or Smart Wearables will close this gap. The fact that telecommunications technology constantly provides new standards for different frequency ranges and ranges increases the variety of possibilities for the use of textile antennas. In addition, an important part of the infrastructure for the Internet of Things (IoT) has been realized by establishing standardized frequency ranges. For the first time, the desired development of the Smart Textile with antenna function will close the gap in the so far inadequate networking of humans in the IoT.

The SurfTexAntenna project aims to develop a portable multiband antenna that maximises the wireless communication function of a body-worn device for civil protection, public safety, etc. (see Figure 1).

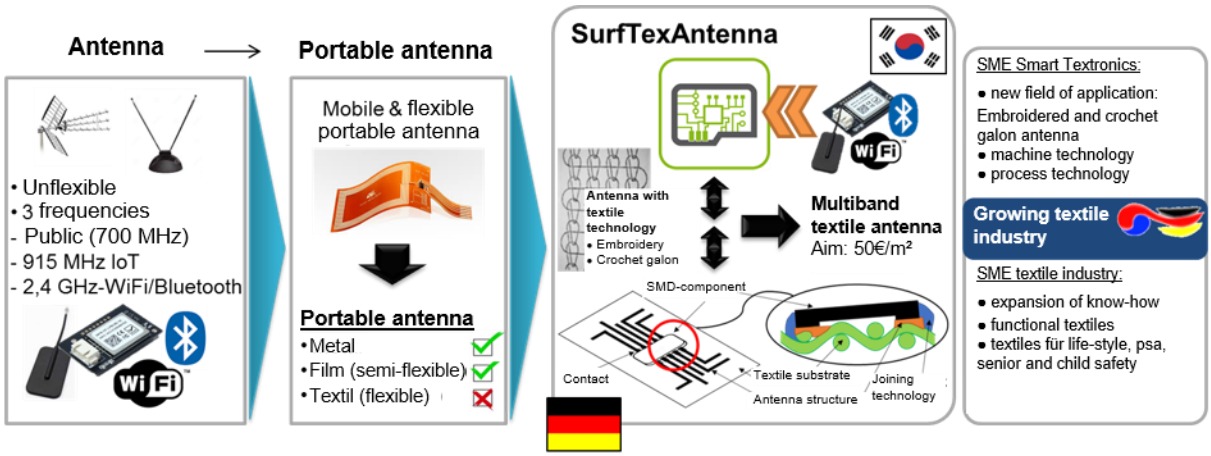

Figure 1. Overview project approach and SME benefits

An interdisciplinary and international consortium consisting of antenna designers, surface manufacturers, electrical engineers, textile technicians and product designers was set up to achieve the goals.

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