

Project title:	SmartPro – Lightweight, flexible and smart protective clothing for law enforcement personnel
Partners:	Materials Industrial Research and Technology Center S.A. (GR), LEITAT Technological Center (ES), Next Technology Tecnotessile Società Nazionale di Ricerca r.l. (IT), Foundation for Research and Technology Hellas (GR), Kostas Siamidis AE (GR), BCB International Ltd. (UK), Soliani EMC SRL (IT), E.CimaSA (ES), Departament d'Interior - Generalitat de Catalunya (ES)
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Mission Statement

Protective clothing for law enforcement personnel is mostly heavy and bulky. Therefore, they limit the wearer's mobility and agility. The main goal of this research project is the development of lightweight and flexible protective clothing for security personnel with integrated smart functionalities. The Smart functions for personnel monitoring ensure the safety of law enforcement personnel and allow shorter reaction times for the support and rescue of injured persons.

Approach:

The basis for the development of the new protective clothing is the validation of user requirements. At ITA smart functionalities for localization and health monitoring as well as textile antennas for data transfer are developed and integrated into the protective textile. Textile electrodes are integrated into an undergarment shirt, connected to the ECG hardware, which is part of the body armour. Additionally, textile antennas are manufactured using conductive textiles and patch antenna architecture. The antennas are designed for GPS and GSM network to receive GPS data and send information GPS and heart rate data to a remote location via webserver (see Figure 1).

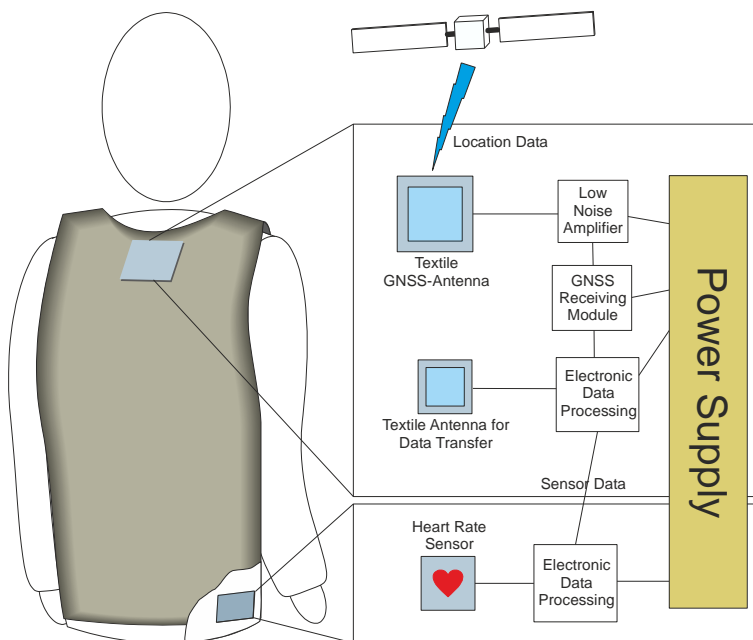


Figure 1: Connection of smart functionalities developed within SmartPro

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