



Network partner Smarterials Technology GmbH - Successful application in Horizon 2020 for the project "SafeGlov" - highly innovative safety gloves for medical personnel

In spite of medical high-tech equipment, the repeated occurrence of accidents with serious consequences such as needlestick, cut or syringe injuries and the associated risk of secondary infections are a major challenge for medical personnel in various clinical applications. Every year millions of cases are counted in the European healthcare system and worldwide. If medical gloves are perforated, they lose their barrier function.

Many surgeons and nurses try to protect themselves against the risk of infection by wearing two gloves on top of each other. In addition to the high consumption of materials, precarious working conditions with a permanent risk of serious blood-borne diseases (HIV, hepatitis B/C) are drastic consequences for people, who are constantly exposed to potentially infectious body fluids. The economic consequences are also enormous, as the follow-up costs per needlestick injury (and additional treatment, litigation, compensation costs) for hospitals and society can be as high as USD 1,691.

The Smarterials Technology team has developed a technology that integrates the advantages and functionality of double gloves into single gloves. Its two-in-one gloves are based on an innovative microparticle layer. This layer allows the creation of a multi-barrier protection system and the integration of a perforation indicator - the first single glove ever to warn the user in case of breakage and possible contamination.

The Two-in-One gloves can be as thick as an orthopaedic double glove system or as thin as a single glove and meet the requirements of various applications, i.e. microsurgery, surgery and orthopaedics. The technology can also be applied to cleanroom and examination gloves made of natural and synthetic rubber.

As a network partner of the **international ZIM cooperation network ProSafeMed: For safe medical devices and processes – supported by the Federal Ministry for Economic Affairs and Energy**, Dr Martin Bothe, Managing Director of Smarterials Technology GmbH, contacted the ProSafeMed network managers of AGIL GmbH Leipzig to support the market launch. AGIL innovation consultant Tobias Espig recommended the Berlin start-up to use the SME instrument Phase 2 within the framework of the EU funding programme HORIZON 2020, after Smarterials had already successfully applied for 50,000 euros in the first phase of this funding instrument to develop a detailed business plan. He supported the company in preparing the application text in English. The project convinced the evaluators as well as the jury on site in Brussels, so that Smarterials Technology GmbH was able to win out over a total of 2009 competitors with the "SafeGlov" project at the first attempt. For the pitching interview in Brussels as the second stage of the application procedure, 192 SMEs (16 of them from Germany) were invited to Brussels. The EU is supporting the "SafeGlov" project (total budget: EUR 2,655,800) in the period from 01/01/2020 – 31/12/2021 with a total grant of EUR 1.85 million for measures to prepare the market entry.

Within the SME-Instrument Phase 2 project, Smarterials Technology GmbH is introducing its groundbreaking innovation to replace double gloves based on microparticles, multiple layers and the use of natural raw materials (TRL 6-7) on the European and global market. The unique selling propositions of high protection, superior sense of touch and maintained dexterity as well as reduced energy and material consumption at low cost will fundamentally change the rules of the surgical glove market. During the project, the production processes at

the manufacturers have to be adapted, the patent-pending technology has to be demonstrated in core applications (especially in surgery) and customer needs have to be identified in order to prepare the market entry and make this technology the new protection

standard in health care. This is an ever-growing sector, a high-volume market worth more than 1.4 billion euros. Europe accounts for about 28% of the world market revenue. The exploitation is planned to be carried out in cooperation with global glove dealers. Their established distribution channels in buying groups and hospital purchasing departments support a rapid global expansion into this conservative market.

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