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# WOUND CARE, WOUND NURSING TISSUE REPAIR & REGENERATIVE MEDICINE

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## Electrospun fibers for advanced wound care

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The global market for advanced wound care is estimated to grow from US\$ 10bn in 2017 to more than US\$ 13bn by 2022. This rapid growth is driven by factors such as the global increase in the incidence of surgical wounds and various ulcer types (diabetic foot ulcers, pressure ulcers, and venous leg ulcers), the aging population, rising R&D activities in this field, and increasing awareness of the improvements in therapeutic outcomes and quality of life offered to patients by advanced wound care therapies. While the technical and commercial barriers to entry in the market of advanced wound care are high, electrospun fibers present a new category of materials that offer value addition that can be leveraged with existing products and can also be used to create new-to-the-world products. This potential has not fully been realized and there is huge capacity for electrospun fiber-based materials to be applied in developing novel dressings and devices aimed at controlling infection, managing wound moisture, and reducing scarring. This talk describes electrospun fiber developments and applications in advanced wound care and looks at commercialization aspects of electrospun fiber products. Some of the aspects covered will include: (a) Smart formulations and architectures that directly address the indication at the biointerface; (b) The use of a suitable high-throughput electrospinning platform technology; (c) The necessity for a good understanding of the regulatory path, economic and reimbursement factors; and (d) Clear understanding of the user needs from the design phase. All of these factors will affect the likelihood of successful transition of novel electrospun fiber based wound care product concepts from the lab to commercial production.

### Biography

Eugene Smit is an inventor, scientist, and entrepreneur. He received his PhD in polymer science from Stellenbosch University (South Africa) in 2008 with a focus on electrospinning and studies towards a high-throughput production of nanofiber yarns. He is the lead inventor on 32 granted nanofiber and electrospinning related patents and has several additional patents pending. He founded the Stellenbosch Nanofiber Company (SNC) in 2011 with the goal of commercializing the SNC BESTTM high-throughput electrospinning technology.

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