

Frontiers in Fashion: The Future of Smart Textiles
Michael McKeldon Woody, Bob Cormier, Jim Owens, and Michelle Farrington

April 14, 2021

Summary by Haley Fanara

We were joined by a panel of experienced individuals from the Rhode Island Textile Innovation Network (RITIN) to discuss the future of smart textiles. Moderated by Michael McKeldon Woody, CEO of Trans-Tex LLC, a textile company based in Cranston, RI and current chair of RITIN, he moderated discussion through topics such as smart textiles in medical technology, the challenges this industry holds, details of the supply chain, and sustainability concerns going forward.

First we heard from Bob Cormier from Sentec, a Swiss-based medical device company. After two decades of medical device experience in large companies such as Covidien (now Medtronic) and smaller patient monitor companies, he has found a home at Sentec. Bob discussed some of the work they do, focusing on innovative, technical ways for doctors to see vital signs in a person's body, primarily focusing on ventilation and assessing lung function. Through sensors on the skin, CO₂ in the body can be measured. The company hopes to create even less invasive patches in non-visible fabrics in the future. With this technology, Cormier discussed intellectual property concerns as competition develops in this growing market.

Next we heard from Jim Owens, founder and principal of Nautilus Defense, a Pawtucket, RI-based company focused on advanced textile and composite-integrated symptoms. Jim discussed challenges in finding manufacturers to combine the two worlds of technology and textiles, which is difficult in multidisciplinary systems. The supply chain must penetrate all of these markets with smart textiles, which have to be done to scale and highest level of quality given that there are legacy expectations about what consumers want and get out of their clothing. Each step in the supply chain for the product, whether it be ideations, to manufacturing, to commercialization, must fit the market.

Lastly we heard from Michelle Farrington, Vice President of Strategic Growth at AFFOA (Advanced Functional Fabrics of America). Formerly employed by Analog Devices for 24 years working on commercializing new technologies, energy harvesting, and e-textiles, she has acquired a great deal of experience. She discussed the public-private partnership formed with a textile focus after the realization of the U.S. losing manufacturing jobs to off-shoring. Through this ecosystem of members, AFFOA facilitates connections and helps develop U.S.-based supply chains for technology and textiles.

At the end of the presentation, Michael opened the floor to the panel as a whole with the question: how will smart textiles affect sustainability of apparel going forward? Michelle answered by saying that the new technical textiles will have a higher value, therefore will be held on to longer; however they must increase the washability to above 50 washes (industry standard). On top of that, less sustainable materials are used because tech is not that sustainable. For example, color changing fibers are made from plastic tubes which are not so great for the environment. We are left with advice on how students can get involved in smart textiles. Through project-based learning, attending events, and networking, opportunities can present themselves. Bob advised us to be curious, creative, and if we see a problem, go and try to find a solution... and most importantly to take risks.