

BIONTEC

BIONIC COMPOSITE TECHNOLOGIES

BIONTEC named top Start Up in Composite Materials Sector by StartUs Magazine



As the manufacturing industry is moving to adopt new technologies it not only promotes increased productivity and efficiency – it also becomes a key driver for innovation and growth. With the global smart manufacturing market valuation predicted to grow to [€445 billion](#) by 2024, the potential emerging technologies offer become evident. Artificial Intelligence (AI) for one, will soon grant data insight in real-time, supporting and instructing workers and robots in complex manufacturing processes. At [StartUs Insights](#), we took a detailed look at startups working on advancing solutions and technologies in the manufacturing industry. Using a data-driven, evidence-based, approach of actual startup activity, we've analyzed 800+ young companies to identify innovation areas that transform manufacturing as we know it today.

Composite Materials

Talking about composite materials, ceramic, glass, and carbon fibers are among the most advanced ones. Ceramic fibers are expected to have the highest rapid growth rate between 2022 to 2027 due to significant amounts of investment – predominantly in ceramic matrix composites (CMCs) but also in metal matrix composites (MMCs). Though glass fiber will not grow as rapidly, it already operates in high volumes specifically in the automotive and [construction industry](#). The widely discussed carbon fibers will enter new industries yet maintain a steady growth due to a decreased price. Multifunctional or smart composite materials will respectively find appliance in thermal and/or electrical conductivity, self-healing, adaptive response, energy harvesting & storage as well as embedded structural health monitoring. When moving into new applications, hybrid parts become increasingly important as pure composite materials often have limitations. Manufacturers can create hybrid composite materials through overmolding, joining, advanced coating as well as interlaminar layers & sandwich cores. Although MMCs are behind CMCs, both are an increasingly significant field as the applications vary from gas turbines and military rockets to high-performance insulation.

Swiss [BIONTEC](#) develops the Multi Parallel Technology® to produce a carbon fiber reinforced polymer (CFRP) with tailor-made mechanical properties. The company manages to manufacture monolithic structures as well as hollow parts and sandwich parts in one shot. Advantages of the in-house produced CFRP include a very high stiffness at a low weight, dimensional stability, vibration damping, x-ray transparency and a modern surface design “carbon look”. From HT or UHM carbon fiber to glass and aramid, machine-controlled processes ensure a high reproducibility and productivity.

<https://magazine.startus.cc/disrupting-manufacturing-industry-breakdown-startup-driven-innovation/>