

Company Profile Spiber



To establish a new category of sustainable, high-performance manufacturing materials by enabling the industrial production of synthetic spider silk and other artificial protein polymers.

About the product

Spiber's synthetic protein materials are tailor designed at the molecular level, using DNA as a blueprint to code for specific sequences of amino acids that make up variants of the protein polymers. This enables design of materials with a wide range of unique physical properties, for use in industries such as apparel, automotive and medical devices. These sustainable materials are produced without petroleum through fermentation of agricultural produce such as sugars.

About the market

Spiber is initially targeting the apparel textiles market, which is mostly comprised of petrochemical synthetic fibers (such as polyester, nylon and acrylic) and cellulosic fibers (such as cotton and rayon) produced at low cost. Conventional animal based protein fibers (such as wool and silk) provide superior quality and comfort in textiles, however they account for less than 2% of the global fiber market due to relatively high costs and limited supply capacity.

Website

www.spiber.jp/en/

Industry

New-generation biomaterial development

Founders

Kazuhide Sekiyama
Junichi Sugahara
Hideya Mizutani

Foundation year

2007

Legal form

Japanese Stock Company
(Kabushiki-Kaisha)

Headquarters

Tsuruoka, Yamagata prefecture, Japan

Key executives

Kazuhide Sekiyama, Representative Executive Director
Junichi Sugahara, Executive Director of Research & Development
Hideya Mizutani, Executive Director of Finance & Administrations
Kenji Higashi, Executive Director of Business Development

Number of employees

150 (as of Sept. 2016)



“We see proteins as a completely new class of materials. We are focusing our efforts on studying proteins in order to master them for use as industrial materials.”

Kenji Higashi

Executive Director of Business Development

What are your venture's key achievements to date?

Spiber has created a platform technology combining capabilities in molecular biology, fermentation, and polymers science to enable large-scale production of a wide range of protein polymer materials. Spiber has partnered with industry leaders for development of product applications of its materials, and has created prototypes including the “MOON PARKA™” announced in 2015 by The North Face apparel brand and the “Kinetic Seat Concept” announced in 2016 by the Lexus car brand.

What are your plans for future development?

Spiber is preparing to commence its first commercial scale production facilities which will produce high-performance synthetic protein fibers at costs that are competitive with conventional natural protein-based fibers. The initial applications of these materials will be in the field of outdoor apparel textiles in collaboration with The North Face brand. Spiber is also developing variants of its protein polymers to be released subsequently, designed for use in automotive and medical applications.