



Press release  
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## State-of-the-art: X-BIONIC introduces its current iconic products

With its smart technologies, X-BIONIC continuously reshapes the world of functional textiles. Small wonder – a team of biologists, doctors, engineers, and bionics specialists is constantly striving to unravel new secrets of nature, which can then be integrated into highly functional textiles. Besides new, revolutionary products, the Swiss specialists also introduce their current iconic product at the ISPO 2018. Innovations such as Fennec, Thorny Devil, 3D Bionic Sphere, AirIntake, as well as the Symbiotic Membran were vital in the Swiss company's journey to become the leading producer of highly functional sports clothes and state-of-the-art today.

### High tech for balmy days

As the name already implies, the Swiss specialists for highly functional clothing drew inspiration from the fennec, or desert, fox when developing their **Fennec Technology**. This animal lives and hunts under extreme heat conditions and has adapted itself optimally to these hostile conditions. Similar to the fur of the fennec fox, which shines silver in the sun, the Fennec Shirt also reflects the heat of the sun, black asphalt, and blisteringly hot house-fronts.

This effect is achieved through the use of X-BIONIC **Xitanit yarns**. The surface of the Fennec Shirt reflects heat radiation and remains cool on the inside. Additionally, Xitanit directs excess body heat outwards (e.g. generated by muscles) with its extreme conductive capacities. Additionally, circulation is initiated by the Heatpipe construction, which provides an additional cooling effect: Excess sweat advances through the ducts and is heated up and evaporated on the warm outer surface. This evaporation has a cooling effect.

### A natural cooling system for athletes

The thorny devil is another survival artist of the desert. To deal with a lack of drinking water, this animal adapted over time by developing a system of microscopically small grooves on its skin. The capillary forces of this system channel water from rain, as well as fog, and lead it to the thorny devil's mouth. Inspired by this example from nature, the developers at X-BIONIC came up with **Thorny Devil Technology**. As an example, the running pants from "The Trick Technology" product line rely on the same capillary action as the thorny devil in order to guide excess sweat moisture to those muscle areas that need cooling most.



### Turn sweat into energy

The sports items industry holds a deeply rooted, fundamental thought that sweat is unpleasant and needs to be removed from the skin. Therefore, traditional sports clothes strive to lead sweat away from the skin. As a result, the body cranks up its sweat production to avoid overheating. This results in a loss of energy, water, and minerals. X-BIONIC takes a different approach by supporting the natural cooling circuit of the human body. The 3D Bionic Sphere System, a core component of many X-BIONIC products, leaves behind a thin film of residual moisture on the body, which cools off through evaporation. Excess sweat is collected before it forms pearls and led to the outside of the functional piece of clothing to evaporate and provide additional cooling. With this system, the X-BIONIC Energy Accumulator Collection uses the 3D Bionic Sphere Systems to cool athletes and warm them up again during rest phases, to name just one example. This is made possible by the AirChannels on the inside, which store warm air and provide splendid insulation.

### A clever protective membrane adds comfort

Contrary to typical PTFE membranes, the **X-BIONIC Symbiotic Membran** not only transports water vapour outwards but also entire drops of sweat. Amphibians serve as the example behind the functioning principle of the unique membrane. Amphibians are uniquely capable of absorbing liquids through the skin, rather than drinking these, and storing liquid in their lymph sacs. Their secret lies in the structure of their skin. By unravelling these and reproducing them using technology, a highly efficient system to transport sweat through different layers of clothing can be created. This bionic principle is seen in the Streamlite Running Vest by X-BIONIC, for example. It breaks up the surface structure of beads of sweat, absorbs the moisture, and transports it outwards, where it evaporates. There are no microscopically small holes that can clog up, as is the case with conventional PTFE membranes.

### Unique cooling circuit

The **Xitanit Ski EVO Jacket** by X-BIONIC is a real iconic hit as well. Small wonder, as it features the unique **AirIntake Technology**, which is based on the breathing technique of marine predators. Most athletes are constantly moving, causing their bodies to sweat, which creates humidity and heat. In the worst case, this remains close to the body, as is the case with jackets. This creates a sweat-lodge effect that poses the risk of overheating.

Sharks use a highly efficient airflow principle when breathing: Water flows into the opened mouth of the shark as it swims forwards. The gills' lamellae direct oxygen into the blood and lead the oxygen-poor water back into the sea. The **AirIntake Technology** in the **Xitanit Ski EVO Jacket works in a similar way**: An individually adjustable opening at the chest allows cooling air to pass into the jacket, which is led to the back region through a ventilation system. The warm air, saturated with moisture, rises up and leaves the jacket at the collar through the diffusor construction: The perfect cooling circuit.

### About X-BIONIC®

X-Technology, the ideas factory for highly functional clothing, has been combining Swiss precision and



traditional Italian craftsmanship since 1998, creating products for the X-BIONIC®, X-SOCKS®, and Apiani® brands. In just a few years, X-BIONIC® and X-SOCKS® revolutionised the world of functional clothing. As the brand name X-BIONIC® already shows, the X-Technology® developers use their knowledge of bionics inspired by nature to develop functional clothing that improves the physical performance and well-being of athletes. Innovative technologies are used to realise this ambition. The more than 820 international patent registrations strive to release, for example, the body's own energy reserves through thermoregulation. More than 560 international prizes and tests won for innovation, product quality, functionality, and material quality substantiate this approach.

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