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## [Special feature] Functional fiber market attracting attention due to its antiviral effect: Canadian textile coating "PROTX2 AV"

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## 新型コロナウイルスと ファッション業界、 ファッションテックの現在

特集 今こそ考えたい、  
ファッションのこと、ファッションとテクノロジーのこと

### [Special Feature] Fashion, Fashion and Technology

Now, our lives are undergoing major changes due to the sudden outbreak of the new coronavirus infection (COVID-19). And the influence is no exception in the fashion industry. We cannot live naked, but clothes in the sense of enjoying fashion are luxury items rather than essential items. Now that I can't go out, I wear nice clothes and...

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The chemical substance "PROTX2 AV", which has anti-virus effect, became a hot topic because it was applied to the mask fabric of UNDER AMOUR whose reservation was started at the end of June . As everyday life is returning to the world, it will be important to have clothes that protect against infections while selecting the same clothes and masks as before so that they can be compared to new lifestyles.

PROTX2 AV is a chemical used as a coating in the production stage of fabrics, and it is expected to be used as a tool for infection prevention that can be easily introduced, not as a means to kill the source of infection. This

time, we interviewed Giancarlo Beevis, CEO of " Intelligent Fabrics Technologies (also known as IFTNA). ", who developed PROTX2 AV, regarding the research background and future prospects of PROTX2 AV. ..



## Realizing "Technology Innovation to Protect People" IFTNA

IFTNA, a development company, was founded in 2008, and is a textile development company headquartered in Ontario, Canada, mainly for healthcare, sportswear, military, hospitality, housing, home, fashion, etc. •

Technology is being developed. As the philosophy of the company

**"technology carried out in-house innovation, social as well, further reducing also go to their own belongs community"** has been mentioned

that, through this interview, to the global community, which is the prior to reduction Mr. Bivis strongly expressed his desire to help with the technology he possessed.

PROTX2 AV, which has been attracting attention due to the spread of coronavirus infection, is a chemical substance with an antiviral action, which is expected to be used as a surface coating in the production stage of fabrics. The latest lab results show that 99.9% of the coronavirus is inactivated within 10 minutes, with the bactericidal effect lasting for 24 hours. When the coating is applied, the virus will not be eradicated, but it will be possible to introduce it by adding it to the existing technology without the need for new equipment.





PROTX2 is said to have been developed mainly for the cruise industry when the Norovirus spread in 2011. If you spend a few days in a landed country, like a cruise industry, crossing the sea from country to country, the rate of infection will increase, but you will not be allowed to leave the ship. It can be considered similar to the current situation.

In 2011, reusable napkins used in restaurants were a prominent source of virus infection. When entering the store, the virus was caught in a place where he did not notice it, wiped his hand with a napkin, and touched his face such as the mouth and nose with the napkin, which was found to be a factor of infection. And PROTEX2 AV was developed to improve the utility of the fabric which does not stop only in the cruise industry.

However, at that time, the technology did not see the light of day because the large-scale cleaning company could not enter the market due to the strong connection with the cruise industry, which was held exclusively by the large-scale cleaning company. And nine years later, PROTX2 AV technology has come to the fore in a situation where the spread of coronavirus infection is becoming more serious on a global scale.

## Transformed market reaction

Looking back at the time of development, the focus of the market at the time was focused on sterilization, so the premise of spraying and washing was emphasized, Mr. Vivis said. "I don't think it was a place where innovative technologies such as surface coating that killed viruses by the fabric itself could penetrate much."

When I asked about the changes in the market and surrounding reactions under the development situation and the current situation, "The spread of coronavirus infection on a global scale seems to have changed the mindset itself of the market," he replied. I'm back. "Now, I think consumers and markets have a better understanding of antibacterial and antiviral technologies than ever before, and consumers will long for protection like antibacterial and antiviral. The desire for rational choices to add such protection at a cost is not widespread in North America, so we're not only providing masks and medical supplies, but **protection that can be easily incorporated into everyday gear. We are developing to provide**



PPE mask with PROTX2

The reserved Under Armor masks also have a PROTX2 AV coating on them, and it can be considered a matter of time before the antiviral sportswear and clothing hit the market. " **This technology is supposed to be added as a tool on a daily basis, not as a tool to eliminate the source of infection .**

In particular, frontline workers such as medical institutions face each other with a very scary feeling. Even if you are wearing personal protective equipment (PPE), it is hard to say that the bactericidal capacity of PPE is perfect: using our technique, adding active surface action to PPE In addition, in the worst case, if the clothes attached to it are infected with a virus, the infection will spread to the family, so it is possible to reduce the possibility of infection as much as possible. It's a goal."

## Global Market Development: Learning from the Japanese Textile Industry

"As the source of infection is hard to identify and human movements are active on a global scale, we must take action on a global scale as a member of the global community," said the importance of the scale of action. Mr. Bevis. In fact, IFTNA has been conducting research and development specialized in antiviral and antibacterial for a long period of time. The facilities are also held mainly in Asia and North America. Due to the value of the system, it is possible to provide PROTX2 AV at manufacturing plants on a global scale.

Among them, Mr. Bivis says he is paying attention to the Japanese textile industry. The technological level of textile development, including functional fibers in the Japanese market, is said to be more advanced than that of the

North American textile market, and there is a wide range of things to learn from technical capabilities to mentality. In fact, at IFTNA's R&D facility in Kobe, we are researching the technological capabilities of Japan's textile industry, which have high antibacterial and antiviral effects, and are developing it so that it can be applied to textile production on a global scale. That's it.

"When I visited Japan, I was surprised at the fact that each of the train straps contained chemical substances that had antibacterial effects." The fact that even the straps are antibacterial processed is also something that can be learned from Japan's high technology.

## From fabrics to hard surfaces: the future

Currently, IFTNA is proceeding **with the development by anticipating the technical application to paper products and hard surfaces** . For example, like a packaging material for EC sales such as Amazon, a paper box that can not identify how many people / hundreds touched, a retail wrapping paper, and more than one person touched in the situation where people will return to the city in the future It is said that the product tags of clothes that can be assumed correspond.

And as an example of the introduction of hard surfaces, airplanes, movie theaters, stadiums, etc. are applicable. Taking an airplane as an example, if spraying could keep the active surface up for about 6-12 months, then there would be no need for fewer flights or longer cleaning activities. Furthermore, it can be considered that passengers' anxiety can be alleviated and normal



operation can be guaranteed. Even if the entire surface cannot be coated, he suggests that it is possible to reduce the possibility of infection by coating the surface with a high contact frequency called the high touch area.

"After the end of the Norovirus, I feel that the interest in antivirus and antibacterial has been forgotten as a temporary thing. We also have to deal with bacteria in the surrounding environment. Starting with PROTX2 AV, we will continue to develop technology that can respond to any situation."



Life brand Underit product image image

IFTNA plans to start providing PROTX2 AV laundry additives, which is expected to be washed at home in the future. In addition, plans are

underway to provide its own line of PPE with PROTX2 AV infused, and sales of the lifestyle brand Underit are slated for early next year.

As Mr. Bivis also suggested, naturally, without relying too much on antibacterial action, individuals could learn more about the possibility of infection by adding to the idea of hygiene such as thorough hand washing learned in a pandemic situation. It will be important to continue to seek ways to reduce this.

However, under the conditions of With Corona, the development of functional fibers such as PROTX2 AV, which can reduce the possibility of coronavirus infection, will be introduced in the future as a minimum preventive measure and will be widely used in clothes and daily necessities. Will go.

text by hanako hirata

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## **Nishijin Textile Technology Becomes IoT: Magic Threads and People Bring Kyoto's Well-established Companies to the Leading Edge of the Age. (Part 1)**

Founded in 1956, Mitsufuji is a long-established company in Kyoto whose founding was the Nishijin Belt Factory. Nowadays, the "hamon AG mask" that can be washed 50 times is attracting much attention. In the first place, an IoT company that develops smart wear that uses silver fibers to understand the physical condition of people by simply wearing it, and

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