

# DuPont™ Wearables

Manufacturing-ready Solution  
for Smart Clothing



用途：靴の中底（メディカル、スポーツ用）

## DuPont Materials: Stretchable Electronic Inks

### 特徴：

FeetMe Sport の次世代の中底には、デュポン社製ストレッチャブル導電ペーストの技術が使用されています。DuPont Wearable 技術の良好な物理耐性とフレキシビリティにより、フィットネスアパレルやその他用途に対して、シームレスな内蔵電子部品を提供します。



FEETME

## Application: Medical and Sports Insole

## DuPont Materials: Stretchable Electronic Inks

### Benefits:

FeetMe Sport, the latest generation insoles are enabled by new DuPont stretchable electronic inks. With good mechanical resistance and flexibility, DuPont™ Wearables provide a seamless approach to embedding electronics in fitness apparel and other applications.

### About FeetMe -

### Become a more efficient runner with FeetMe Sport

FeetMe Sport is a smart insole that collects efficiency metrics and provide real-time feedback while you run. Each running session offers relevant and accurate data regarding power, running technique and efficiency. Feedback helps to provide suggestions so you can progress towards the next level of training without incurring injuries.



YOUR PERSONAL  
RUNNING COACH  
Connected insoles for running



WEAR  
YOUR INSOLES



QUANTIFY  
YOUR WALK



GET REAL  
TIME FEEDBACK



CHANGE  
YOUR HABITS

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用途：心電、呼吸活動をモニターするスポーツ  
ウェア



## DuPont Materials: Stretchable Electronic Inks

### 特徴：

Holstの心電、呼吸活動をモニターするスポーツウェアには、Agペースト(回路)、Ag/AgClペースト(電極)、および保護ペーストが使用されています。ストレッチャブル部材の機械特性のチューニングと、適切な部材の組み合わせや基材(TPU)の選定により、着心地の良いスマートクロージングが達成されます。

## Application: Sportswear Tracking Heart and Breathing Activity

## DuPont Materials: Stretchable Electronic Inks

### Benefits:

DuPont materials are applied in the garment which can monitor heart and breathing activity like Ag paste (conductor), Ag/AgCl as electrode materials and dielectric. The careful tuning of mechanical properties of these stretchable materials as well as optimized adhesion properties for the material stack and onto the stretchable TPU (thermoplastic polyurethane) substrate allows to have a comfortable piece of apparel.

### About Holst

Holst Centre is a research institute in the Netherlands developing printed electronics in close collaboration with partnering companies. The technology for printing cost-effectively, high resolution with State-of-the-Art materials of companies like DuPont allows new applications in consumers products, automotive, healthcare. The combination with silicon based components in hybrid integration moreover broadens the scope of possibilities. Wireless communication, processing of data and intelligent feedback systems with unlimited form factors become possible by Holst Centre technologies.



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用途：スポーツブラ / フィットネスシャツ



## DuPont Materials: Stretchable Electronic Inks

### 特徴：

Bodyplus 社のスポーツブラとフィットネスシャツには、デュポン社製ストレッチャブル導電ペーストが使用されております。本ペーストが回路材として機能することにより、リアルタイムで生体情報（心拍、呼吸、筋運動）をモニタリングできる衣服が可能となります。これにより、最先端のフレキシブルセンサーと、ファッション/着心地が融合した運動管理プラットフォームが実現されます。

## Application: Sports Bra and Fitness Shirt

## DuPont Materials: Stretchable Electronic Inks

### Benefits:

DuPont stretchable electronic inks used in BodyPlus sports bra and fitness shirt. The advanced materials function as interconnect to enable real-time monitoring and data collection e.g. heart rate, breathing and muscles movements by apparel. It helps to realize the leading edge flexible sensor technology to build up a fashion and comfort personal exercise managing platform.

### About BodyPlus

BodyPlus is a brand new sports equipment, can be used with customized APP to carry out fitness plan, real-time monitoring and report back to avoid any injury during your training. It is not just fitness apparel or speed dry clothing or heart rate. It is wearable devices and the pioneer of smart clothing.





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用途：アクティブウェア / セーフティジャケット



## DuPont Materials: Stretchable Electronic Inks

### 特徴：

- ・アクティブウェアや、その他ウェアラブル製品へのライティングの一体化
- ・シームレスで目立たないエレクトロニクスとのモジュール化
- ・見た目とフィット感の良さ
- ・ごわつきのあるインターコネクションや、既存の導電性ワイヤーを使用していない
- ・耐久性が高く、洗濯耐性に優れる
- ・南アジアで最大のアパレル輸出国である、スリランカに拠点を置く
- ・先駆的にウェアラブルのモジュール化やスマートテキスタイルを取り扱っている

## Application: Active Wear / Safety Jacket

## DuPont Materials: Stretchable Electronic Inks

### Benefits:

- ・ Lighting integration for active apparel and other wearable applications
- ・ Unobtrusive, seamless electronic integration
- ・ Aesthetic design and fit
- ・ No solid interconnection or conventional conductive wirings
- ・ Durable and washable

### About MAS

- ・ Based in Sri Lanka, South Asia's largest apparel exporter
- ・ Pioneer in wearable integration and smart textiles

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用途 : Wearable Apparels、スポーツ /  
フィットネス、Consumer Electronics、  
ヘルスケア



## DuPont Materials: Stretchable Electronic Inks

### 特徴 :

GMN は、フレキシブル / ストレッチャブル基材への印刷技術、およびそれらをアパレルと組み合わせてウェアラブル製品を作り上げる技術を専門とします。DuPont stretchable electronics ink は、GMNが使用するペーストのひとつとして、LED、コネクタ、チップセット、スイッチやフレキシブル印刷回路作成に使用されます。印刷されたコンポーネントや回路は、生地にも熱圧着され、ハードウェアへのデータ伝送 / インターコネクトとしての使用や、より直接的な用途 (e.g. シールドや LED lighting) にも使用できます。

## Application: Wearable Apparels, Sports and Fitness, Consumer Electronics and Healthcare

## DuPont Materials: Stretchable Electronic Inks

### Benefits:

GMN specialized in printing flexible electronics circuitry onto flexible and stretchable materials and integrating electronics into apparels as wearable products. DuPont stretchable Electronic Inks is one of the unique inks GMN uses to enable the functionality of electronics components such as LEDs, connector, chips set, switches and flexible printed circuitry. The component and circuitry can be hotmelt onto fabric and act as a data transmitting / interconnect to hardware device or can be used in direct application e.g. shield and LED lighting.

\* All displayed items are made with DuPont offerings.

### About GMN

Founded in 1954, GMN has grown from a few employees in a small facility in Seattle, WA to more than 1,500 employees spanning seven plant. The company continues to grow its capabilities to meet evolving customer and industry needs especially in the wearable industry. GMN Singapore is the key Research and Development site for wearable application in the company.