

Inspired by the work of Stanford University researcher Yi Cui, whose team realized that silver nanowires could be used this way, the Army started working to optimize the coating. "We have found out that if we hook up a battery or a power source to this coated fabric, we can increase the temperature of the textile by up to 110 degrees Celsius, which is an enormous change," D'Angelo explained in a press conference Aug. 22. "Obviously the soldiers wouldn't need that kind of heat. But it's just to show you the potential of how much we can heat up the fabric with just three volts, which is basically a watch battery."

That voltage was the amount needed to heat a 1-inch by 1-inch fabric swatch. A full base layer would require more. But batteries are heavy, so the team is trying to collaborate with a professor at University of California-San Diego who has devised a "a flexible, stretchable battery that can be incorporated within the textile," D'Angelo said. "It's basically weightless." They're also experimenting with a sweat-absorbing hydrogel that would keep soldiers dry. The nanowire-coating is so fine that it doesn't alter the flexibility of the fabric. It's also robust. "We have done a few laundering tests with detergent and everything," D'Angelo said.

## through workshops

Hamburg-based Cotton made in Africa (CmiA) initiative, which assists small cotton farmers in Africa in reaching international markets, organized two workshops in the Qingdao and Guangzhou provinces of China in August to introduce Chinese market operators to the organisation's work, keeping in view the growing interest in China for African cotton.

More than 160 professionals, including ready-made garment and fabric producers, cotton traders, merchandisers and representatives of international textile companies, attended the workshops held in the first week of August, according to a CmiA press release. The initiative was founded in 2005.

Transparency and the integration of CmiA cotton into the supply chains of large retailers and brands were focus topics, said Christian Barthel, director of CmiA's supply chain management.

The attendees perceived both workshops as a great kick-off

for further such conferences to strengthen collaborations, the press release said.

Destination XL's apparel fit XL men in high standards Destination XL Group, the leading retailer of men's XL apparel, employs technical designers and quality assurance experts, besides putting the apparel through a series of rigorous testing well beyond industry standards to provide XL guys with the perfect fit. With the realisation, that no two men are built alike, the group focuses on setting high standards.

Whether a guy is five feet and five inches with a stockier frame or six feet and six inches with an athletic build, the challenge is to fit them both properly, so they look and feel great. This is where the higher standards come into play.

From "test fitting" that incorporates real men wearing, washing, and putting the clothing through their daily lives, to "lab testing" that focuses on everything from technical properties such as yarn and seam strength, sustainability of dyes, fabric resilience, and shape retention, the process is stringent and ever-evolving. Everything DXL produces is tested – from underwear to high-end designer suits, and anything in between. The feedback DXL has received from its fit models has been extremely positive. They have found that the products fit them better than other retailers' clothes, without excess material, and in higher quality fabrics that help the clothes look more stylish and fit more comfortably.

## EU Eco-Label for textiles gets update

BRUSSELS – The European Commission (EC) has fine-tuned its criteria the voluntary EU Ecolabel for textiles, including its definition of textiles to include accessories and intermediate products used in textiles and it has extended the validity of the assessed criteria for 78 months from the adoption of the amendment. The criteria were due to expire in June 2018.

The amendment also clarifies the exceptions applying when recycled fibres or organic cotton fibres are used and revises the calculation required with regards to the percentage of these fibres used in EU-Ecolabelled textiles. Other criteria for chemical management, such as water repellent finishes are mentioned alongside new rules for wool and pesticide residues on cotton are also clarified.

is able to efficiently convert mechanical energy into electrical energy.

“My first efforts doing this go back to 1980, using artificial polymers to build electrochemical artificial muscles,” Ray Baughman, one of the researchers from the University of Texas at Dallas, told Digital Trends. “We figured out that if you can use electrical energy to drive an artificial muscle to produce mechanical energy, maybe it’s possible to run it in reverse — and harvest mechanical energy as electricity. For all the years since then, I’ve failed to make this work. Now that’s changed.”

The yarn developed by the researchers can be twisted into elastic-like coils, in a way that allows the thread to generate electricity when stretched. The energy from one piece of yarn can power an LED and generate 250 watts per kilogram when a number of them are bound together and stretched 30 times per second. While it is still early days for the research, it is promising compared with other harvester technologies — with 100 times the electric power per weight, compared to alternate attempts at weavable fibers. According to the researchers, 31 milligrams of the so-called “twistron” yarn could generate sufficient electricity to send two kilobytes of data 100 meters every 10 seconds.

One problem that currently exists, however, relates to the relative scarcity of carbon nanotubes. “Carbon nanotubes are very expensive to produce, and not manufactured in large quantities,” Baughman said. “As a result, the present applications for this work are limited to tasks which do not require much yarn. For example, right now you could sow the yarn into a textile to monitor an individual’s movement without having to use a battery.”

A bit more yarn could allow people to generate and then store their own electricity through physical activity. “But it’s the future possibilities which most excite me,” Baughman continued. “That’s the dream of being able to make yarn that will allow us to inexpensively and efficiently harness the energy of the ocean’s waves, beyond that which is possible with conventional harvesters.”

body heat in order to produce noticeable health benefits, recently received a classification from the FDA that could help the company expand its reach.

Celliant, owned by Hologenix, LLC, began producing its now-patented, thermo-reactive mineral-based responsive textile technology in 2002 with the hope of recycling the body’s natural energy. The company refers to its tech as “solar panels for your body.”

The company’s product is able to help increase the user’s blood flow in real-time to the area covered by the garment. Celliant’s technology readmits far infrared energy back into the body.

“We are trying to connect the dots of three buckets of science,” Celliant co-founder and CEO Seth Casden said.

“First: the body gives off heat; second: certain naturally occurring minerals act as a sponge for that heat and absorb it and then give off infrared; third: the validation that infrared has many different health benefits.”

Celliant, a rebrand from the company’s first iteration, had worked with TaylorMade adidas on a golf shirt and Saucony for a compression recovery line. In 2010 and 2011, it landed its first big-time partnership with Reebok’s Zigtech line, which featured Peyton Manning and John Wall as spokesmen.

## A new high-tech fabric could mean the end of bulky layers in the winter

Researchers from the US Army Natick Soldier Research, Development & Engineering Center are trying to make that scenario a reality.

At a conference of the American Chemical Society, Army researchers explained how they’re using a coating of fine silver nanowires on ordinary fabrics, such as cotton or polyester, as a way to potentially keep soldiers warm in extreme cold. The coating makes the fabric conductive, and with just a few volts of electricity, it can generate a substantial amount of heat. The researchers are working to develop a system that would allow soldiers to dial the heat up or down as needed, and Paola D’Angelo, one of the Natick researchers on the project, says the technology could ultimately make its way into consumer products too.

The Army started working on the coating to solve a very basic problem. The uniform soldiers wear in extreme cold can include up to seven layers, which makes it heavy and bulky.

## Celliant Helps Athletes with Clinically-Proven Textile Increasing Blood Flow

Celliant, a product of Los Angeles-based tech company Hologenix that aims to effectively capture and utilize human

with the Ethiopian Investment Commission to start a factory inside the Kombolcha Industrial Park built by the China Civil Engineering Corporation. Ethiopia, with nearly 175 textile units, aims to generate \$30 billion in foreign exchange earnings from the textiles and clothing sector by 2030 and has allotted more than \$1 billion for the construction of industrial parks in the second five-year growth and transformation plan (GTP-II) period, effective from 2015 to 2020. It plans to have 150 companies in the sector by 2020.

## Turkey imposes temporary duty on POY from 7 countries

Turkish ministry of economy has announced imposition of provisional anti-dumping duty on partially oriented yarn (POY) with HS code 5402.46 imported from seven countries—China, India, Malaysia, Indonesia, Taiwan, Thailand and Vietnam. The ministry said that the volume of imported POY increased considerably during January 1, 2010 to December 31, 2016.

The ministry had launched a preliminary investigation in February this year following a petition from Korteks Mensucat ve Sanayi Anonim Sirketi company. According to the data obtained from Turkish Statistical Institute, it was determined that POY imports had increased considerably, especially after 2010, the ministry said in an official communiqué.

The share of Turkish POY imports from the above mentioned seven countries was 99.1 per cent in 2014 and 2015, and it was 99.2 per cent in 2016. In terms of volume, it has increased from 159,960,807 kg in 2010 to 295,789,479 kg in 2016.

The anti-dumping duty on POY from India, Taiwan, Thailand and Vietnam will be 10.15 per cent, 14.3 per cent, 18.85 per cent and 36.28 per cent respectively. The duty on import of POY from China, Indonesia and Malaysia would be levied at \$263 per ton, \$120 per ton and \$138 per ton respectively, the communiqué said.

These duties will remain in effect until the final decision on the investigation is announced.

## FESPA Eurasia 2017 to be held in Istanbul in December

FESPA Eurasia 2017, the region's dedicated exhibition for wide format, screen and textile printing and garment decoration,

is being held in Istanbul, Turkey, during December 7-10, 2017. With increasing visitor audience, the show has been recognised as the 'International Trade Fair' by the Turkish Union of Chambers and Exchange Commodities (TOBB).

Over the past five years FESPA Eurasia has grown its visitor audience by 18 per cent, confirming it as a leading event for the wide format printing and garment decoration markets in the Eurasia region.

FESPA Eurasia 2016 attracted 8,232 individual visitors, with total attendance over the four days reaching 9,774 visits. Based on their successful participation in 2016, 10 per cent of exhibitors have increased their stand space for the 2017 event. The 2016 exhibition also proved to be an active buying event with 44 per cent of visitors being final decision makers and 81 per cent being involved in the decision-making process with a collective budget of €1.6 billion.

FESPA Eurasia has been recognised in the category of 'International Trade Fair' by the Turkish Union of Chambers and Exchange Commodities (TOBB) due to the increase in its international visitor and exhibitor base over the last three years, demonstrating the growing reach of this event.

Michael Ryan, group exhibition manager, FESPA comments: "The increase in stand space that we're seeing for this year's show emphasises exhibitors' high regard for the FESPA Eurasia event, not only due to the number of visitors, but their seniority and purchasing authority. Receiving international trade fair status from TOBB recognises that FESPA Eurasia is transforming from a regional to an international exhibition, with many visitors from beyond Turkey travelling to attend an exhibition of this calibre."

## CARBON NANOTUBE YARN TURNS MOVEMENT INTO ELECTRICITY, NO BATTERIES REQUIRED

Imagine being able to harness the mechanical energy produced during your morning jog and using it to power a batteryless music player or fitness tracker. Or using the vibrations caused by passing trains or cars to monitor the stress levels in tracks or roads, and communicating this to the people who need to know. Those are two of the possible applications which could arise from a new energy-harvesting device developed by an international team of researchers. They have developed a special ultra-thin yarn created from carbon nanotubes, which



# World Textile News

## Intertextile Shanghai to see over 4500 exhibitors

Over 4,500 exhibitors from nearly 30 countries will gather under one roof at October's Intertextile Shanghai Apparel Fabrics, the China's international trade fair for apparel fabrics and accessories, during October 11-13, 2017. The industry's leading trade fair for the autumn/winter season will offer something for everyone's unique fashion tastes. Intertextile Shanghai Apparel Fabrics – Autumn Edition 2017 is co-organised by Messe Frankfurt (HK); the Sub-Council of Textile Industry, CCPIT; and the China Textile Information Centre.

SalonEurope, Intertextile's premium zone for mid and high-end European fabrics and accessories suppliers, will target Asian buyers who are looking to meet the strong consumer demand in the region for European fashion. Some of the brands participating in SalonEurope this edition include Albini, Alumo, American & Efird (Guetermann), E Thomas, Freudenberg, Kufner, Marzotto Group, Miroglio, Loro Piana, Woolmark and Zegna.

Within SalonEurope buyers can also find the Milano Unica, the Premium Wool Zone and the Verve for Design areas, each reflecting fashion and style in their own unique ways. The Japan Pavilion is another fashion hub at the fair that is immensely popular each edition with Chinese buyers while the domestic exhibitor halls will reflect how Chinese designers are emerging onto the fashion scene.

For those on the lookout for what fashions and styles will be gracing the catwalks and sidewalks in autumn and winter 2018, then the eight trend forums found

throughout the halls, including an international forum, four Chinese forums, an accessories forum, the Japan Pavilion forum and the Korea Pavilion forum, will provide a snapshot of this.

## Ethiopian industrial parks attract foreign textile firms

Three industrial parks built by China in Ethiopia's Hawassa, Mekelle and Kombolcha have started drawing foreign export firms to the east African nation's textile and apparel sector. The country plans to generate one-fourth of \$400-million foreign exchange earnings target for the current fiscal from its flagship industrial park in Hawassa alone.

The parks are part of Ethiopia's efforts to become Africa's manufacturing powerhouse. The country plans to raise its current \$150 million revenue from textile and apparel exports to more than \$1 billion, according to a Chinese news agency report.

The Hawassa park has started bringing in revenues and Hong Kong-based TAL Apparel is among the foreign companies that have started production in its premises. About \$1.5 million is being earned every month at the Hawassa park, according to a recent report by the Ethiopian Textile Industry Development Institute.

Seven foreign companies, including some from Bangladesh, have secured space to commence operations at the Mekelle industrial park.

US textile and apparel firm Trybus has signed an agreement

This year's festival will be held from October 6 to 9, 2017, at Tehran International Permanent Fairground.

Nanotechnology International Festival is held annually by Iran Nanotechnology Initiative Council, and it is the largest and most credible domestic exhibition in the field of nanotechnology, and is considered as the second largest nanotechnology festival in Asia.

The festival includes an exhibition, public show, workshops, and Nano Awards Ceremony, which recognizes the most active scientists and researchers, research institutions, laboratories, incubators, companies as well as media.

The festival comprises twelve pavilions designed to present products of companies active in various field of nanotechnology such as: Water & Environment & Energy, Healthcare, Automotive Industry, Construction Industry, Textile Industry, Petroleum & Related Industries, Agriculture & Packaging, Nano-material Suppliers, Machinery & Lab Equipment Manufacturers, Tech-Market Services Company, Public Education and Trading Companies.

Also universities, incubators, tech-parks and research centers will be participating in the festival to display their achievements in different areas of nanotechnology.

72 producing and manufacturing companies, 17 universities, research centers, technology parks and incubators, 9 laboratories, 6 promotional institutes and 12 international companies took part in Iran Nano 2016.

## Tehran to Host Int'l Apparel Expo

The Fifth International Apparel Exhibition is scheduled to be held at Tehran's International Fairground from September 4 to 7. The event has been organized with the aim of introducing Iran's capabilities in the field of garment production.

The Iranian apparel market is estimated to have an annual turnover of \$12 billion.

According to the Headquarters for Combating Smuggling of Goods and Foreign Exchange, apparel tops the list of goods smuggled into Iran.

Some \$2.6 billion worth of clothes are imported into Iran every year and according to members of apparel unions, twice this amount is smuggled into the country.

Textile, Apparel and Leather Industry Organization, affiliated to the Industries, Mining and Trade Ministry, said 90% of foreign garments in the Iranian market are contraband.

Tehran Apparel Producers and Sellers Union recently launched a campaign called "I Proudly Wear Iranian Clothes"

to support the production of Iranian clothing.

"As long as we don't trust Iranian clothes, we can't expect a qualitative improvement in the apparel market," Majid Talimi, a member of the union and head of the campaign, has been quoted as saying by the Persian daily Shahrivand.

## Iran Parliament Vows Strong Support for Handwoven Carpet Industry

The first vice-speaker of the Iranian Parliament, Massoud Pezeshkian, has stressed that the Parliament intends to make considerable effort to shore up those involved in domestic handwoven carpet industry.

He further called for the identification of new export markets to increase overseas sales of Iranian handwoven carpets.

Pezeshkian made the remarks in a meeting with the head of Iran National Carpet Centre (INCC), Hamid Kargar, on the sidelines of the opening ceremony of the 26th Iran Handmade Carpet Exhibition – the biggest of its kind worldwide – in Tehran on August 23.

Given that the demand for handwoven carpets in global markets is limited, efforts are required to create or identify new markets to boost exports of Iranian carpets, he added.

Pezeshkian put the current total global demand for handwoven carpets at \$1.3 billion, expressing satisfaction with the fact that Iran has always been the world's top producer of handmade carpets, followed by India, Pakistan, Afghanistan, Turkey, Nepal, and China.

He put Iran's handwoven carpet exports at \$350 million in the 12-month period ending March 2017.

## Iran Carpet Exports Exceed \$70m in 3 Months

Around \$74 million worth of machine-woven carpets were exported from Iran to Central Asia, Europe, Australia and neighboring countries such as Iraq and Afghanistan during the first three months of the current Iranian year (March 21-June 22), according to deputy minister of industries, mining and trade, Golnar Nassrollahi.

At present, there are close to 900 machine-woven carpet production units in Iran.

About 55,500 tons of machine-woven carpets worth \$306.5 million were exported in the last Iranian year (March 2016-17), indicating a 4.3% rise in weight and an 8.9% decrease in value year-on-year.



distributors of apparel in Iran who seek business licenses to produce goods worth 20% of their import value (in rial terms) inside Iran and to export at least 50% of this domestic production. The initiative, the ministry says, is aimed at increasing domestic production, creating jobs and reviving Iran's aging apparel industry. According to deputy minister of cooperatives, labor and social welfare, Hamid Kalantari, the apparel industry has the highest job creation potential among all industries in Iran. Currently, 9,818 industrial units are active in Iran's textile and apparel industries licensed by the Ministry of Industries, Mining and Trade, constituting 11% of all industrial entities in the country. According to Mehrabi, these units have created more than 290,000 direct jobs, accounting for 13% of all industrial jobs in Iran, the ministry's official news service. Mehrabi believes setting up apparel industrial parks is highly beneficial for Iran, as it leads to transfer of know-how, increases quality and lowers production costs. Last month Iran's Small Industries and Industrial Parks Organization, Minister of Cooperatives, Labor and Social welfare, Cooperative Investment Guarantee Fund, Iran's Clothing Association and Tose'e Ta'avon Bank signed a multilateral memorandum of understanding to set up Iran's first-ever apparel industrial park near Tehran's Imam Khomeini International Airport. Chairman of Iran's Small Industries and Industrial Parks Organization Ali Yazdani said on the sidelines of the signing ceremony held on July 12 that investors from Italy, China, South Korea and Turkey had already shown interest in this project. According to the Headquarters for Combating Smuggling of Goods and Foreign Exchange, apparel tops the list of goods smuggled into Iran.

Textile, Apparel and Leather Industry Organization, affiliated to the Industries, Mining and Trade Ministry, had announced that some 90% of foreign garments are smuggled into the Iranian market. In a bid to tackle the staggering rate of smuggling in the apparel market, the Islamic Republic of Iran Customs Administration recently banned any commercial import of clothing by individuals. The administration issued a directive late last Iranian year (March 2016-17), based on which the import of clothing is only possible by registered companies and authorized representatives under the Industries, Mining and Trade Ministry regulations. Iran's per capita apparel consumption is lower than the global average. According to the Central Bank of Iran, clothing had a 4.5% share in the total Iranian families' spending in the fiscal 2015-16. In other words, each Iranian family spent an average of 15,897,000 rials (\$423) on clothes. According to Mehrabi,

Iran is the 36th biggest exporter of textile products and 90th biggest exporter of apparel in the world.

"Taking into account both textile and clothing products, the country's ranking stands at 59th," she said.

## Iran's fashion, garment industries worth \$15B

The fashion and garment industries in Iran are worth 500 trillion rials (over \$15 billion at 32,986 rials per USD), according to Hamid Qobadi Dana, secretary of Fashion and Clothing Regulation Workgroup.

He said that the abovementioned number is an estimated to be the real value of these two industries, while Iran's Statistics Center's data shows that number standing at 350 trillion rials.

Speaking about the shortcomings of the garment industry in Iran, Dana said that, there does not exist a long needed unilateral national system of sizes.

In mid-August, the second Startup Weekend, focusing on the development of new talents in the fashion and retail industry, titled 'Entrepreneurship in Fashion and Technology', was held in Tehran.

The weekend culminated with the different presentations for local entrepreneurs, with the opportunity for critical feedback.

In early August, local sources said that plans are underway to establish a new apparel industrial town in Fashafouyeh, located in Tehran Province's Rey County, with the stated aim of limiting imports, boosting domestic production and making the price of Iranian garment products more competitive.

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## Iran to hold 10th intl. Nano Festival in October

Iran will be hosting the 10th International Nanotechnology Festival (IranNano 2017), as 20th the second largest nanotechnology exhibition in Asia, in early October 2017.

# Iran Textile News

## Iran, Indonesia to hold joint nanotech event

'Iran-Indonesia Nanotechnology Business Matchmaking' event will be held in Jakarta on August 29 with the aim of developing the trade-economic transactions between Iran and Indonesia.

According to Iran Nanotechnology Initiative Council (INIC), the nanotechnology event, organized with the formal agreement of two countries' authorities, can pave the way for the development of bilateral relations between Iran and Indonesia.

In this one-day event held at the invitation of Indonesian Ministry of Industry, twelve Iranian companies involved in textile, building, agriculture, polymer, automotive, equipment and nanocoating industries will present their latest technological achievements do Indonesian industrial companies.

According to the program, the meeting will begin with a speech by the Indonesian Minister of Industry and the Head of Iran Nanotechnology Initiative Council on Tuesday morning, August 29. The Talk Show with the presence of following speakers will be the next part of the program: Head of Innovation Center at Indonesia's LIPI, Head of BPPI at Indonesia's Ministry of Industry, DG R & D Empowerment at Ministry of Research & Technology and Higher Education, Director Industry & Marketing Working Group at Iran's INIC, and Middle East-OIC Committee at Indonesian Chamber of Commerce & Industry.

An exhibition of nanotechnology products will be held on the sidelines of this talk show.

In the evening meeting of this event, twelve Iranian

companies in the form of Business Matchmaking will present their technology and products for pertinent industrial companies. The purpose of the event is to develop the technological exchange of nanoscience between two countries.

Iran Nanotechnology Initiative Council (INIC) is tasked with determining the general policies for the development of nanotechnology in the country and pursuing the case with implementation of the policies. The INIC is seeking to pave the road for activity of the private sector and generation of wealth within the society through providing facilities, crating market and removing the impending obstacles.

Indonesian industrial activists can download the booklet "An introduction to Iranian companies" for more information.

## Plan to Set Up Apparel Industrial Town in Tehran

Plans are underway to establish a new apparel industrial town in Fashafouyeh, located in Tehran Province's Rey County, with the stated aim of limiting imports, boosting domestic production and making the price of Iranian clothing more competitive. According to Director General of Textile and Clothing Department at the Ministry of Industries, Mining and Trade Afsaneh Mehrabi, some 45 hectares of land have been bought for the new apparel industrial park, the Persian daily Shahrvand reported. Italian and Turkish apparel producers will be present there for cooperation with Iranian producers, the report added. The Ministry of Industries, Mining and Trade has mandated foreign representatives, branches and

# World Economic Forum expert to be keynote speaker at Textile 4.0 Conference

press release

**Leeds, UK:** The leader of the World Economic Forum's (WEF) Future of Production initiative, Attila Tuross, has been revealed as the keynote speaker at October's Textile 4.0 Conference – the first event to explore the opportunities and risk of Industry 4.0 for textile industry strategists.

The conference, organised by World Textile Information Network (WTiN), will take place at the Hotel Novotel Amsterdam City, The Netherlands, on 25-26 October 2017.

The Switzerland-based WEF brings together the world's most influential people in business and politics to shape global, regional and industry agendas. It says of manufacturing and distribution strategy: "The world is at the threshold of a new industrial revolution characterised by a confluence of emerging technology breakthroughs, including mobile connectivity, artificial intelligence, Internet of Things, next-generation robotics, 3D printing, wearables and genetic engineering, nanotechnology, advanced materials, biotechnology and others.

"These technologies, combined and connected, will transform manufacturing and production systems with unprecedented speed and scope, impacting business models, economic growth, employment and sustainability. "Businesses in manufacturing and distribution sectors and policy-makers need new approaches and capabilities, and must work together to build truly innovative and sustainable production systems that benefit all people."

An international development expert, Tuross worked as an independent consultant before joining the WEF in 2015. Big hitters from the textile industry itself will also feature at the Textile 4.0 Conference. A first-day session on

digitalisation and its capacity to disrupt business models will deliver the vision of Chiaretto Calo, group CEO of the newly created, Italian-based IMPRIMA Group, which has already brought together some of the biggest names in digital textile printing. Also speaking in this session will be Tekin Gulsen, global IT and corporate planning director of Turkish technical fibre and yarn producer Kordsa Global; and Peter Santora, vice-president of US-based Softwear Automation, a pioneer in sewing-factory robotics.

The implications of such workplace automation for employment and skills will be the subject of a session featuring Yves-Simon Gloy, of the Institut für Textiltechnik der RWTH Aachen University.

Other speakers announced by WTiN are: supply-chain solutions expert Mark Harrop, CEO of WhichPLM, who will explore the role of PLM and ERP software in the "smart revolution"; Steve Smith, CEO of DPInnovations, who will examine the emerging concept of "technology as a service"; and Yariv Bustan, vice-president of product and marketing at Twine Solutions, an Israeli start-up that is commercialising a groundbreaking invention for digital coloration and functionalisation of thread. Bustan will set out opportunities for new business models arising from disruptive innovation.

WTiN recently launched loTex magazine and introduced a Textile 4.0 channel as part of its online Intelligence portfolio, to provide a focus for discussion of the business and technology implications of Industry 4.0 in the textile industry. WTiN digital innovation analyst Mutlu Chaouch Orozco will deliver the results of her latest research, and an opening note will be delivered by Tansy Fall, editor of loTex and Digital Textile magazines.



## Oerlikon Barmag pumps at the Bondexpo 2017

# Highest precision for high-viscosity media

press  
release

**Remscheid, August 16, 2017– whether for bonding, for casting or for insulating, for sealing or for foaming – at this year’s Bondexpo, the international trade fair for bonding technology, Oerlikon Barmag will be showcasing its gear metering pump program specifically designed for the joining/binding work steps. Between October 09 and 12, the company will be presenting in hall 6 – among other things – components for silicone processing and hot-melt adhesive applications, but also for processing resins and polyurethanes and other higher-viscosity liquids (booth 6422).**

### **Efficiency in mastering viscous media – the GA series**

When applying hot-melt adhesives, the focus lies above all on the evenness of the application. However, precise metering not only presupposes the fast and reproducible setting of an operating point, but also low-pulsation feeding of the conveying medium. Supplementing the proven GM series, Oerlikon Barmag has now developed the GA range for conveying higher-viscosity media. The GA series is available for conveying volumes of between 1.25 and 30 cm<sup>3</sup>/rev (0.6-144 l/h). It has been designed for pressures of up to 200 bar, for viscosities of up to 1,500 Pas as well as for temperatures of up to a maximum of 225 °C. With this new program of pumps, Oerlikon Barmag offers tailor-made solutions for all applications for which precisely-defined, even metering is absolutely essential.

### **Conveying and metering using a single unit – the drum pump**

The drum pump is designed especially for conveying and metering high-viscosity materials such as adhesives, silicones, etc., from drums and other large containers and for pressures of up to 250 bar. Thorsten Wagener, the sales employee responsible for pumps used in industrial and chemical applications comments: “The drum pump not only conveys high-viscosity materials from the drum, it also meters the medium to the mixing head without any additional interim stops and with the customary volumetric efficiency.” In close

agreement with the customer, the gear pump and drum follow-up plate are harmonized in such a way as to ensure that the plate can effortlessly reach the bottom of the container, hence guaranteeing a very small amount of residue totaling <1%. This has a positive impact on both the materials costs and the production process.

### **Working under high pressure**

In high-pressure technology, conveying small volumes with low viscosities is a particular challenge. Specifically for this application, Oerlikon Barmag has expanded the GM series with round plate package to include an option for the pressure build-up capacity. This multi-stage pump is available for conveying volumes of between 0.05 and 20 cm<sup>3</sup>/rev and guarantees the generation of operating pressures even at low viscosities (for example, 250 bar, 100 mPas). To this end, higher volumetric efficiencies or a larger useable speed range can be achieved. The robust gear metering pump ensures continual low-pulsation operation. Hence, high-pressure applications conveying minimum flow-through rates (for example, 0.5g – 1.5g/sec.) can also be covered for the very first time. For the manufacturers of PUR molded parts, block foams, refrigeration unit insulation and sandwich panels, this means consistent process stability and low investment costs.

### **One for all – high-speed metering made easy**

The new high-speed metering pumps have been developed especially for lightly-lubricating and abrasive media. With their enlarged speed range (30 - 500 rpm), they cover a large application area for which several pumps of varying sizes have had to be used to date. For the manufacturer, this means less work when switching production and smaller spare parts inventories. The compact construction of the pump (ø65 mm) reduces the space required in the machine and the low weight (1.4 kg) keeps the load as low as possible, which in turn has a positive impact on the construction of the machine. The external lifetime-lubricated ball-bearings ensure that the pump is not only very durable, they also do not come into contact with the respective product.

# Press Release: Machinery and textiles for a better future



On the occasion of its 125th anniversary, the VDMA has put together a series of multimedia reports. Published on the new website <https://humans-machines-progress.com> the reports show: Machines are not an end in itself for the machinery engineering industry. Regina Brückner, Vice-Chairperson of the VDMA Textile Machinery Association and Managing Associate of Brückner Trockentechnik, explains: "Machines are the means to make progress come true for people and to meet challenges like energy, mobility, infrastructure and health. Textiles and textile machinery play – sometimes hidden – a major role in improving daily life."

Textile machinery is, for example, a starting point for resource-efficient construction. Lightweight construction materials based on knitted, woven or nonwovens fabrics enable enormous savings potential in aerospace. 1,974 litres of kerosene can be saved per aircraft per year with 20 kilograms less weight on the A320.

Infrastructure maintenance is currently time consuming and costly because the reinforced concrete that has been used in many structures, contains steel reinforcing bar that can corrode, making the concrete structure crack. Textiles offer a robust alternative by replacing steel with carbon. Carbon concrete is durable and versatile in its uses. The carbon used to reinforce concrete is even stronger than steel, but at the same time much lighter and more durable since it does not corrode. Building elements made of carbon concrete can thus be thinner, reducing

demand for raw materials and, as a result, energy use and CO2 emissions are cut almost by half. These materials that help maintaining bridges and buildings are made on warp knitting machines, where yarn is processed into net-like cores or even three-dimensional spacer fabrics.

In medical technology, textiles play a vital part, too. The use of textile-based implants, such as stents, heart valve replacements and artificial cartilages or tissues, is growing strongly in modern surgical techniques. Garments with integrated sensors are already commercially available, including T-shirts that can measure pulse, breathing and body movement.

In the working world, textiles are both ubiquitous and practically invisible: Even in modern production sites, workers need professional and protective clothing to protect them from injury and safeguard against hazardous environments. Air conditioning is meanwhile becoming widespread in the modern working world – even in regions with no weather extremes. Air and dust filters made of nonwovens are most of the time not visible but they are there and help to protect staff, as well as sensitive equipment, in production plants.

The stories Materials and Health on [humans-machines-progress.com](https://humans-machines-progress.com) show more exciting examples of mechanical and plant engineering being the driving force for lightweight construction and how medical textile technology ensures good health and quality of life.