

Swiss Textile & Fashion Institute

stf

SPECIAL TECHTEXTIL  
EDITION 2019 / NO.

02

# TEXTILE SIGNALS

Welcome @ STF  
Digital Realities  
Master's Degrees at STF  
Upcoming Events

# WELCOME @ STF –

## Swiss Textile & Fashion Institute

---



**Sonja Amport**  
Director

### WELCOME TO STF

---

At STF you can access, acquire and maintain knowledge in the fields of textiles, fashion and management to prepare for the challenges of global business with a degree course or seminar. Create new products, find innovative problem solutions & start your textile network.

STF has established a great reputation as an international training centre for the textile and fashion industry. Our graduates are exceptionally well-qualified and their professional training lays an excellent foundation for employment in the international market. Take this opportunity to get to know us!

« STF has established an excellent reputation as an international training centre for the textile and fashion industry. »

We hope you enjoy this special issue of our magazine Textile Signals: It brings you exciting news from STF and presents innovative products and services from the entire textile world. Send us an e-mail to subscribe to Textile Signals. We're looking forward to hearing from you!

> [info@stf.ch](mailto:info@stf.ch)





## ABOUT STF

STF is an internationally recognised training institute in the disciplines of textile technology, fashion design and textile business management. Within Switzerland, it is a one-of-kind centre of competence and represents training expertise in all matters concerning the life-cycle of textiles, fashion, and lifestyle products – since 1881.

STF offers a variety of courses: Aspiring STF students can choose to study for federally recognised diplomas or Bachelor's and Master's degrees, while professionals gain further insight in expert seminars. Companies may also put together individualised courses for their employees.

STF has three locations in Switzerland: in Zurich, Wattwil and St. Gallen. Zurich is just a few hours away from the textile industry's business and commerce partners, and the fashion hubs of Paris, London and Milan.

« **Developing a thorough understanding of processes and technologies takes more than just theoretical teaching in the classroom.** »

We believe in practical training! Developing a thorough understanding of processes and technologies takes more than just theoretical teaching in a classroom. This is why our students have access to a comprehensive range of machinery: From creating textile fibres to manufacturing fabrics and tailoring, every process step can be followed using equipment on an industrial scale. STF has the machines required for spinning, weaving, knitting, textile finishing, clothing technology, and twisting.



# DIGITAL REALITIES

## at the Textile & Fashion Days

---

What happens when you combine sportswear with functional textiles and virtual 3D technology? You get the high-tech couture of the 21st century! During the 2019 Textile & Fashion Days students of STF presented their collections.

### TEXTILE & FASHION DAYS 2019

---

There was a time when wearing sneakers at the office was frowned upon. Karl Lagerfeld's infamous 2012 quote implies the same notion: "Sweatpants are a sign of defeat. You lost control of your life so you bought some sweatpants." Only a few years later he would have his Chanel model walk the Parisienne catwalk in sweatpants, leggings and tweed sneakers.

Thus, «Athleisure» was born: A symbiosis between high-fashion and sportswear; flexible fashion that is uncomplicated and interdisciplinary. This year's Textile & Fashion Days were all about this unlikely fashion transformation.





« **Students at STF use industry standard equipment.** »

3D technology with its avatars, simulations and body scanners revolutionises the textile supply chain. As one of the first fashion schools in Europe, STF employs 3D product development software. Students of STF's fashion courses used both functional fabrics and digital craftsmanship to create their athleisure outfits.

Says STF director Sonja Amport: «Digital design by means of an avatar saves both time and money. I am not surprised that numerous fashion brands already develop a big part of their collection virtually. As an educational institute, STF has to make sure that students learn to use the same tools so they can influence the industry in the future.»

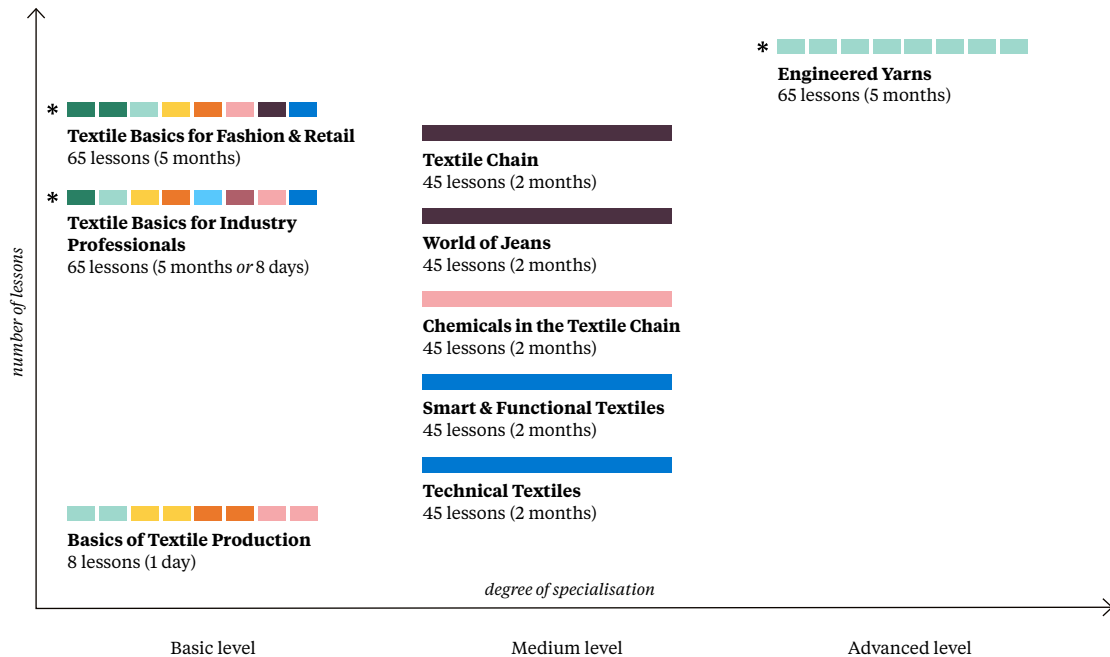
The students used high-quality functional fabrics from Schoeller Textiles and Jakob Schläpfer AG for their futuristic creations. The pieces were showcased at the Textile & Fashion Days 2019.

Find more pictures and impressions at

> [stf.ch](https://stf.ch)

# STF'S COURSE PORTFOLIO

Beginners, advanced and professional courses: No matter the knowledge level, STF offers a variety of intensive courses in textiles and fashion.



## LEARN ABOUT OUR COURSES IN TEXTILES!

We talked to Holger Neubauer – Head of Textiles at STF – about the school's course offers.

### Which course would you recommend for beginners?

Holger Neubauer: For career jumpers STF offers day courses that give attendees an overview of the different production processes. This course can either be taken as an 8-day intensive course or can be attended one day every two weeks during the semester. Attendees become acquainted with textile terminology, constructions, composites, materials, and production processes. The modules may also be booked separately.

### Which courses does the STF offer for advanced learners?

We highly recommend booking separate modules. These condensed units usually belong to the Bachelor degree course but can also be booked separately. Focussing only on the textile engineering courses, we offer several modules on technical textiles for persons with textile knowledge.

- Fibres
- Yarn technology
- Knitwear technology
- Woven goods technology
- Clothing technology
- Technical textiles
- Colouring
- Finish
- Other

\* Can be booked separately.

### What about courses for textile professionals?

In early 2019 we started a unique course focussing on «Engineered Yarns». This course provides attendees with a comprehensive look at yarn technology, and imparts specialised knowledge of fibrous material, staple fibre and filament technology, fancy yarn, and material control. More courses for professionals are currently being developed.

### What language are the courses held in?

At the moment the courses are only offered in German. We are, however, developing custom-made courses in English, and will teach abroad classes if asked.

Find more information on courses

> [stf.ch/seminare](https://stf.ch/seminare)



## **COURSE «FASHION RE-EVOLUTION»**

Time for a re-evolution! This introductory course provides students with the cultural foundation necessary to understand and work with the evolution of fashion. It aims to help students develop a personal and critical approach to the fashion industry and voice an informed opinion on topics such as sustainability.

In this course students create their own fashion experience based on substantiated knowledge of fashion as a social system. They build interdisciplinary connections and find new forms of expression. Graduates understand the social and environmental impact of the fashion world and can therefore act as change agents.

### **Duration**

Three-week course & excursions

Monday to Thursday from 8.30 am to 5.30 pm

Module course: Wednesday workshop from 8.30 am to 5.30 pm

« Fashion history, innovative practices, future thinking, state-of-the-art methods, experiments: It's all about Fashion Re-Evolution perspectives. »

### **Start**

Dates and application on > [stf.ch/re-evolution](https://stf.ch/re-evolution)

### **Fees**

Teaching materials are included in the tuition fees of CHF 3490.– Additional costs will apply for excursions.

### **Requirements**

This course is aimed at students or graduates of fashion design or other design practices, and professionals with fashion design experience. All classes are taught in English; students are therefore required to have a proficient knowledge of English.



# GET YOUR MASTER'S DEGREE at STF!

The compact Master's degree courses will give international students the chance to raise their academic profile in a short time.



## FACTS & FIGURES

### Duration:

- On-campus studying
- Full-time: 2 semesters, 3 days a week and project work
- Part-time: 3 semesters, 3 days a week, every 2 weeks

### Master's thesis:

- Completion of a Master's thesis with supervision from a mentor
- Presentation and defence of Master's thesis before industry experts

### Teaching Language:

English

### More information on dates, fees, requirements etc.:

> [stf.ch/master](https://stf.ch/master)

« I would choose to study  
at STF again! »



« In the Master's degree courses students are provided with the methods and tools to prepare them for the demands of the textile industry. »



### **MSC PRODUCT MANAGEMENT FASHION & TEXTILE**

Product managers support and develop collections from the idea to realisation and marketing. In doing so, they contribute to the success of the company.

They maintain an overview: graduates of the Master's course of study coordinate product teams, develop strategies and assess the market. They are responsible for the successful collaboration of the departments involved and for the success of the collections and ranges.

The course of study focuses on the following subject areas:

- product development processes
- methods of innovation, change and process management
- project management methods
- research methods, analysis of research findings
- sustainability and ethics
- principles of successful company management

### **MSC ENTREPRENEURSHIP & INNOVATION IN FUTURE TEXTILES (IN THE WORKS)**

The Master's degree course in «Entrepreneurship and Innovation in Future Textiles» is a clever combination of technical expertise and entrepreneurial competence.

The degree course enables graduates to develop a deeper understanding of the implementation of innovation processes, especially with regard to «Future Textiles».

The degree course supplements the know-how of smart textiles with an entrepreneurial approach to thinking and acting in the complex market environment of the textile and clothing sector.

Graduates of the Master's degree course will be able to:

- reposition their own company on the basis of innovative products, processes and services, and develop strategies for sustainable business growth
- recognise potential and implement innovations
- manage international interdisciplinary teams

# PRODUCT INNOVATIONS

## in textiles

# 1

### WALK ON SMART SOLES

Zhor-Tech aims to advance footwear and has developed different kinds of smart shoes. In general, the shoes incorporate electronics and software to measure users' data for training, safety or healthcare purposes.

The Digitsole can be put into running shoes and saves user data dependent on application. For cyclists the measurements include balance, pedalling techniques and posture, for example. For runners Digitsole registers stride, energy expenditure, impact force and propulsion level. This data, including details on distances and activity, is sent to and stored in a dedicated app that helps analyse the gathered statistics and can be used to improve the athlete's performance.

For those prone to cold feet, Zhor-Tech's Warm Series offers heated insoles. Via an app and a built-in thermostat, the temperature inside the shoe can be regulated from 30 °C to 45 °C. To improve safety and health of employees, the Safety soles analyse workplace activity. It monitors employees and gives statistics about how to optimise movement and efficiency. The dedicated app warns about bad posture, vibration intensity and measures when protective shoes are no longer efficient.

Zhor-Tech has also developed a smart shoe solution for healthcare purposes: The M-Cube technology weighs only 7 grams and can be embedded into any shoe or sole. It monitors walking patterns with regard to orthopaedic diseases and can gather data on speed, impact force, stance and many more. Again, a mobile app can be used to visualise said data and give doctors an overview of treatment effectiveness and progression.

> [zhortech.com](http://zhortech.com)





## 2

### KEEPING FABRICS CLEAN

Swiss company Schoeller Textil AG has developed a new technology: their newest creation NanoSphere® Plus protects fabric against fingerprints and dirt.

Textile material and fabrics that are not washable or are not normally washed on a regular basis can get an unpleasant film from being handled. Greasy stains, finger and hand prints on everyday fabrics cannot be completely avoided but NanoSphere® Plus obviates this by making the fabric less prone to dirt.

It is based on a functional chain: a matrix finish is applied to reduce the textile's capillary effect. Sebum residue and dirt from fingers and hands do not stick to the fabric.

« **A matrix finish is applied to reduce the textile's capillary effect.** »

Additionally, dirty textiles can be easily cleaned by wiping at the stains. Its water and oil repellent properties, high abrasion resistance and durability make the technology suitable for everyday material. Non-washable textiles that are often touched by hands or fingers, or fabrics that are in direct contact with the skin benefit most from this new technology. It is ideal for woven fabrics and synthetic leather or synthetic suede for bags, covers of electronic devices, headphones, loud speakers or other items in the field of interior equipment.

> [schoeller.com](https://www.schoeller.com)

## 3

### SCALABLE GRAPHENE YARN POWERS E-TEXTILES

A research team at the University of Manchester has developed a scalable graphene yarn.

A problem of e-textiles development is the integration of textile sensors. While there are numerous approaches, most of the materials used are non-biodegradable and use unstable metallic conductive materials, according to the University of Manchester. Often, other solutions to power e-textiles can be bulky, limiting its use in everyday situation.

Its flexibility and high conductivity make graphene an ideal material for wearables: it can react to changes in its environment and could therefore be used to integrate sensors into wearables. According to the research, such sensors could be integrated to either a self-powered RFID or low-powered Bluetooth to send data wirelessly to mobile devices.

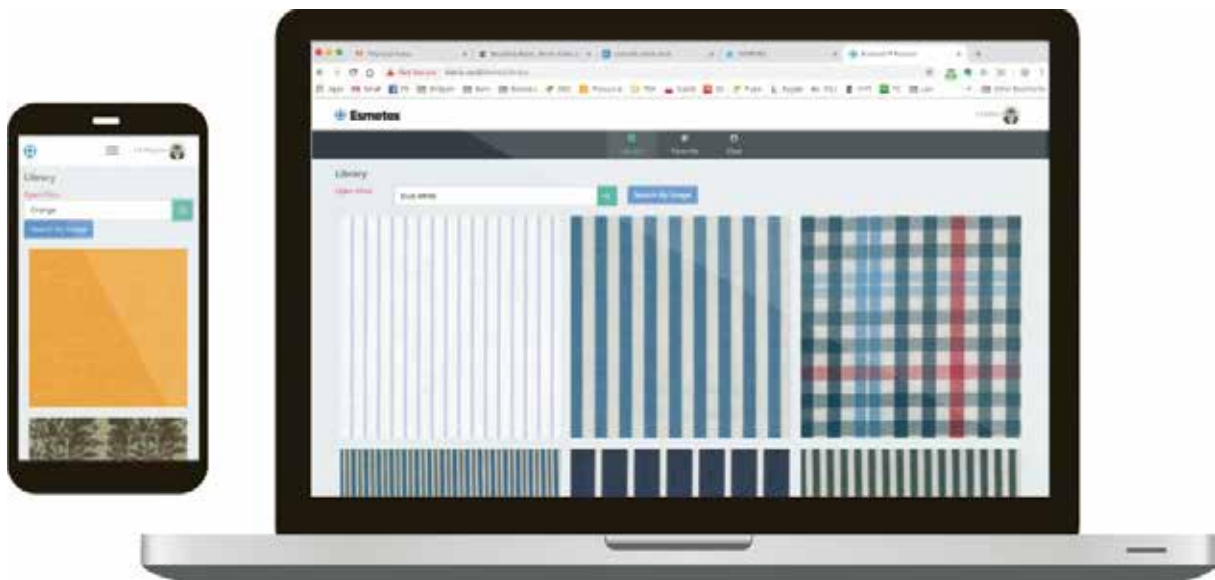
In their published research in ACS Nano, the team explains how it succeeded in developing a process to produce tonnes of conductive graphene-based yarn, using existing textile machineries and without adding to production costs.

The lead author Dr Shaila Afroj, who carried out the project during her PhD, says «To introduce a new exciting material such as graphene to a very traditional and well-established textile industry, the greatest challenge is the scalability of the manufacturing process. Here we overcome this challenge by producing graphene materials and graphene-based textiles using a rapid and ultrafast production process. Our reported technology to produce thousand kilograms of graphene-based yarn in an hour is a significant breakthrough for the textile industry.»

Dr Nazmul Karim, the other lead author from the National Graphene Institute adds «High performance clothing is going through a transformation currently, thanks to recent innovations in textiles. There has been growing interests from the textile community into utilizing excellent and multifunctional properties of graphene for smart and functional clothing applications. We believe our ultrafast production process for graphene-based textiles would be an important step towards realizing next generation high performance clothing.»

> [manchester.ac.uk](https://www.manchester.ac.uk)





# 4

## FIND YOUR FABRICS ONLINE

Esmetex has introduced a web platform for fabrics designed to digitise the fabric supply chain from creative fabric development, to the inspection process, to 3D garment design. Designers can search the database by different criteria – this saves both time and money during the creative development cycle. At the moment, Frontier has about 18,000 fabrics stored – from Esmetex and their mills. As more brands are joining the platform, the fabrics database is expected to continue to grow exponentially.

Says Victor Chao, founder of Esmetex and Esmetex Frontier: «We don't intend to be disruptive, instead we want to be part of a gentle revolution that advances the whole industry. We aim to simplify the fabric development process; no more looking through swatch boxes and shipping swatches back and forth. It's not practical for a designer to search through 18,000 fabric swatches when Frontier can search based on whatever criteria the user is interested in and return all relevant fabric information on one page. This can be done on a desktop, laptop, tablet or smartphone by accessing our website or by installing our app.»

Fabric designers and developers at a brand or retailer can use the platform to image search, find similar items via AI or search by description, blend, colour, end use, pantone colour number, pattern or weight. The resulting fabrics include all fabric details and available sample yardage, which can be ordered directly from the platform via a mobile device. This overview also saves resources and reduces the usage of dyes and harmful chemicals during manufacturing unnecessary samples.

Software solutions like Frontier advance digitalisation in the textile business: «The digital textiles industry is new and growing. Previously only occupied by PLM software companies, now more players are emerging, such as 3D design tools, digital materials, 3D file convert technology, and quality compliance platforms; now it's easier to find an end to end solution. Software solution companies tend to stay away from factories, but Esmetex sees it as a unique opportunity. We offer the fastest way to move suppliers' items online and intend to occupy this foundational industry position so other applications can be built on top – like the basic infrastructure of a city.»

- > **fabric.cool**
- > **esmetex.com**

## 5

**COLOUR CONSISTENCY  
IN 3D PRINTING**

Stratasys has announced an agreement with Pantone. While Stratasys offers innovative 3D printing technology, Pantone provides a universal language of colour that approximately 10 million designers rely on. This agreement aims to advance colour consistency in 3D printing.

Two Stratasys 3D printers have now been validated by Pantone and meet their standards of colour quality and realism. This enables designers and producers to align idea, design and production, and facilitates colour communication for companies aiming to synchronise their design-to-manufacturing process.

Following the validation, the Stratasys J750™ and J735™ PolyJet™ 3D Printers will be able to print thousands of globally-recognized Pantone Colors. This standardisation saves time and money, potentially reducing iterations, shrinking design cost, and speeding time-to-revenue. As soon as July 2019 Stratasys customers will be able to endow 3D printed models with Pantone colours.

Hadas Schragenheim, Stratasys Rapid Prototyping Manager, explains the benefits of the cooperation: «Designers work hard to build realistic prototypes in ways that speed design, build and development cycles. Unfortunately, typical approaches of manually painting each and every model is time consuming. Our agreement with Pantone sets the stage for a revolution in design and prototype processes. As the industry's first 3D printers officially 'PANTONE Validated' we're allowing designers to build realistic prototypes faster than ever before – shrinking design-to-prototype and accelerating product time-to-market.

Iain Pike, Director of Partner Business Development for Pantone, adds: «Pantone maintains a relentless focus on providing physical and digital design solutions that are aligned with the way modern designers work. Given the innovative applications of 3D printing in design, prototyping and production workflows, Stratasys is a natural partner-of-choice. Together, we're ensuring designers and manufacturers can leverage advanced 3D Printing technologies to create the most vibrant and colour-correct 3D printed prototypes the market has ever seen – and with confidence that simulated Pantone colours reflect the design intent.»

> [stratasys.com](http://stratasys.com)



## 6

**HIGH-PERFORMANCE  
3D PRINTING MATERIALS**

A partnership between Boston-based advanced manufacturing company Fortify and Dutch science-based company in Nutrition, Health and Sustainable Living DSM advances the development of high-performance composite materials for 3D printing of structural parts. While Fortify brings in their Digital Composite Manufacturing (DCM) platform and fibre processing expertise, DSM contributes application knowledge in 3D printing resin and formulation development.

The companies plan to develop composite materials which will then be distributed through Fortify hardware. These 3D printed parts have strong mechanical and temperature properties thanks to Fortify's know-how on fibre-processing and DSM expertise on resin. «At DSM Additive Manufacturing, we believe that collaborating with industry partners is key to advance the industry» says Hugo da Silva, VP of Additive Manufacturing at DSM. «Partnering with Fortify allows us to develop high-performance composite materials for DLP technology, making the technology viable for functional parts in demanding applications.»

Josh Martin, CEO of Fortify, adds «DSM is an ideal partner for us. Our collaboration allows us to leverage DSM's mature supply chain and years of experience developing advanced materials to expand our resin palette. We're excited to partner with an industry leader and work with them to develop cutting-edge resins.»

> [3dfortify.com](http://3dfortify.com)  
> [dsm.com](http://dsm.com)



## FACTS & FIGURES

### Seminar:

Trends 2020/21  
(Lifestyle / Fashion / Colour / Casual)

### When & Where?

14th June 2019  
12.30 - 16.20 pm, in Basel

### For more information and registration for the workshop:

> [edelkoort.ch](mailto:edelkoort.ch)  
> [welcome@trendinformation.com](mailto:welcome@trendinformation.com)

# 7

## BROWN IS THE NEW GREY

What does the future have in store for us? What will we dress like tomorrow? What will housing look like? What will we be eating? While the world of fashion is welcoming its new summer season, Li Edelkoort – chief trend researcher of our time – already knows what we will be surrounding ourselves with in 2020/21. Her next trend workshop will take place in Basel on 14th June and will provide working and inspiration tools for professionals in marketing, fashion, lifestyle, design, interior, textiles, colours and materials. Her vision for the 2020/21 season focuses on the topic «Brown is the New Grey».

Her most recent research for 2021 breaks down what influence the colour brown will have on our future selves – a colour that was last fashionable in the 70s. Back then, black was worn almost exclusively at funeral services and the occasional cocktail party. What seems incredible today was normal then: most people did not have a single black piece of clothing in their closets! After five decades brown regains the upper hand over black again: Warmer than grey, softer than black and more powerful than white, brown radiates a mild optimism that aims to overcome the last years' feelings of both value and societal decline. Brown implies society's need for adulthood and heritage in an abstract way. It brings upon fundamental changes led by «Generation Z».

Within the next six years, Generation Z will make up the biggest and wealthiest consumer group, changing both consumerism and working world significantly. They will renew the fashion and design system from within incorporating a clear overtone of equality and creativity, while turning upside down the status quo all the way from production chain to retail.

This generation has never bought a brown jumper or brown leather shoes in their life making the colour seem exciting and new to them. Awoken from hibernation, brown will not only be combined with firm materials like leather, metal and canvas but also with flowing elements: Gloss and glitter give tarnished shades of brown an air of spectacular beauty and strength. Add faux fur and shaggy fabrics to the mix – clothing that looks like it has been snuggled for a lifetime.

Trend research anticipates future developments and their impact on society to find the right responses to these upcoming changes. All the more exciting to be become familiar with Li Edelkoort's visions for 2020/21 – and to be one step ahead of the market.



## 8

## «ATHLEISURE» DIGITAL HIGH-TECH COUTURE OF THE 21ST CENTURY

Text: Joan Billing, trend researcher,  
Trendinformation Studio

“Sweatpants are a sign of defeat. You lost control of your life so you bought some sweatpants.” When Karl Lagerfeld made this infamous statement in 2012, no one would have thought it could have such an impact on the fashion world. A few years later, Lagerfeld sent his Chanel models down the catwalk in sweatpants, leggings and tweed sneakers. It was this turnaround that made the exciting symbiosis of high fashion and sportswear possible. The portmanteau *Athleisure* – comprised of «athletic» and «leisure» – finally gave a name to the new mega trend.

### High-Fashion Meets Sportswear

Interdisciplinary cooperation between major brands and international stars emphasises the connection of high fashion and sportswear - singer Rihanna teamed up with Puma and top model Gigi Hadid with Reebok. They give sportswear a contemporary makeover and bring it to the office, to restaurants, art galleries, universities, and the red carpet.

Thanks to *Athleisure* the sports section and luxury boutiques have begun to converge. *Athleisure* has become a modern status symbol and is representative of an entire generation: «Generation Z».

Labels like Nike, Adidas or Puma have long since realised that non-athletic people also like to dress in sportswear and therefore entered into cooperations with star designers. In 2005, Adidas started their long-term collaboration with Stella McCartney - it was the

first time a leading star designer would create a functional sports line for women; Raf Simons, Rick Owens, Jeremy Scott, Yohji Yamamoto and Alexander Wang followed suit. When online shop Net-a-Porter launched a sportswear branch called Net-a-Sporter in 2014, the *Athleisure* trend started gaining momentum. Since then, luxury labels like Gucci, Hermès, Prada, Chanel and Dior have been offering their very own interpretations of sneakers and sweatpants.

### Athleisure – a fast-growing segment

*Athleisure* belongs to the fastest growing segment in the lifestyle and clothing industry. While retail sales in the US stagnate, the revenue of sportswear has gained 12%. In 2017, Adidas recorded a rise in profits by 35% in North America. According to Forbes magazine the *Athleisure* market could generate 232 billion USD globally until 2024. Even though the *Athleisure* trend is only emerging in Asia, market growth is predicted.

At first glance, the trend seems to imply that people aim to be more athletic but the NDP Group found out that almost half of the sold sportswear is worn as everyday wardrobe.

### A uniform for the 21st century

Digitalisation and the structural change it has caused in our society have certainly favoured the unstoppable rise of *athleisure* lifestyle. Boundaries between work and private life become more and more blurred; they change the way we live, work and dress. Perhaps this is why Generation Z has put the focus on sport and health. Wearing sportswear sometimes conveys a feeling of being fitter and healthier.

## « Digitalisation has favoured the rise of the athleisure lifestyle. »

Only six years ago, the segments fashion and sportswear were clearly separated. Nowadays, the influences of *Athleisure* can be seen across the board: water-proof zippers, draw cords, skin-tight mesh tops, backpacks; sweatpants are combined with high heels and bomber jackets are made from fine woollen fabrics. Now, sweatpants wearers represent the newest status symbols. *Athleisure* has definitely become a uniform for the 21st century.



# UPCOMING EVENTS

---



## **WORLD TEXTILE FORUM**

09th/10th September 2019, Zurich

For an Inclusive Textile Value Chain

«Digitally Sustainable: How Digitalisation & Sustainability Will Impact Production and Sourcing of Textiles & Garments»

The World Textile Forum (in cooperation with the Sustainable Textile School – STS) is where leading textile & retail players will discuss how to transform their businesses in order to adapt to the challenges of sustainability and new technologies. We bring leading managers of the industry together to lead this transformation. Make sure you are part of it!

> [worldtextileforum.org](http://worldtextileforum.org)



## **PROFESSIONALS DAY**

1st October 2019, Zurich

For the 6th time, the STF will organise its annual «Professionals Day».

The event will bring together ambitious young professionals and representatives of the textile business to encourage a dialog. The concept is one of mutual benefit: Companies can discover talents and graduates make new contacts in the business.

> [stf.ch/blog/save-the-date-professionals-day/](http://stf.ch/blog/save-the-date-professionals-day/)

---

## **IMPRESSUM**

Sonja Amport  
Tel. +41 44 360 41 51  
[sonja.amport@stf.ch](mailto:sonja.amport@stf.ch)

**Product articles**  
Nina Hammelstein  
[nina.hammelstein@stf.ch](mailto:nina.hammelstein@stf.ch)

**Picture credits**  
a) Zhor-Tech  
b) Esmetex  
c) DSM & Fortify



### **Swiss Textile & Fashion Institute**

Hallwylstrasse 71  
8004 Zürich  
Tel. +41 44 360 41 51  
[info@stf.ch](mailto:info@stf.ch)  
[www.stf.ch](http://www.stf.ch)

—  
Join us on Instagram & Facebook

[www.stf.ch](http://www.stf.ch)

