

swiss mem ories

75 years
swiss textile machinery



 **75 years**
swiss
textile
machinery



The Swiss Textile Machinery Industry

It was the entrepreneurial foresight of our predecessors and company founders which laid the cornerstone of one of the oldest-established Swiss industries. The Swiss textile machinery association celebrates its 75th jubilee this year. Many of the companies in our association of textile machine manufacturers were founded in the second half of the 19th century. And a significant number of these experienced at least one difficult phase, in some cases even several: some companies disappeared entirely, or were taken over by others. The often-ruthless processes of evolution, defined by Darwin, were also evident in our association.

And yet our 75th jubilee is also proof of the positive aspects of evolution. The Swiss textile machinery industry has evolved and in the process has become stronger, constituting a robust pillar in the framework of European textile machine manufacturing today. In line with its centuries-old tradition, Switzerland has continuously developed its export business. Through their numerous international subsidiaries, Swiss textile machine manufacturers control far more than is revealed by national customs statistics. The international network of the member companies is, and will remain, impressive.

Today we not only celebrate 75 successful years: we celebrate a firm foundation from which we are able to look forward with confidence into a successful future. Over the coming decades, the secret of our success will continue to lie in the key factors of innovation, flexibility and perseverance. These are the typical entrepreneurial traits of our founding enterprises. There is no nobler thing than to foster these values and to take on the next 75 years with our heads held high.

Ernesto Maurer
President

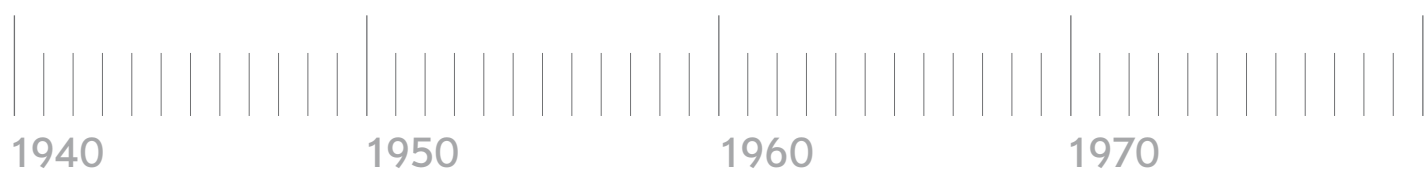


Textile History over the Millennia

The wearing of clothes has been a human habit – perhaps even a ‘fashion’ – since the dawn of civilisation during the Stone Age. It follows that the various ways of producing clothing are among mankind’s earliest crafts. Techniques such as spinning, weaving, knitting and sewing are rooted in the distant past, originally using natural raw materials like wool, flax, silk and cotton. Up until the 18th century, textiles had remained a cottage industry, usually located near a raw material source.

The invention of the steam engine changed all that, and at the same time the first mechanical devices for weaving and spinning were being developed. By the second half of the 1700s, the Industrial Revolution was in full swing, and textiles was its key driving force. The first ‘factories’ were textile mills, dramatically changing patterns of industrial production and employment for owners and their workforces. This trend spread rapidly from its starting-point in the UK, soon reaching Western Europe and North America, as regional production centres sprang up and workers developed and adapted specialised skills in the various textile processes. In Switzerland, for example, the St. Gallen area had been famous since medieval times for linen production, and this was extended to an expertise in embroidery which remains important today. The next phase of industrialisation saw even larger factories built, some combining several textile processes – such as spinning, weaving and dyeing – in a single enterprise.

The pace of innovation increased, bringing faster and more efficient machines and better-quality products. Textile machinery manufacturing prospered alongside Europe’s main textile-producing centres. By the start of the 20th century, Switzerland’s textile exports were in decline. But the country’s machine-builders were gaining a strong international reputation – the beginning of what was to become a highly-successful global industry...



1940

1950

1960

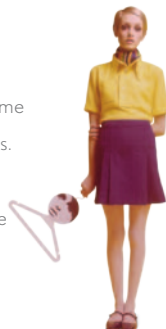
1970



Women's demand for nylon stockings was strong. Five million pairs were sold on one day, 15th May 1940 (dubbed ,N-Day'). During and after the war, fashion was heavily affected by a shortage of raw materials.



The New Look – created by Christian Dior in 1947 – became popular in the 1950s. The small, nipped-in waist emphasised the bust and the hips. Paris regained its pre-eminence as the fashion capital of the world.

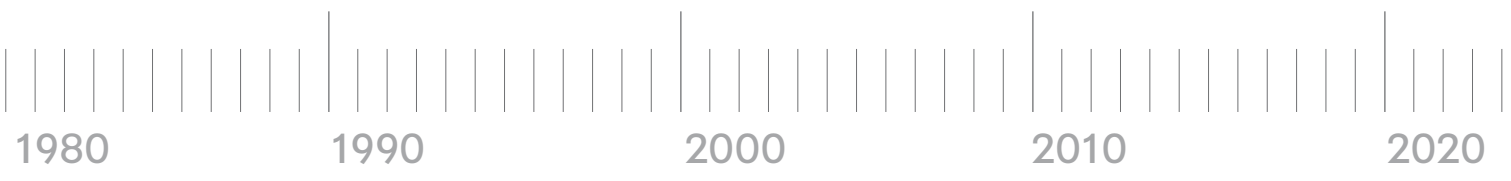
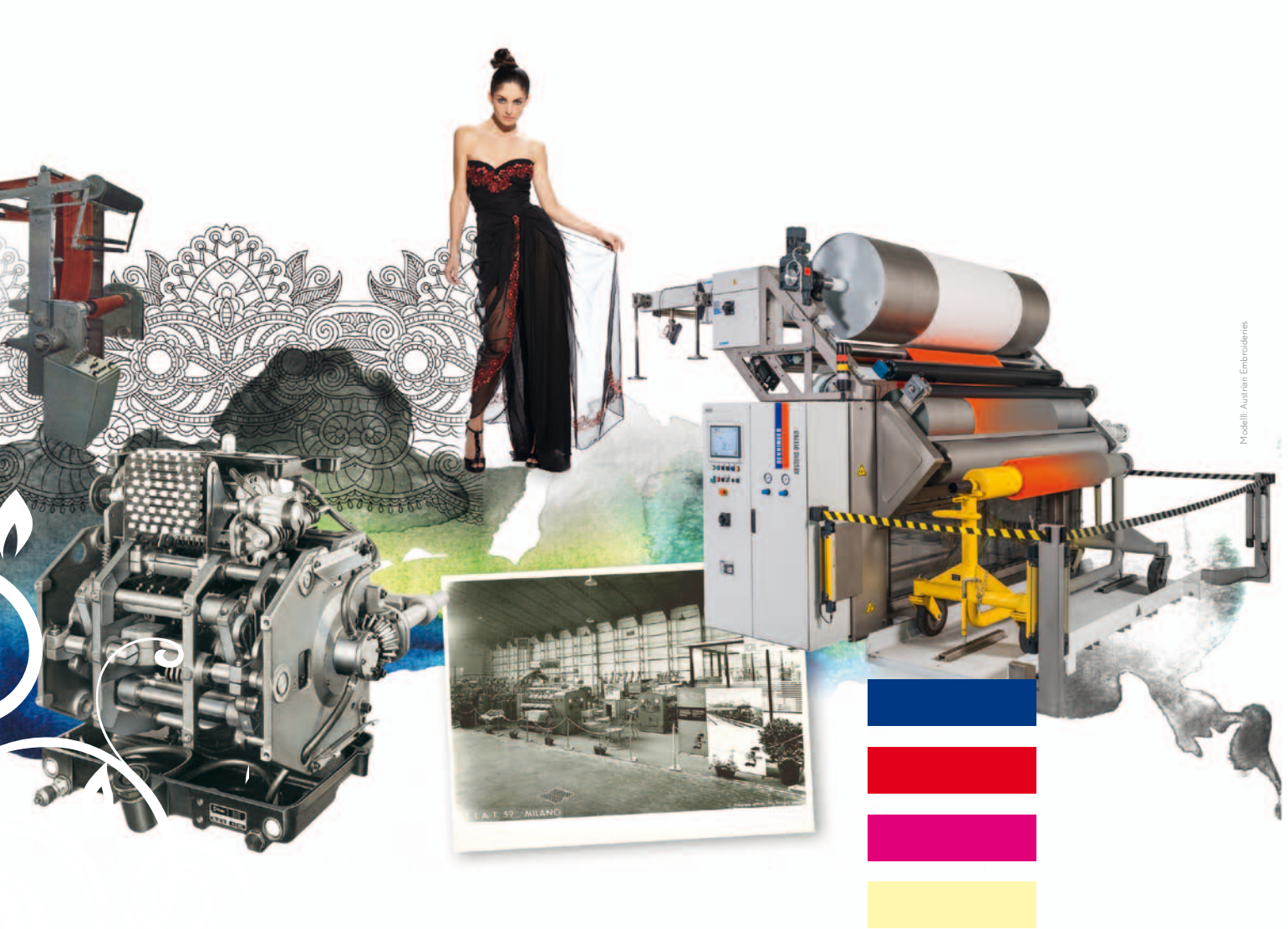


Women showed more skin, as the mini-skirt made its appearance. Twiggy, a 17-year-old British model, was the fashion sensation of the moment.



Polyester was the material of choice in 1970s fashion. Hippie style, with its colourful multi-ethnic clothing, inspired mainstream fashions.





Sport influenced fashion in the 1980s – with Nike becoming one of the most profitable clothing companies.



Tapered jeans came into vogue at the beginning of the decade. The growing popularity of grunge and hip-hop music spread into fashion choices.



Crop tops and low rise jeans exposed lots of naked skin – and maybe a navel piercing or a lower-back tattoo.



Shapewear, sport and outdoor fashions make functional garments a major trend.

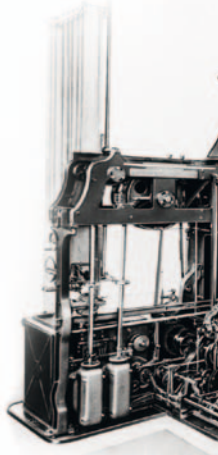


Wearable electronics will become a bigger trend. Demand for innovative functional fibres is increasing.

1940



Demand for Nylon Stockings



Women were mad for nylon stockings. Five million pairs were sold on 15th May 1940 (nicknamed 'N-Day').

The bikini was invented in France, sparking debates and even outrage in some quarters.

Although Switzerland stayed neutral during the war, industrial production suffered from lack of raw materials.

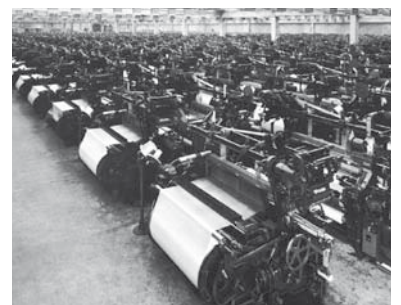


Founding of an Association in Difficult Times

In December 1940, representatives from 22 companies met in Zurich to form the first textile machinery group within the 'Verein Schweizerischer Maschinen-Industrieller (VSM)'. The wartime demand for raw materials made it difficult for the machine-builders to obtain supplies in these early years of the association. An added problem was the question of cooperation with the German producers, who were the biggest competitors for Swiss manufacturers.

The 1940s was a decade of challenges for textiles, with clothing officially rationed in many countries. Fashion designers tried to stimulate demand, despite the shortages. Nylon stockings appeared in the USA, and five million pairs were snapped up in a single 'National Sales Day' by eager customers. But their instant popularity was cut short when America's production facilities were diverted to wartime materials such as parachutes.

Switzerland's wartime neutrality meant the country suffered minimal economic damage compared with other European countries. After the war, the Swiss industry was able to mount a rapid recovery, ready for the new growth of the 1950s.



1950

Waistline in Focus



Christian Dior's so-called New Look, with its small nipped-in waist, became popular. Paris regained its pre-eminence as the fashion capital of the world.

The so-called 'Zauberformel' (magic formula) set the future composition of the Swiss Bundesrat, in force until 2003.

The post-war baby boom was just beginning.

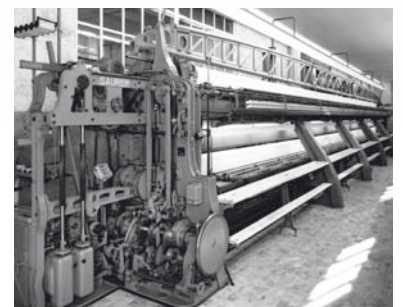
Swiss textile machinery manufacturers became market leaders in several segments.



Synthetic Fibre Boom

Natural fibres such as wool, cotton and silk were the only viable textile raw materials throughout history. Rayon, based on cellulosic raw material, was introduced as 'artificial silk' in the 1920s. Du Pont's development of nylon in 1938 brought the world's first true synthetic fibre. But it was not until the 1950s that the real boom took off. New polymer-based fibres such as acrylic, olefins and polyester made a massive impact, providing more than 20% of America's mill consumption during the decade. At the same time, demand for Swiss textile machinery was soaring, as textile mills tried to modernise their processes after the investment slowdown of the war years. This was despite competition from German machine producers, who benefited from the effects of US recovery funds under the Marshall Plan.

This was also the decade of innovation in textile technology. Almost every process was revolutionised, with ground-breaking inventions in the key spinning and weaving sectors which are still in the forefront of textile manufacturing today. Sulzer's projectile loom, for example, paved the way for a new generation of shuttleless weaving methods, taking the Swiss company to global market leadership. Spinners, meanwhile, benefited from new, high-performance carding machines and the ringframe was now clearly the dominant yarn-making machine. Saurer's 2S-55 shuttle embroidery machine set a benchmark in this technique which was to last 20 years. Textile finishing developments included the first high-temperature dyeing machines for synthetics, and a trend to reduced liquor ratios for water savings.



1960



Twiggy – The Skinny Fashion Sensation

Women were showing more skin, with the advent of the mini-skirt. London, not Paris, became the centre of the fashion world.

Twiggy, a 17-year-old British model, was the new fashion sensation. Her skinny and slightly androgynous look caused some controversy.

The Berlin Wall, built in 1961, was a symbol of the Cold War, which heightened during the Cuban Missile Crisis of 1962.

The Beatles, from Liverpool, were the musical smash-hits, making teenage girls around the world scream.

ITMA 1967 was in Basel – the only time the exhibition has been held in Switzerland.





Electronics and Automation Faster Production and Higher Quality

The 1960s was a decade of great change in the world. New attitudes to cultural, social and political issues pervaded every aspect of Western life, from the 'Swinging Sixties' to the era of mass protests and demonstrations. The Space Race was won by the USA, when astronauts Neil Armstrong and Buzz Aldrin touched down on the surface of the moon in 1969. The growth in electronics technology spawned by the moon shots was also responsible for some important advances in textiles, notably including the launch by Swiss company Zellweger Uster of the first yarn clearers, able to control yarn quality automatically during winding. Automation of many textile processes accelerated, with improved efficiencies in both ring spinning and package winding making the industry less labour-intensive. Rieter's chute feed system for carding machines was another significant novelty.

In 1967, Switzerland hosted ITMA for the only time in the history of the world's biggest textile machinery exhibition. And the Basel event provided many landmark innovations, not least being an explosion in shuttleless weaving, with an estimated 40 different machines displayed, including prototypes of both air- and water-jet weft insertion methods. Swiss weaving machine builders were on top of the world at this stage, in the form of Sulzer, Saurer and later Rütli, who were soon exporting many thousands of machines worldwide between them. A sideshow to the main Basel event also unveiled the earliest commercial open-end rotor spinning machines, soon to rival ringframes in specific yarn applications.



1970



Colourful Multi-Ethnic Fashion

Polyester was the material of choice in 1970s fashion.

The hippie style, with its colourful multi-ethnic clothing, had a strong influence on mainstream fashion.

IBM, Hewlett Packard and Apple introduced the first-generation personal computers.

The oil crisis of 1973 impacted on the global economy. Energy-saving became more important in many industries.



Increased Production – Fewer People

The invention of microprocessors kicked off a new age of computer technology. The first personal computers entered the market, rapidly changing the working environment in offices and many other areas. A similar development took place in machine design. The introduction of the programmable logic controller (PLC) brought machine automation to the next level.

Control and monitoring systems in automated machines meant less personnel were needed for their operation. Spinning mills were a typical example, as the latest ringframes used improved control systems. The labour-intensive processes of operating and controlling the spinning machine were taken over by automated control systems. The first rotor spinning machines reached the market in large numbers, producing yarn at much higher speeds and integrating the package winding, shortening the yarn manufacturing route. Weaving also saw the widespread uptake of a new and more flexible technology, with the development of rapier weft insertion systems.



1980

Sports Fashion

Sport influenced fashion in the 1980s. Nike became one of the most profitable clothing companies.

The fall of the Berlin Wall marked the end of the Cold War.

Music videos on channels like MTV became very popular.

The Green Party of Switzerland was founded – echoing similar organisations in many European countries.

Environmentally-friendly solutions were developed for many industrial processes.



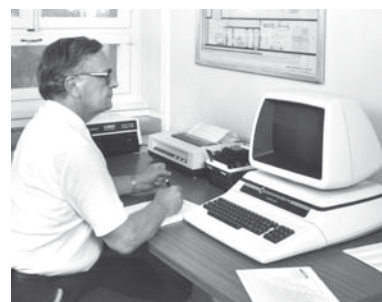


Environmental Awareness Increases

In 1986, two environmental disasters shocked the world. In April of that year, a nuclear disaster at the nuclear power plant in Chernobyl, Ukraine caused widespread radioactive contamination. In November of the same year, a fire in an agrochemical storehouse in Schweizerhalle caused the Sandoz chemical spill. Environmental awareness generally took on much greater significance during the 1980s – including in the textile industry. Dyeing and finishing, in particular, are potential sources of emissions and pollutants in the textile industry. Environmentally-friendly solutions were now developed for wet chemical processes in textile finishing and the 'air-flow' dyeing technique was pioneered to reduce water consumption.

At the Paris ITMA of 1987, Rieter and its rivals achieved the goal of 100,000 rpm rotor speeds in open-end spinning. Weaving technology again saw important advances. Electronically controlled dobby shedding machines from Swiss companies entered the market and electronic jacquards began to replace the former punched tape technique on a large scale.

Many Swiss textile machine manufacturers were now market leaders in their segments. Expansion in other European countries and beyond took place, with the proliferation of mergers, acquisitions and subsidiaries being expressed as the 'Switzerland Abroad' phenomenon.



1990



Tapered Jeans and Shoulder Pads

Tapered jeans came into vogue at the beginning of the decade. The growing popularity of grunge and hip-hop music had a strong influence on fashion.

Compact spinning systems were big news at ITMA 1999.

Swiss machine manufacturers found new business potential in Central and Eastern European countries, after the fall of the Iron Curtain.

Computer specialists warned of the so-called Millennium Bug, predicting worldwide computer malfunctions caused by wrong date formats in software.



Going East after the Fall of the Iron Curtain

The end of the Cold War and the attendant break-up of the Soviet Union was a time of uncertainty and conflict on the political front. Nevertheless, many Swiss companies were ready to invest in new activities in Central and Eastern Europe, after the fall of the Iron Curtain. It was also during this decade that the Swiss group Saurer became the world's largest textile machinery concern following a series of high-profile acquisitions.

Technically, the weaving process was becoming faster and more productive. The sensation of the decade was a multiphase machine from Sulzer Rütli which could insert more than 5,000 metres of weft per minute. Embroidery machines were also getting faster machines, and a new single-level machine with active thread delivery started a new era in shuttle machine design. In textile finishing, new coating materials and machines evolved, in response to new possibilities in the burgeoning sphere of technical textiles applications.

At the Paris ITMA in 1999, three producers caused a mini-shockwave by unveiling compact spinning. This refinement of the ring spinning principle is today a 'given' for many new investments.



2000

Plenty of Naked Skin



Crop tops and low-rise jeans exposed plenty of naked skin – and maybe a navel piercing or a lower-back tattoo.

Nearly 3,000 people died in the September 11 terror attacks in the United States.

Technical textiles applications continue to increase in importance.

Switzerland became a member of the United Nations in 2002.



Globalisation in the New Millennium

Globalisation of all the main market segments was a major trend at the beginning of the new millennium. The internet facilitated easy and cheap communication and collaboration for companies around the globe. Subsidiaries in India, China and other Asian countries became very important for Swiss textile machine manufacturers, taking them inside the world's leading textile-producing regions.

Quality was increasingly a priority in many fields of consumer and industrial products. As a result, demand was growing for textile quality testing instruments for laboratories and yarn clearers for in-process control. In the wider textile industry, this effect was evident with the heightened interest in 'Swiss Quality'. Air-jet spinning technology achieved greater commercial penetration of the yarn manufacturing sector, competing with rotor, ring and 'compact' methods for a share of the market.

More and more applications for technical textiles were developed, with processing machines adapted accordingly. At the beginning of the new millennium the production of synthetic fibres surpassed the production of natural fibres for the first time. China and India represented nearly 50% of worldwide cotton production.



2010

Sustainable Fashion

Function is fashionable, with shapewear and sportswear becoming key trends.

Demand for environmentally-friendly consumer products is growing.

Social networks are changing the style and pace of communication. Internet shopping claims a large and growing share of retail sales.

Mass migration is a challenge for international politics.

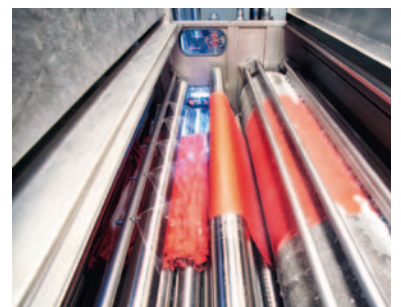




Efficient Use of Energy and Other Resources

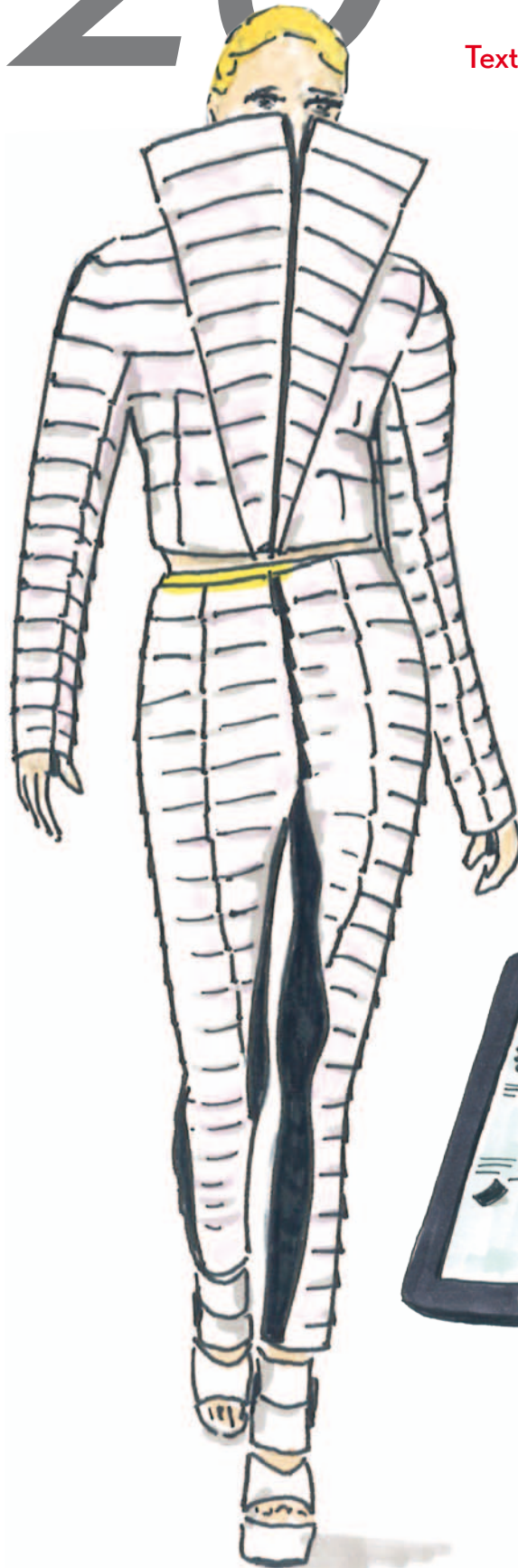
Today, the switch towards renewable energy sources is a massive challenge for all major industrialised countries. In Switzerland, the percentage of hydroelectric power generation is already very high, thanks to its geographical topology. Another target is combat increasing energy prices by cutting consumption through improved efficiency.

Innovative solutions now help the textile industry to improve environmental sustainability from spinning to finishing. Energy-efficient textile machines mean the industry can reach its ambitious targets. Besides energy efficiency, usage of other resources, such as water, remains high on the agenda. The textile industry must meet the increasing demand for eco-friendly products made in environmentally sustainable production facilities – without affecting quality standards. Increased productivity is still a top requirement for machines along the entire textile value chain.



2020

Textile Innovations

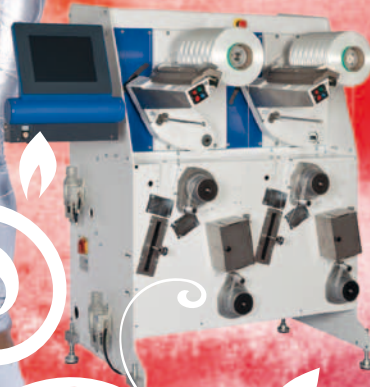


Wearable electronics will become a bigger trend. The demand for innovative functional fibres is increasing.

Liberalisation of markets continues, promoting further globalisation.

The 'Information Society' just keeps on expanding.

Asian countries, especially China, retain their importance, as strong growth continues.

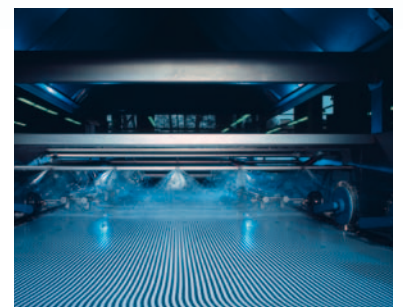


What the Future Might Bring

The Nobel Prize winner Niels Bohr once said: 'Prediction is very difficult, especially about the future.' But there are some developments which seem quite likely from today's standpoint. Globalisation will continue, as the introduction of free markets is discussed in many regions of the world. China will continue to be extremely important – not only as a market for textile machines, but also as machine manufacturer and a competitor for the Swiss textile machinery industry.

Technical developments in textile machinery will continue to focus on quality, productivity, efficiency, and energy savings. Historically, there have been some very important changes in industrial production: The invention of the steam engine and the first spinning and weaving machines during the second half of the 19th century (1st industrial revolution); the introduction of mass production and the use of electrical energy in the beginning of the 20th century (2nd industrial revolution); and the use of electronics and microprocessors for automation starting in the 1960s and 1970s (3rd industrial revolution) are important milestones.

Today, we can talk about a 4th industrial revolution – Industry 4.0. Here, the virtual and physical worlds interact and form so-called 'cyber physical systems'. Information and data become crucial resources within the whole production process. Communication between machines (the 'internet of things') will be of even greater importance in the future.



Plus



For Our Customers the
Plus+ is the Benchmark
for Our Performance.

FACTOR+

Quality + Lasting Value

Creativity + Success

Strength + Partnership

High Tech + Reliability

Performance + Sustainability

The companies of the Swiss textile machinery industry are committed to delivering added value to customers around the world. This is expressed in the FACTOR+ campaign, in which the most important values of Swissmem companies are defined. The primary goal shared by all members is satisfied + successful customers.

Since 1940, textile machine manufacturers from Switzerland have been working together to strengthen their international market position. The results to date are impressive – many member companies have achieved market leadership in their individual segments.

Textiles Beyond Fashion

Since ancient times, textiles has mainly been about the production of garments. But there are some other very old applications, which we today would call 'technical textiles'. For example, felted wool has been used for the construction of yurts for at least 3,000 years...

Today, technical textiles are becoming increasingly important and there is a growing field of application. The range is very broad: vehicle manufacturing, aerospace, medical applications, construction, agriculture and many others. Base materials include natural or synthetic fibres – as in conventional textiles – but also glass, metal and ceramics. Technical textiles can have various advantages compared with other materials. They are lightweight, their surface is extensive compared with their volume, and they can be flexible and tear-resistant at the same time. Properties can be designed according to the requirements of the application.

Machines for technical textiles are often similar to those already used in other fields. However, in many cases they have to be modified, for example to cope with different types of materials. In future, technical textiles will be used in more and more application areas. Today the global market for technical textiles has an estimated volume of US\$ 150 billion and it is growing rapidly – an excellent opportunity for the textile machinery industry in Switzerland.



History of Success

Textile machinery manufacturing has a long tradition in Switzerland

Member companies of the Swissmem textile machinery group have always been at the cutting edge of technology. Over the past 75 years, they have reached many milestones. Some have become unchallenged market leaders in their segments. The future path looks promising for Swiss textile machinery manufacturers. Here we provide just a glimpse – by no means an exhaustive list – of some of the headlines since the textile machinery group was established.

- 1940** VSM
Founding of the Swiss Textile Machinery Group within VSM.
- 1941** Luwa AG
Pneumafil patented suction system for spinning.
- 1944** Zellweger AG - Apparatefabrik Uster.
Start of operations in the textile electronics business.
- 1947** Willy Grob AG
Foundation of the company producing accessories for weaving machines.
- 1951** ITMA
The first ITMA is held in Lille, France.
- 1952** CEMATEX
Founding of Cematex – Comité Européen des Constructeurs de Machines Textile.
- 1955** Benninger AG
Extracta washing range is launched.
- 1957** Zellweger AG - Apparatefabrik Uster
First publication of USTER® STATISTICS.
- 1960** Rieter Machine Works Ltd
Rieter's drawframe exceeds the production speed of 200 m/min.
- 1960** Braschler AG
Foundation of company specialising in devices and services for manufacturing value-added yarns on ring spinning frames.
- 1962** Graf + Cie AG
Conversion into a corporation.
- 1963** Maschinenfabrik Jakob Müller
First narrow fabric needloom launched.
- 1971** Stäubli AG
Presentation of first rotary dobby in monoblock design.
- 1975** Retech Aktiengesellschaft H. von Arx
Founding of the Retech company by Heinz von Arx, producing temperature control systems for dairies, breweries and textile mills.
- 1981** Willy Grob AG
Start-up of production of batching motions for weaving machines.
- 1982** Santex AG
Foundation of Santex, specialising in knitgoods finishing machinery.
- 1982** Sulzer Textil AG
Takeover by Sulzer of fellow Swiss weaving machine producer Rütli.
- 1982** G. Hunziker AG
Takeover of Willy Grob and move to new premises in Eschenbach SG.
- 1985** Retech Aktiengesellschaft H. von Arx
New production plant in Meisterschwanden, followed by further expansion over the years.
- 1987** Stäubli AG
Market launch of first electronic jacquard machine, CX860.
- 1987** Maschinenfabrik Jakob Müller AG
MUGRIP® MBJ1 – world's first rapier label weaving machine.
- 1981** Steinemann AG
Steinemann begins manufacturing vacuum units, filters and related components under licence from Sulzer.

- 1989 SSM AG**
Established by merger of the three companies: Schärer, Schweiter and Mettler.
- 1991 Benninger AG**
Foundation of Benninger India.
- 1991 Steinemann AG**
Development of components for automatic waste disposal in textile production machines.
- 1991 Amsler Tech AG**
First device to for elastic filament yarns launches, following on from developments in slub yarn systems for open-end spinning and invention of MultiCount yarn.
- 1993 Zellweger Luwa AG**
Fusion of Zellweger Uster AG and Luwa AG under the name Zellweger Luwa AG.
- 1994 Stäubli AG**
Acquisition of Zellweger Weaving Systems and its production facilities in Sargans, Switzerland.
- 1995 SSM AG**
Invention of the electronic yarn traverse system, under the brand DIGICONE® preciflex™.
- 2000 Saurer Group**
Acquisition by Saurer of German companies Barmag and Neumag.
- 2001 Sulzer Textil**
Sulzer's weaving machine business is acquired by Promatech, later to become ITEMA.
- 2003 Crealet AG**
Foundation of the company.
- 2005 Graf + Cie AG**
Acquisition by Rieter; integration into the Components business group.
- 2006 Oerlikon AG**
Takeover of Saurer textile activities by Oerlikon Group.
- 2006 Luwa Air Engineering AG**
Split of the international air engineering business from Zellweger Luwa AG and foundation of today's Luwa Air Engineering AG.
- 2007 SSM AG**
Development of tensiso™ balloon optimiser for best yarn off-winding efficiency during winding.
- 2008 Calorifer AG**
Administration and manufacturing incorporated into affiliated sister company Calorifer AG. Brand name 'Steinemann Central Vacuum Systems' remains.
- 2008 Rieter Machine Works Ltd.**
First volume of the textile encyclopaedia 'The Rieter Manual of Spinning' is published.
- 2010 Retech Aktiengesellschaft**
Introduction of the ESM (Energy Saving Motor) concept for heated godets.
- 2010 Uster Technologies AG**
Launch of ground-breaking third generation of USTER® QUANTUM yarn clearer.
- 2011 Jakob Müller AG**
New-generation rapier label weaving machine.
- 2011 Bräcker AG**
35 millionth Titan spinning ring shipped – highest sales in company history.
- 2011 Rieter Machine Works Ltd**
For the first time Rieter presents four spinning technologies at an ITMA: ring spinning, compact spinning, rotor spinning and air-jet spinning.
- 2013 Saurer AG**
The new Saurer group is re-established.
- 2015 Swissmem**
Swiss textile machinery association celebrates 75th anniversary.

Members

The Swissmem textile machinery group represents the interests of its 40 members. Textile machinery companies from Switzerland offer products and solutions along the entire textile value chain. The technologies cover all areas of the textile industry: spinning, weaving, embroidery, finishing, coating, printing, and quality control.

The textile machinery group is part of Swissmem, the Swiss association of the mechanical and electrical engineering industry and related technology-oriented sectors. Swissmem has a long tradition and is based on the activities of the Swiss Association of Machinery Manufacturers (VSM), which was founded in 1883, and the Association of Swiss Engineering Employers (ASM), which was founded in 1905. Today Swissmem represents some 1,000 member companies with over 330,000 employees.

AGM JACTEX AG
JACQUARD • WEAVING • EMBROIDERY

 **AMSLER**
SWISS EFFECT YARN SYSTEMS



 **Becatron AG**

BENNINGER

Bräcker

buser

CALORIFER

 **CREALET**

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