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## Company History

### 2016

On January 15, 2016, the EMSORAMA, the first Science Center in the Grisons is opened at the production site in Domat/Ems to celebrate the 80th anniversary of the company. The EMSORAMA is open to the public free of charge for group visits, allowing fascinating phenomena from nature and technology to be experienced ([www.emsorama.ch](http://www.emsorama.ch)).

### 2015

EMS-GRIVORY Asia opens an application development centre on November 10, 2015 at the Suzhou location in China. With state-of-the-art polymer processing equipment, a material testing laboratory and a colour laboratory, this will provide technical application support for local customers.

Magdalena Martullo-Blocher, CEO and Vice-Chairman of the Board of Directors of EMS-CHEMIE HOLDING AG, is elected on October 18, 2015, by citizens of the Grisons as member of the National Council, the large house of Swiss parliament, as representative of the Swiss People's Party (SVP).

On August 14, EMS-EFTEC opens an EFTEC Engineering production location in Shanghai (China) for manufacture and supply of fully automated application units to the Asian automotive industry.

On February 10, 2015 the parliament and government of the Canton Grisons visit EMS-CHEMIE in Domat/Ems. During a tour of the production site, 29 apprentices present their 14 professions. Guests are able to try their hand at practical tasks and gain an insight into the variety of vocational training today and the EMS training programme.

For the fifth time in series, EMS-GRIVORY is again named "Supplier of the Year" by General Motors (GM); this year specifically for the many years' of excellent business relations, the outstanding performance with regard to innovative technology, the permanent exchange of innovations and rapid reaction times as development partner.

Based on the pleasing development of net sales volumes, EMS invests an additional CHF 35 million in capacity expansion at the production site in Domat/Ems. The first plant is already to start operation at the end of August 2015.

### 2014

The exhibition, "The unbelievable history of EMS-CHEMIE" was extended until the end of 2015 due to the unchanged, sustained flow of visitors (more than 17,600 visitors since its opening at the beginning of 2011).

EMS-GRIVORY expands its assortment of high-temperature polyamides for metal replacement with new products, heat resistant up to 270 degrees C. This makes numerous under-the-hood applications possible with polymer materials.

EMS takes over Grupo Placosa EFTEC S.A. de C.V., Mexico. In this way, EMS-EFTEC expands its business in the growing Mexican market and further strengthens its market position as leading worldwide automotive supplier.

In cooperation with the University of Applied Sciences, Rapperswil, EMS develops an in-mould process for partial strengthening of injection-moulded articles. This process called EMS Tape Technology makes it possible to integrate endless fibre-reinforced tapes into injection-moulded articles, thus providing new solutions for a focussed improvement in mechanical properties in metal replacement and light-weight construction applications.

EMS-CHEMIE is presented with the "Global Supplier Recognition Award" of the NORMA Group, leading international supplier of high-tech connection technology. This award was presented for the first time and only to EMS-CHEMIE. Performance: Supplier reliability, product quality, competitiveness and sustainable use of resources.

EMS-CHEMIE is named "Supplier of the Year" again by General Motors (GM). For the fourth time in series this coveted prize with which GM recognises its best global suppliers, was presented to EMS-CHEMIE. Performance: Quality, pro-active behaviour and on-going exchange regarding innovations.

A further production plant for high-performance polymers started operation at the production site in Domat/Ems. In addition, capacity for high-temperature polyamides is also further expanded.

Various short-term measures to increase compounding capacity were implemented worldwide following an increase in demand.

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## 2013

The exhibition "The unbelievable history of EMS-CHEMIE" is extended until the end of 2014 due to the continuing large number of interested visitors.

EMS-CHEMIE is awarded the title "Supplier of the Year" for the third time in series by General Motors (GM). Along with the excellent business relationship over many years, above all the innovative technology and rapid reaction time of EMS as development partner were praised.

EMS-EFTEC takes over the 50% share of its Czech partner D PLAST in the joint venture D PLAST-EFTEC and, in this way, sole control of the EFTEC business in Central and Eastern Europe. With this take over, EMS-EFTEC further expands the business in the growth markets of Central and Eastern Europe and strengthens its market position as worldwide automotive supplier.

EMS-EFTEC opens a new production location in Foshan (CN) to supply automotive manufacturers in South China.

EMS-PATVAG is awarded the "Supplier Excellence Award" by Key Safety Systems (KSS), one of the world's leading manufacturers of automotive safety systems. Evaluation criteria: punctual delivery of perfect quality parts and provision of excellent technical support.

Volkswagen names EMS "Top-150-Supplier of the VW Group worldwide".

Sales and development departments worldwide are re-organised and expanded according to customer segments. This is to ensure that customers worldwide receive quick support with competent solutions.

10 apprentices from Switzerland are given the possibility of actively learning new things, both personally and professionally, in local work experience in 4 countries on 3 continents.

The façade of Rhäzüns Castle looks as good as new after successful renovation work is completed.

## 2012

The anniversary exhibition celebrating 75 years of company history at the production site in Domat/Ems is extended provisionally until the end 2012 due to the very great interest shown.

EMS-EFTEC takes over the shares (51%) of the local partner Shroff in the mutual joint-venture EFTEC (India). With this 100%-participation, EMS-EFTEC strengthens its position as market leader in the emerging automotive market in India.

Opening of the historic post card exhibition "Greetings from Rhäzüns" (Liebe Grüße aus Rhäzüns) by Dr Christian Rathgeb, Member of Parliament of the Canton Grisons, at the personnel restaurant of the EMS-CHEMIE AG in Domat/Ems.

For the second time in succession, EMS-CHEMIE is awarded the title of "GM Supplier of the Year" by General Motors. Determining factors for receiving this prize were: the excellent support for launch of new products, competitive overall cost solutions, innovative technology and quick response times of EMS.

## 2011



EMS celebrates the company's 75-year anniversary.

The company biography "**Success as a Mission. EMS-CHEMIE: The history of an impossible company**" by Karl Lüönd is published and available for purchase in bookstores (in German, French and English). This work reaches #1 on the Swiss list of best-selling non-fiction books.

To celebrate the anniversary a public exhibition of the company's history is opened on the production site at Domat/Ems.

To celebrate the 75-year anniversary different activities are organised throughout the world for EMS employees and their families. Among other things, employees at Swiss locations as well as those of Markdorf (South Germany) and Milan (Italy) are invited to a special performance by the Swiss National Circus Knie.

**EMS-CHEMIE: Supplier of the year. General Motors** (the world's second-largest automobile manufacturer), **Bosch** (the world's largest independent automotive supplier) and **Foxconn** (the world's largest manufacturer of electronic and computer components) recognise EMS as the "strategic supplier of the year". Evaluation criteria are, in particular: innovative technology, above-average quality, excellent support during development, competitively-priced total solutions and delivery that exceeds expectations with regard to schedule and quality.

At the beginning of September, EMS joined with selected long-standing customers from 21 countries and 5 continents to celebrate the company's 75th anniversary, with a train ride over the world-famous Albula Pass into Engadin, and a visit to the Federal Folk Music Festival in Chur.'

EMS-EFTEC again expands assembly capacity for EFTEC Engineering at the location in Markdorf (Germany).

The highest fully automatic **high-bay warehouse** in Switzerland goes into operation at the Domat/Ems facility.

More than CHF 100 million is being invested in expanding capacity at the Domat/Ems facility, including an additional **production system for high-temperature polyamides**.

## 2010

**EMS-CHEMIE (Korea) Ltd.** is founded for stronger development of the Korean market.

**EMS-EFTEC Guangzhou** is founded to cover the automotive industry in Southern China.

EMS-EFTEC takes over the 20% participation of Nittoku and, therefore, complete control of EFTEC-Asia.

Start-up of the new production site of **EMS-GRIVORY in Suzhou** (central China).

EMS-EFTEC concentrates on direct supply to automotive manufacturers worldwide and sells its automotive repair business "EFTEC Aftermarket".

## 2009

EMS takes over the **technical fibre specialist** Nexis Fibers GmbH in Neumünster (Germany) to strengthen the own worldwide business with polyamide-based speciality technical fibres.

In the emerging market **India**, **EMS-EFTEC** opens a new production plant in Pune (state Maharashtra) to serve the local automotive with even more capacity.

**EMS-EFTEC** founds a further production joint-venture company, "Wuhu EFTEC Chemical Products Ltd" **in Wuhu (China)**, to supply the growing Chinese automotive industry with process materials.

**EMS-EFTEC North America** expands the production site at Taylor in Michigan and concentrates all manufacturing, development and sales activities for process materials for the American automotive industry at this location.

To improve the result situation and impact power in the market, the Business Units EMS-PRIMID and EMS-GRILTECH are merged from May 1, 2009 to form the **Business Unit EMS-GRILTECH**.

EMS-EFTEC takes over the **Auto Coating Srl Company** with production of process materials for the automotive industrie in **Romania** and supplies Renault from this plant.

In order to supply automotive customers in Latin America with process materials, **EMS-EFTEC** builds a production plant in Santana de Parnaiba, **close to Sao Paulo**, Brazil. Start-up of operations is planned for **March 2010**.

## 2008

On February 21, 2008 the first EMS-PATVAG production plant for airbag ignitors is taken into operation in Brankovice (Czech Republic). As a consequence, all activities are transferred from Domat/Ems to Brankovice.

EMS strengthens its leading market position with the introduction of **Grilbond® "Easy-Dip"**, a new bonding agent for polyester reinforcing fibres and rubber in automotive tyres, which can be utilised with significantly less complex process equipment.

Together with customers and representatives of local authorities, M. Martullo inaugurates two new plants for the manufacture of specialised polymer materials in Gross-Umstadt (Germany) on March 4, 2008. Products manufactured using this technology are received with great interest by customers.

On March 10, 2008 construction is started on a production plant for EMS-GRIVORY speciality products in Suzhou (China).

EMS-GRIVORY starts production of **long glass-fibre reinforced polyamides (LFT)** and supplies Grivory® and Grilon® grades reinforced with long glass-fibres. The combination of stiffness and impact strength considerably expands the application spectrum and enables use of these grades in applications requiring crash-resistance not possible with previously known products.

EMS-GRIVORY expands its assortment of **high-temperature polyamides for metal replacement with Grivory® HT3**, which has further increased dimensional stability. This product can be processed using injection-moulding and, as first high-temperature polyamide made of renewable raw materials, extrusion methods. This opens up previously unavailable markets.

In addition, EMS-GRIVORY offers a whole assortment of products made of renewable raw materials: Grivory® HT3 for electronic connectors, Grilamid® 1S for structural frames/housings e.g. for mobile 'phones and computer components, and Grilamid® BTR for spectacles frames and displays.

EMS-EFTEC builds an additional assembly hall at the location of EFTEC Engineering in Markdorf (Germany). EFTEC Engineering develops and manufactures completely automated application equipment for the automotive industry.

## 2007

Miriam Blocher takes over the Dalasta Holding AG (Läckerli-Huus) and reduces her shareholding in EMS-CHEMIE HOLDING AG. The controlling interest of EMS-CHEMIE HOLDING AG now belongs to the two sisters Magdalena Martullo-Blocher and Rahel Blocher.

The biomass power station TEGRA started operations with the second plant expansion in April and now provides EMS with a total of 100,000 tons of process steam per year. This means that EMS has already transferred 2/3 of steam production from fossil fuels to biomass power, and has reduced its CO2 emissions on the production site by two thirds! Construction work has already been started for the third plant expansion which will start operations in 2009.

On May 25, 2007 construction of the EMS-PATVAG production plant in Brankovice (Czech Republic) started. Airbag igniters for the automotive industry will be manufactured here starting in early 2008.



Open Day - Saturday, June 2, 2007

After 9 years, EMS-CHEMIE AG again stages an "Open Day" on Saturday, June 2, 2007. More than 13,000 visitors as well as numerous prominent guests enthusiastically tour the production site at Domat/Ems (Canton Grisons, Switzerland) and take part in various attractions.

EMS presents the historic cathedral in Chur with a new organ. Financial scope of the donation: CHF 1.6 million.

**EMS-TOGO takes over worldwide control of the automotive supplier EFTEC** with the purchase of all shares from the joint venture partner H.B. FULLER. As a result, the name of the Business Unit is changed from "EMS-TOGO" to "EMS-EFTEC".

EMS-EFTEC develops, manufactures and markets materials and application technology in the specialised fields of bonding, coating, sealing and sound damping for automotive manufacturers throughout the world. With this takeover EMS further expands its business area of high-performance polymers.

At the plastics trade-fair in Dusseldorf, Germany, EMS-GRIVORY presents a whole series of innovations. With especially stiff and tough products, EMS offers new possibilities for replacement of metal. Non-warping materials allow high loading for long periods, even at changing temperatures.

Specialty polymers from EMS-GRIVORY are approved for use in contact with hot drinking water (up to 85°C). This enables EMS to realise new applications, e.g. in the field of sanitary fittings.

## 2006

Start-up of the **biomass power plant TEGRA** on the production site in Domat/Ems. The biomass power plant provides an alternative energy source for EMS replacing fossil fuels with the wood pellet burning TEGRA plant for generation of steam. This allows EMS to reduce up to two-thirds of the CO<sub>2</sub> emission on the production site in Domat/Ems.

Founding of the sales company EMS-CHEMIE (India) based in Mumbai.

## 2005

The business unit EMS-DOTTIKON, specialised in exclusive synthesis in the business area fine chemicals / engineering, is split off from the EMS Group as per March 31, 2005 and floated on the stock market as a separate company under the leadership of Dr. Markus Blocher. The three Blocher sisters purchase the shares of Dr. Markus Blocher in the family holding ERESTA Holding AG and hold the majority share holding of the EMS-CHEMIE HOLDING AG.

In order to also be represented locally with EMS-GRIVORY, EMS founds the sales company EMS-CHEMIE (China) Ltd. based in Shanghai.

## 2004



Magdalena Martullo-Blocher (2004)

Magdalena Martullo-Blocher takes command of the Group on January 1, 2004 as Vice President and **Chief Executive Officer**.

In order to further support the worldwide focus on performance polymers, the existing business unit EMS-GRIVORY, which concentrates on thermoplastic polyamide materials, is divided into independent business units, each responsible for its own business results:

"EMS-GRIVORY Europe"

"EMS-GRIVORY America"

"EMS-GRIVORY Asia"

EMS-PATVAG stops production of ignition systems for military technology and concentrates on airbag ignitors for automotive construction.

The EMS Group sells the business unit INVENTA-FISCHER to the German plant construction company Uhde. The business areas fine chemicals and engineering are merged.

## 2003

At the beginning of the year the Blocher family decides to continue with EMS as a stock exchange-listed company. Standard registered shares are introduced.

On December 10, 2003, **Dr. Christoph Blocher** is voted into **the Bundesrat** (Swiss federal cabinet) by Swiss federal government. In connection with this, he retires from all business functions in the EMS Group and sells his majority holding in the EMS-CHEMIE HOLDING AG to his four children as of December 30, 2003.

## 2002

EMS sells the hydroelectric business unit KRAFTWERKE (power plants) to the Nordostschweizerischen Kraftwerke / NOK (North-Eastern Switzerland Power Plants) and safeguards long-term power supplies with a supply contract.

## 2001

**Magdalena Martullo-Blocher**, oldest daughter of Dr. Christoph Blocher, enters the company.

## 2000

The activities of the business unit EMS-CHEMIE are divided into 4 independent business units:

"EMS-GRIVORY" (engineering plastics)

"EMS-GRILTECH" (technical fibres and adhesives)

"EMS-PRIMID" (thermoset materials)

"EMS-SERVICES" (central services, production site Domat/Ems)

EMS starts production in the first and currently only production plant for **high-temperature polyamides** in Europe. These products are sold under the trade name **Grivory® HT** and are used in high-temperature applications. Within a very short time EMS becomes market leader in Europe.

EFTEC founds a joint venture with the Czech company D-Plast to develop the Central and Eastern Europe market for process materials for the automotive industry.

Production of polyester fibres Grilene® is stopped and all know-how sold to the Montefibre Company, Milan (Italy).

## 1999

Take-over of the Karl Fischer Industrieanlagen GmbH, Berlin, Germany to 100% and, together with EMS-INVENTA AG, formation of the business unit INVENTA-FISCHER.

## 1998

EMS becomes market leader with **Grilbond® bonding agent**. This product guarantees reliable bonding of polyester fibre reinforcement and rubber in **car tyres**, drive belts and conveyor belts.

The EMS-participation in the Karl Fischer Industrieanlagen GmbH, Berlin, Germany is increased to 90%.

## 1997



Through a joint venture with H.B. Fuller Automotive USA, EMS-TOGO strengthens its worldwide activities with process materials for the automotive industry in the field of original equipment manufacture (OEM). The joint venture is named "EFTEC".

## 1996

During streamlining of the product assortment, EMS phases-out Grilesta® polyester resins for powder-coatings and sells the business to the UCB company in Belgium.

## 1995 - 1997

EMS-TOGO expands its local presence in South-Eastern Asia (Singapore, Thailand, India) and China (Shanghai, Changchun), in order to supply the growing automotive industry with locally-produced process materials.

## 1995



Grilamid TR conquers the glasses market.

EMS becomes market leader for flexible glasses frames and sunglasses lenses with the **transparent polyamide Grilamid® TR**.



## 1993



Airbag ignitor

The 750th invention since the founding of the company is registered by the EMS patent department for patent protection.

EMS-PATVAG sells the first **automotive airbag ignitors** and rapidly becomes market leader in Europe in the following years.

## 1992



Lauro lactam production plant in UBE, Japan.

EMS safeguards supply of the key raw material **lauro lactam** for the production of **Grilamid® PA12** by forming the production joint-venture EMS-UBE Ltd. in Japan.

EMS-TOGO founds a joint venture in Mexico with the Placosa Company in order to supply the local automotive industry with process materials. This is today the Grupo Placosa EFTEC S.A. in Cuernavaca, Mexico.



Together with customers, suppliers, employees and official representatives, EMS-CHEMIE AG celebrates its 50th anniversary as an independent Swiss company.

## 1991

With **Grivory® GV**, EMS launches a new generation of super-stiff polyamides, thus ringing in the era of **metal replacement**.

EMS-TOGO takes over the **DINOL**-Group, manufacturer of automotive corrosion protection, from SANDOZ.

## 1990



Weathering-resistant Primid powdercoatings on the facade.

Under the product name **Primid®** EMS introduces a **weathering-resistant hardener for powder-coatings**, which is environmentally-compatible and protected by patents. EMS then goes on to become world market leader with this product.

The construction of a new **application development centre for engineering plastics** in Domat/Ems forms a further milestone in the promotion of **performance polymers**, which helps EMS become unique in this field.

## 1989

Purchase of the Illing GmbH in Gross-Umstadt, Germany, which owns the rights to a special process for polymerisation and compounding. After consolidation with the German sales company, the production site for polyamide injection-moulding grades in Gross-Umstadt is later given its current name EMS-CHEMIE (Deutschland) GmbH.

EMS FAR-EASTERN is founded in Hsin Chu Hsien (Taiwan) and production of performance polymers started. This is now EMS-CHEMIE (Taiwan) Ltd.

## 1988

EMS-TOGO opens a production site in Zaragoza, Spain in order to supply the Spanish automotive industry, today EFTEC S.A.

EMS transfers sales of fertilisers to the LINTAFERT Company in Linz (Austria) and concentrates on the two business areas **PERFORMANCE POLYMERS AND FINE CHEMICALS/ENGINEERING**.

## 1987

Purchase of the SSF DOTTIKON AG, which primarily manufactures organic intermediate products and fine chemicals for the specialist chemical industry. This company is renamed **EMS-DOTTIKON AG**.

## 1986



Griltex grinding plant.

In order to satisfy increasing demand for fusible adhesive powder Griltex® for coating interlinings and in order to further safeguard EMS' position as market leader worldwide, a new cold grinding plant is opened in Domat/Ems.

EMS-TOGO strengthens its market position in Europe and the USA through the takeover of the Caourep Company in Belgium and the construction of a second production site in Hopkinsville, Kentucky.

The EMS-participation in the Karl Fischer Industrieanlagen GmbH, Berlin, Germany is increased to 47%.

## 1985

Purchase of the TOGO-Group based in Romanshorn (CH). The group, renamed **EMS-TOGO**, specialises in process materials for bonding, coating and sealing for the automotive industry worldwide.

## 1983



Dr Christoph Blocher

**Dr Christoph Blocher** receives the task from the founding family Oswald, of finding a purchaser and selling EMS within a few months. Lacking alternatives he decides to purchase the shares of the Oswald Holding AG and, therefore the majority vote of **EMS-CHEMIE HOLDING AG** himself.

## 1982

With the foundation of EMS-AMERICAN GRILON Inc., EMS starts production of polyamide materials in Sumter / South Carolina (USA), today EMS-CHEMIE (North America) Inc.

## 1981



EMS is the umbrella brand for all companies.

The Chemie Holding Ems AG is renamed **EMS-CHEMIE HOLDING AG**. The EMSER WERKE AG in Domat/Ems becomes the **EMS-CHEMIE AG**.

## 1980

Dr. Christoph Blocher places focus on growth with engineering plastics and begins to phase-out textile fibres.

Start of industrial-scale production of **Grilesta® polyester resins** in Domat/Ems for the manufacture of **powder-coatings for coating metal**.

## 1979

On February 23, 1979 the founder Dr. Werner Oswald dies during a meeting.

Foundation of the sales company Germany in Cologne, today EMS-CHEMIE (Deutschland) GmbH, Gross-Umstadt, and the sales company France in Paris, today EMS-CHEMIE (France) S.A., Boulogne.

Purchase of a 40% share of the engineering company Karl Fischer Industrieanlagen GmbH, Berlin, Germany.

## 1978

The different EMS companies are completely consolidated under the roof of the **Chemie Ems Holding AG**.

## 1977

Inauguration of the sales company in Japan, now EMS-CHEMIE (Japan) Ltd., in Tokyo.

## 1972

Dr. Christoph Blocher is voted Chairman of the Board and Chief Executive Officer of the EMSER WERKE AG.

## 1970

Unprofitable production of Caprolactam, and with this the production of fertilisers, in Domat/Ems are stopped and both are purchased from external sources.

## 1969

**Dr. Christoph Blocher** starts work as a student in the legal department of EMSER WERKE AG.

## 1967

Manufacture of **Griltex® co-polyamide fusible adhesive powder** for coating of textile interlinings for the apparel industry. Bonding instead of sewing completely rationalised clothing industry processes.

## 1966

First production of **Grilamid® polyamide 12** and **Grilon® co-polyamide** in Domat/Ems for the manufacture of plastic pipes and packaging films.

## 1964

Production of **Grilene® polyester fibres** for the textile industry is started in Domat/Ems.

Inauguration and start-up of the first **application development centre** for thermoplastic materials and epoxy resins in Domat/Ems.

## 1963

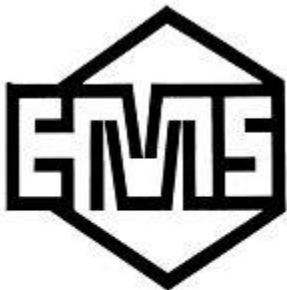
Expansion of the sales assortment with **Grilonit® Epoxy Resins** manufactured in Domat/Ems for the construction and paint industry.

**PATVAG AG** starts production of **electric ignition systems** for industrial and military use.

## 1962

On December 14, 1962 the CHEMIE HOLDING EMS AG based in Domat/Ems is founded. **It was listed on the then Zurich Stock Exchange, trading for the first time on December 17, 1962.**

## 1960



### EMSER WERKE AG

Increased energy requirements are covered by the construction of two further hydroelectric power plants: 1960 power plant FRISAL, 1962 power plant REICHENAU.

The HOLZVERZUCKERUNGS AG (HOVAG) is renamed **EMSER WERKE AG**

## 1956

On May 13, 1956, the Swiss citizens voted against continued subventioned purchase of alcohol (popularly known as EMSER WASSER) as an alternative fuel by the state. Following this, the HOVAG stopped production of alcohol and concentrated on **Grilon® fibres** and **Grilon® engineering plastics**.

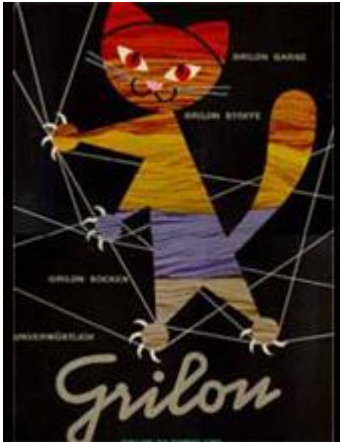
With the foundation of GRILON & Plastics Machinery Ltd. in Dover (UK), EMS opened the first sales company abroad, today called EMS-CHEMIE (UK) Ltd., and located in Stafford.

## 1954

INVENTA AG licences the procedure, developed in Domat/Ems, for the production of caprolactam, the raw material for the plastic material polyamide, to the Japanese company UBE Industries.

Following this, INVENTA AG constructs more than 300 production plants for Caprolactam, engineering plastics and synthetic fibres throughout the world. 117 of these plants were built in China alone.

## 1952



Grilon advertising poster (1952).

Socks made of **Grilon® fibres** become the trade mark of the HOVAG in Switzerland. They are of high quality and long lasting.

## 1951

The HOVAG starts to produce **Caprolactam**. FIBRON AG, a subsidiary of the HOVAG founded in 1949, manufactures **polyamide plastic materials** and **polyamide fibres** in Domat/Ems and markets these.

At the same time, start of production of **fertilisers**: During the manufacture of Caprolactam the fertiliser ammonium sulphate is produced as a by-product. The second product, urea, is produced using a procedure developed by EMS.

## 1947

Foundation of the **INVENTA AG** for research and patent applications.

## 1944



Products supplied by the HOVAG 1944.

The HOVAG ensures its electrical power supply by building its own hydroelectric power plants: 1944 power plant PINTRUN, 1946 power plant OBERSAXEN / TAVANASA and 1947 power plant RUSSEIN.

## 1942

Start of ethyl alcohol production from local waste wood in **Domat/Ems**. By the end of the war, **production from the HOVAG** covered around 30% of the Swiss fuel requirements. With nearly 200 employees, HOVAG is by far the largest employer in the mountain Canton Grisons (CH).

## 1936



The HOVAG during the war years (2nd World War).

Dr. Werner Oswald founds the HOLZVERZUCKERUNGS AG (HOVAG) based in Zurich (CH) in order to manufacture ethyl alcohol, (an alternative fuel for motor vehicles) from wood using the Scholler Process.