STADLER – FROM BUSSNANG TO THE WORLD

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CONTENTS

01 / A FAIRY-TALE SUCCESS STORY

Guy Parmelin, Federal Councillor

For some years, I have been watching them with undisguised curiosity, the trains from Bussnang. They are occasionally visible from my house in Vaud, on the route between Geneva and Lausanne, and elsewhere in many places. The single-decker ones are sometimes called FLIRT, the double-decker ones KISS – those are names I can remember. Other models I just call "those from Bussnang". By that I simply mean all trains and trainsets from Stadler. And Stadler has been synonymous with Peter Spuhler for years, as far as I am concerned. We sat together on the benches of the Swiss People's Party (SVP) in the Swiss National Council for more than two terms.

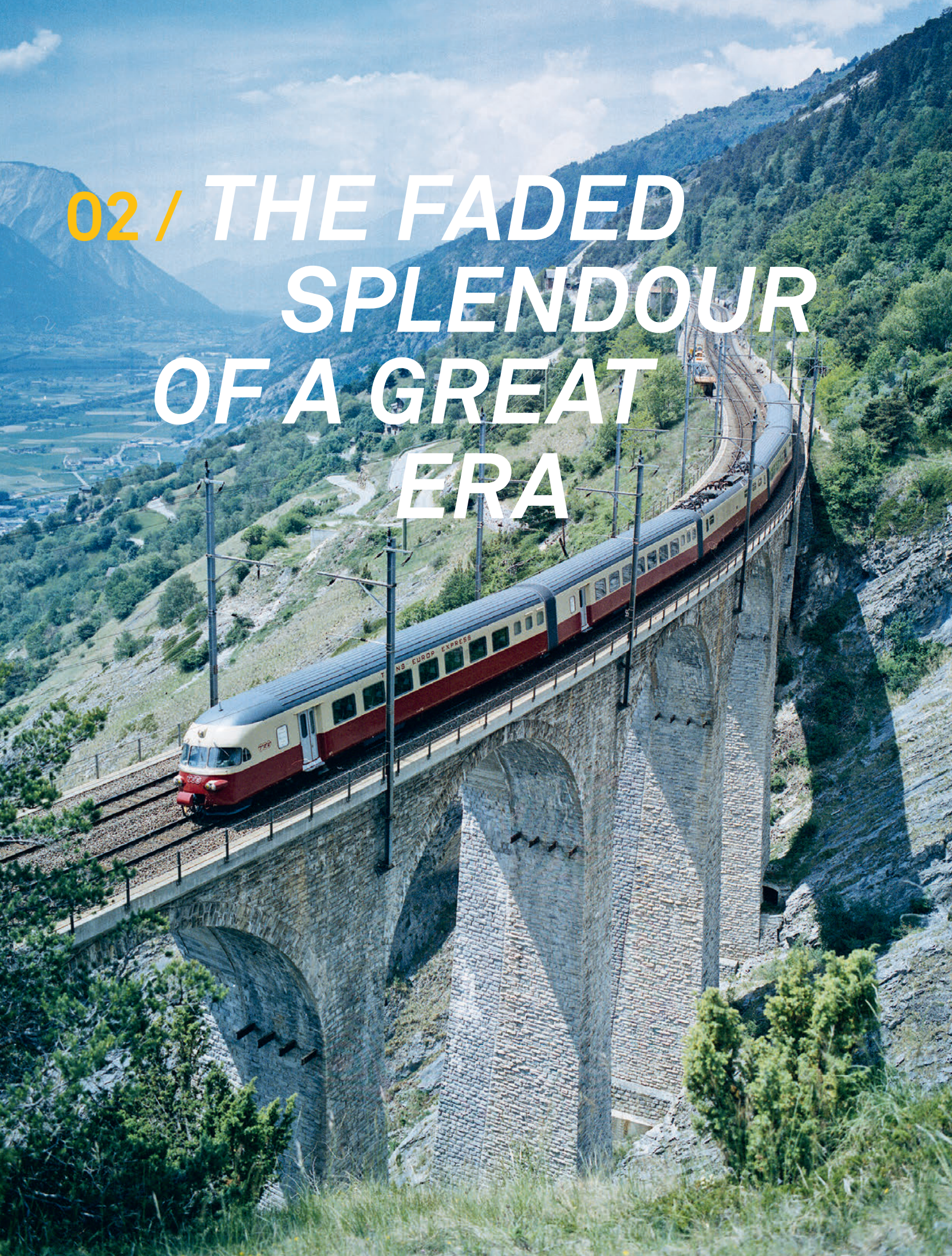
When I say "those from Bussnang", then, of course, that is only partly true these days. The production and design of the trains and multiple units are spread out over numerous sites and plants in Switzerland and abroad. In view of the long series of companies that make up the Stadler Empire today, you almost have to ask yourself how you can still keep track of it. Stadler is thus an example of the dynamism and mobility of modern Swiss industrial companies. Strong roots in the domestic market go hand in hand with the consistent exploitation of opportunities on the world market.

Now, the company celebrates its 80th anniversary. My very warmest congratulations. Since 1942, Stadler has been building rail vehicles that are tailored to its customers' needs. The success story that Peter Spuhler has been writing with Stadler over the past 30 years almost seems like a fairy tale. Or, put differently, it is a rags-to-riches story. The small workshop in Bussnang has grown into a large international company that has become a serious competitor for other established and globally active railway companies. And essentially within only two decades. The joint venture with Adtranz in Pankow in 2000 launched the global success story. And this development does not appear to be coming to an end any time soon: we often learn from the media that Stadler has secured one or two major contracts or has decided to enter into further cooperation agreements.

Stadler has done many things right and today deserves to be one of our Swiss flagship companies. I visited the company as Federal Councillor, which is why I regularly cite it as an example from my own experience: With foresight, it has identified gaps and niches that have allowed it to grow rapidly and successfully. It has constantly improved its own products and made innovation its mission. The company management has focused on the quality of its employees, on their training and further education. All this laid the foundation for the current competitiveness of the company and is now paying off. Peter Spuhler recently proved how much of a forward-thinking visionary he has always been and continues to be by ensuring the continued existence of his company.

When Peter Spuhler bought the Stadler plant in Bussnang, which then had 18 employees, nobody – not even the new boss – would have thought that more than 30 years later well over 13,000 people would be working for the company worldwide, or that so many Stadler trains would run on small and large railway lines in Switzerland. I congratulate Peter Spuhler and everyone who has contributed in any way to the success of the company on this almost incredible achievement. I am confident that I will continue to proudly watch all the FLIRT, KISS, SMILE and other trains.

Guy Parmelin, Federal Councillor



02 / THE FADED SPLENDOUR OF A GREAT ERA

The RAe TEE II was not only technically an avant-garde train, it also reflected the modern and sophisticated spirit of the 1960s.

A series of takeovers, mergers and liquidations has resulted in many of the great names of traditional Swiss manufacturers only appearing as company emblems on durable rolling stock.

The RAe TEE II is an icon of Swiss railway vehicle construction. Train 1053 on the Luogelkin viaduct (BLS south ramp).

Swiss railway lines have been the catwalk of Swiss engineering for over 175 years. This is why, after the turn of the millennium, the sobering feeling was great when SBB Cargo commissioned its Re 482 and BLS its Re 485. Not only do they look like German locomotives – they are. Their development was started by AEG in Hennigsdorf, a subsequent Adtranz plant. Today, the locomotives from the Traxx range belong to the Canadian giant Bombardier.

The powerful freight train steam locomotive C 5/6 (the image on the left shows the 2952 with a freight train in the Basel shunting station, around 1940) was nicknamed “Elephant”. It was replaced by the electric “Crocodile”, probably the most famous Swiss locomotive (below, a Be 6/8 III pulls tank cars on the shore of Lake Neuchâtel).

The world had changed, and the time of protected patches was finally over. When Swiss railways need rolling stock, Swiss manufacturers are no longer automatically sought out as suppliers. This is also because most manufacturers have long since ceased to exist.

Everything looked quite different in the first years following 1990. The top dogs of the Swiss rolling stock industry at the time had full order books: capacities were exhausted with the “Lok 2000” of Swiss Federal Railways (SBB) and the locomotive for the first double-decker trains of the Zurich rapid suburban commuter rail, which had only one driver’s cab. This high point was also to mark the end of a glorious era. The delivery of the last locomotive represented the actual end of Swiss Locomotive and Machine Works (SLM) in Winterthur.

Everything had gone smoothly before: SBB alone ordered more than 100 locomotives per series from SLM and ABB Verkehrstechnik as partners for the electrical equipment. The universal locomotive Re 460/Re 465, styled by the designer Pininfarina, was also ordered by BLS and exported to Finland, Norway and Hong Kong.

The "Lok 2000" was the last export success of the Swiss rolling stock industry before the Stadler era. Here, an SBB Re 460 during a test in Oslo in 1993. Norwegian State Railways (NSB) replaced, among others, the El13 built from the end of the 1950s onwards with El18 locomotives derived from the BLS Re 465.

For the Re 450 rapid suburban commuter rail locomotive, Schindler Waggon was partly involved as the supplier of the locomotive car bodies for capacity reasons, while Schweizerische Industriegesellschaft (SIG) Neuhausen supplied the bogies for the locomotive – a friendly Swiss cooperation of the big players that had proved its worth for decades. Even the largest locomotive series ever built for Switzerland, the Re 4/4 II with 277 units, was built between 1967 and 1985 by a consortium of the manufacturers SLM, Brown, Boveri & Cie., Maschinenfabrik Oerlikon (MFO) and Société Anonyme des Ateliers de Sécheron (SAAS) at the time.

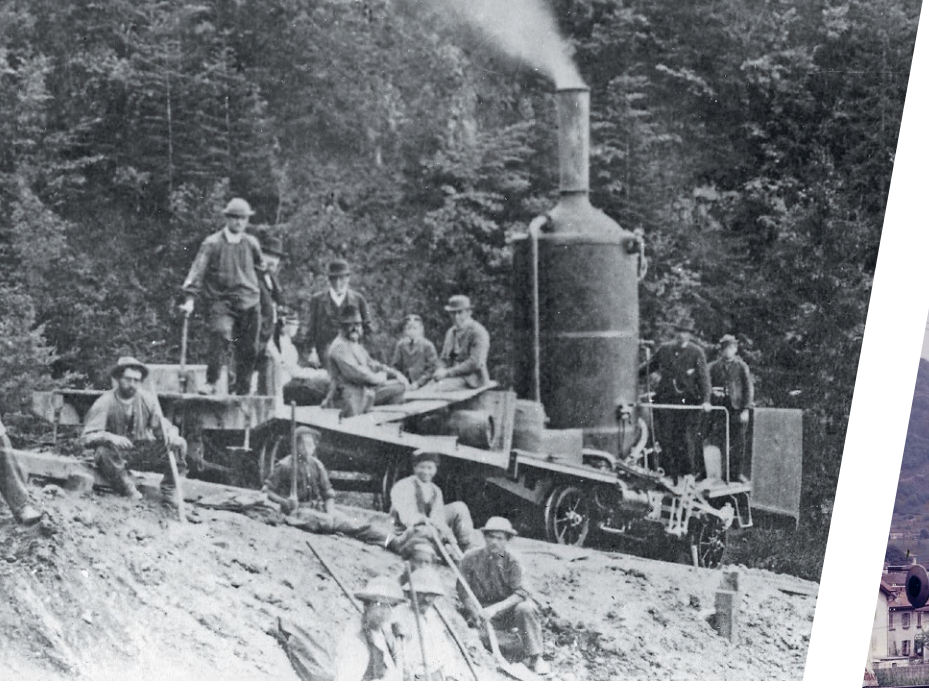
INCREASING SPECIALISATION

This cooperation had led to increasing specialisation. From 1980, for example, SIG, following agreements with Schindler and Flug- und Fahrzeugwerke Altenrhein AG (FFA), focused on the manufacture of bogies and a few other components. Originally, SIG was founded explicitly as Schweizerische Waggon-Fabrik in Neuhausen – in 1853, when the new means of transport, the railway, was still at the very beginning of its success story in Switzerland.

At the end of the SIG railway history, tilting technology was developed for the ICN above the Rhine Falls, which was delivered to SBB starting in 1999. In addition to Adtranz Oerlikon, Fiat-SIG Neuhausen was listed as the supplier of the first series, while Bombardier Oerlikon and Alstom Neuhausen were named as the suppliers of the second series from the same plants. In 1995, SIG sold its rolling stock operations to Fiat Ferroviaria, which in turn was taken over by Alstom in 2001. Alstom still has a small representative office in Neuhausen today.

Without a doubt, the highlight of SIG production is the SBB Trans-Europ Express train, built in 1961, for which MFO supplied electrical equipment running under four European power systems. The luxurious train had features that were unique for a long time. The glass pane, for example, which provided a glimpse into the driver's cab, which was only taken up again later with some ICE series. Or the separate ladies' washroom, which is now again available in the Stadler SMILE, the Giruno Gotthard train of SBB.

MOF was founded in 1876 and manufactured turbines, among other things – in which Swiss industry was the leader in the nineteenth century. The Oerlikon engineers were also involved in another locomotive legend of the Swiss railways: they manufactured the electrical equipment for the legendary Gotthard Crocodile-type trains starting in 1919. Even then, the Ce 6/8 articulated locomotives were equipped with an electrodynamic brake; when the speed was throttled, the locomotive produced electricity.



Locomotive No. 7 of Vitznau-Rigi-Bahn, delivered in 1873, is the first locomotive from the production of Schweizerische Lokomotiv- und Maschinenfabrik (SLM), which was founded in Winterthur in 1871.

One of three Ae 8/14 built was produced in 1938 using a streamline design. The engine that became known as the "Landi-Lok" was long regarded as the most powerful locomotive in the world with an hourly output of 8,162 kilowatts.

LOCOMOTIVE LEGENDS

The manufacturer of the Crocodile – like most of the important Swiss locomotives – was SLM, which was founded by the English engineer Charles Brown in Winterthur in 1871. Brown had already worked for Sulzer in Winterthur for 20 years at that time, but was unable to convince the entrepreneurial family to start building locomotives.

In 1873, the first steam-powered rack-and-pinion locomotive was delivered by SLM to Vitznau-Rigi-Bahn. The young company achieved its first major export successes with short tram steam locomotives that operated in Madrid, Saint Petersburg, Dortmund, Alessandria, Amsterdam and Geneva at the end of the nineteenth century. SLM then supplied mainline and rack-and-pinion locomotives all over the world, with orders coming from countries such as Finland, India, South Africa, Lebanon, Ethiopia, Tunisia, Brazil and Russia.

In Switzerland, SLM was celebrated for the legendary "Landi-Lok", for being the manufacturer of the world's most powerful locomotive, on display at the 1939 National Exhibition. Despite an output of 8,162 kilowatts (over 11,000 hp), the 34-metre-long locomotive with its elegant streamlined fairing (as well as its two mundane, technically similar sibling locomotives) was not a great success. The Gotthard Ae 6/6 locomotives delivered between 1952 and 1966 were quite a different story: the first of a total of 120 locomotives were given a downright iconic appearance in keeping with the spirit of the times, with a chrome front and the Swiss cross and the various cantonal coats of arms on the side. When put in operation, they performed as promised.

Despite great successes, SLM did not remain independent, and in 1961 "Loki" merged with its neighbour – and sometime competitor – Sulzer.

THE SECOND CHARLES BROWN

The son of SLM founder Charles Brown, Charles Eugene Lancelot Brown, had advanced to technical director of MOF when he founded Brown, Boveri & Cie. in Baden in 1891 together with Walter Boveri, the head of the MFO assembly department. The company quickly expanded abroad, producing turbines and electrically powered machines as well as electrical equipment for locomotives. Between 1904 and 1915, most of the Brown, Boveri & Cie. shares were held by the German company AEG, after which the capital was widely dispersed.

With the A 3/5, SLM built an elegant express locomotive.
The picture shows the A 3/5 705 leaving Wolhusen station.

After that, SLM also delivered mainline and rack-and-pinion locomotives all over the world.

In 1967, Brown, Boveri & Cie. took over MFO, the former employer of its founders, and three years later also SAAS. SAAS, created in 1918 from the merger of two companies in Geneva, was an independent manufacturer that developed locomotives early on – without coupling rods that were common a 100 years ago. These two acquisitions gave Brown, Boveri & Cie. an outstanding position in the electric locomotive sector.

Brown, Boveri & Cie. had already held a majority share in SAAS once, from 1919 to 1924. When Brown, Boveri & Cie. merged with the Swedish company Asea in 1988 to form ABB, Sécheron was broken up. The transformer production remained with ABB-Sécheron, while other productions were transferred to the independent Sécheron AG.

Ateliers de constructions mécaniques de Vevey (ACMV), also located on Lake Geneva, was at times a leading turbine manufacturer and more than 100 years old when it started building rolling stock. In 1948, the company opened a plant in Villeneuve, which initially produced freight wagons and later also trams and passenger carriages. While the parent company ceased operations in 1992, the carriage production in Villeneuve was continued by Vevey Technologies SA. Since its takeover in 1998, Villeneuve has been the prime site of Bombardier Transportation in Switzerland.

RENOWNED MANUFACTURER OF CARRIAGES

For a long time, another rolling stock manufacturer was the top player when it came to the construction of carriages: Schweizerische Waggonfabrik Schlieren (SWS), founded in 1895 under the name of Geissberger & Cie. at Schlieren railway station. In 1903, it acquired SBB, which had been founded the year before, as a client, and by 1906 the factory had delivered as many as one thousand passenger carriages. Its expertise was recognised far beyond the national borders. In fact, SWS was involved in the planning and construction of a large carriage factory in India,

which was opened in Perambur in 1955. In 1960, SWS, which had also been active in the construction of lifts for decades, was taken over by Schindler and integrated into the Group. The former carriage manufacturer was soon left with only the production of individual components such as car bodies as well as modifications and reconditioning work. The production of bogies was abandoned. The plant in Schlieren was closed in 1985.

Schindler itself had been active in the railway industry since 1945. The parent company of the lift manufacturer, Pars Finanz AG, founded Schindler Waggonbau in Pratteln (SWP) to repair war-damaged freight wagons from abroad. The plant quickly expanded its focus to include the manufacture of rolling stock for standard gauge trains and trams.

As soon as Schindler had closed its SWS plant in Schlieren, the Group acquired a majority stake in FFA in 1987. Founded in 1924 by Claude Dornier, the plant came under Swiss ownership after the Second World War and began building rolling stock. The company portfolio included the standard carriages of Rhaetian Railway (RhB) and tram trailers. After the takeover by Schindler, the aviation segment was sold immediately, and the construction of rail vehicles was henceforth managed as Schindler Waggon Altenrhein AG (SWA) and, thus, as the second rolling stock production plant in the Group alongside the plant in Pratteln. In 1993, the two plants were legally combined to form Schindler Waggon AG, but this entity, too, did not last long. Just four years later, Schindler sold the Pratteln plant to the Adtranz Group, which had only been formed the year before in the merger of the railway divisions of ABB and Daimler-Benz. In 1999, Adtranz announced its intention to shut down production at Oerlikon and Pratteln. Oerlikon underwent painful restructuring, leaving only the headquarters of the company management as well as engineering. The Pratteln plant was continued as a rescue company: the last ICNs and a series of Intercity double-decker carriages had to be produced.

The most spectacular entry in the long list of takeovers and mergers followed in 2001. After ABB had already pulled out of Adtranz in 1999, DaimlerChrysler sold the subsidiary to Bombardier, creating the largest supplier of railway technology in the world at the time, which challenged the two major European players Siemens and Alstom as well as the remaining smaller suppliers.

Meeting in front of the Lausanne depot, (from left): RBe 4/4 multiple unit, Bm 4/4 shunting locomotive, the mainline locomotives Ae 4/7, Re 4/4 II (in TEE livery) and Ce 6/8 II as well as an auxiliary carriage.

However, the Canadians' desire to expand was not met with success. In Switzerland, Bombardier Transportation had to admit defeat in the order for 42 low-floor commuter trains for SBB, while Stadler won the race with the new FLIRT. The large order for new double-decker commuter trains for the rapid suburban commuter rail of Zurich was awarded to the competitor Siemens. In 2003, Bombardier announced the closure of at least six of its 37 European plants. The Pratteln plant was closed down in 2005.

STADLER TAKES OVER

The former Schindler FFA plant fared better: large parts of the Schindler operations in Altenrhein were taken over by Stadler in 1997.

The long and traditional company history of SLM is also continued, at least in part, by the rolling stock manufacturer from Bussnang. The name SLM disappeared as early as 1998, and the radically downsized company was continued as Sulzer Winpro AG. Stadler took over the rack-and-pinion segment of SLM in 1998, and engineering moved to Adtranz. A management buyout followed in 2001. The company was then called Winpro AG, until this part, too, was completely taken over by Stadler in 2005 and developed into a competence centre for bogies. The traditional factory buildings were no longer suitable for this: 2008 saw the groundbreaking ceremony for a new, more modern plant – on the former Sulzer site in Oberwinterthur.

A well-known name has surfaced again in recent years, especially as a partner of Stadler: ABB. The parent company had once committed itself as an Adtranz partner not to operate in the railway market. In 1999, ABB withdrew from Adtranz, which continued to operate as DaimlerChrysler Rail Systems before being sold to Bombardier in 2001. ABB was freed from contractual obligations and has since been supplying large numbers of traction converters and transformers, most of which are manufactured in Turgi in the canton of Aargau, for Stadler.

Large capacities from East Germany were added after the fall of the Berlin Wall. At the same time, economic growth in Europe was weak, and so was the order volume. The railway customers no longer wanted to be active as general contractors themselves and encouraged the train builders to become system providers. The major electrical engineering companies such as Siemens and Bombardier began to scoop up mechanical engineers. As the smallest market participant, Stadler found itself in a happy situation. The company profited from Sulzer, SIG and Schindler going out of business and recruited the best engineers from the companies.

NEW GIANTS

In China in 2015, two state-owned companies merged to form the China Railway Rolling Stock Corporation (CRRC), the world's largest railway vehicle manufacturer by some margin. In order to compete with the newly formed giant in western markets, European companies Alstom and Siemens planned to merge their rail segments. The EU competition authorities put an end to the plans in 2019.

However, the world of railway vehicle manufacturers keeps on moving. In 2020, Canadian company Bombardier experienced worsening financial troubles – partly due to problems with several of its new trains, and partly due to the costs of aeroplane projects skyrocketing. Alstom took over the Bombardier Transportation segment, which is based in Berlin, in January 2021 in response.