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# TICCIH-PUBLICATION CD **PRESERVATION OF LARGE INDUSTRIAL HERITAGE SITES IN SWITZERLAND**

Case studies

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## PRESERVATION OF LARGE INDUSTRIAL HERITAGE SITES IN SWITZERLAND

In Europe and in other highly developed industrial countries it is very popular to put industrial cultural assets on the list of cultural heritage monuments. Even Cuba has entered a whole valley with sugar companies dating back to the 16<sup>th</sup> to 19<sup>th</sup> century into the list of world monuments of ICOMOS .

In Switzerland, we are trying to declare parts of the Rhaetic Railway as an ICOMOS monument.<sup>1</sup> This is the one-metre gauge railway over the Albula and the Bernina pass, which was built between 1889 and 1910. The Bernina Railway is the highest continuous mountain railway in Europe, the railway's highest point is 2253 metres above sea level.

Unfortunately, Switzerland is not as successful as other countries regarding the preservation of big scale industrial equipment. Since the small country of 7.3 million inhabitants is divided into 26 cantons, which are all responsible for preserving their own historic monuments, there is no national policy.

However, some case studies show, that a few cantonal governments and many private initiatives have been successful in preserving large industrial sites. One of the most fascinating chapters in the history of Swiss engineering is the construction of power

<sup>1</sup> Rhätische Bahn und Kulturlandschaft  
Albula/Bernina, Kandidatur UNESCO-  
Welterbe 2006, Hans-Peter Bärtschi:  
International Comparison of high mountain  
railways.

stations. In the Canton of Zurich, the power station Eglisau on the river Rhine has been preserved integrally. The renovation of this large power station is a success. The plant was built from 1915 to 1925. The whole retaining weir across the Rhine had to be completely dismantled in order to ensure resistance against earthquakes. The service platform of the weir was rebuilt with the former elements in 1996. The machine room with 7 large turbine generators, dating back to 1920, was also renovated for reasonable re-use.<sup>2</sup>

Another example is the power station of the Gotthard railway in Amsteg. The preservation of this power station built between 1917 and 1922 for the electrification of the Gotthard railway<sup>3</sup> was very difficult. The old plant was replaced by a new underground power station. So the pressure pipes were not used anymore. There was a plan to dismantle them in order to plant trees instead, but finally it was cheaper to preserve the pipes as monuments. The castle-like structural engineering of this hydroelectric power station was put under the protection usually given to historical buildings, including the machine room with the Pelton turbines, which are no longer in working order.<sup>4</sup>

Another big old power station to be renewed borders the river Aare near Mühleberg. The famous concrete construction built in the years 1917 to 1920 will be renovated in

<sup>2</sup> Bärtschi 1994, P. 219 – 222, 351.

<sup>3</sup> Verkehrshaus/Bärtschi 1998, P. 241 -250.

<sup>4</sup> Bärtschi 2004, P. 25 – 27.

the years to come.<sup>5</sup> But unfortunately other early power stations like Rheinfelden (1898), Augst-Whylen (1912), Laufenburg (1914) have been or will be modernised or even demolished, like the two oldest power stations in Ruppoldingen and Wynau, dating back to 1896.<sup>6</sup>

The industrial heritage of the pumping station La Coulouvrenière on the river Rhone is a good example of the protection of large historical monuments in the centre of a city – in this case Geneva. This plant was the largest of its kind in Switzerland in 1886. It supplied more than 13 large groups of turbines and pumps, hundreds of hydroelectric engines and the city of Geneva with drinking water. After the transformation of the building into a theatre, three pump units were preserved.<sup>7</sup>

In the former industrial towns of Zurich and Winterthur, two big areas of early machine factories and the site of the gas works have been redeveloped, but important factory buildings and remaining parts of production have been put under protection. In the area of the machine factory Escher Wyss in Zurich there are two enterprises for turbine production left. The entrance of the Escher Wyss area is marked by a turbine wheel from the pumping station in Geneva. It is a cast running wheel of the Girard type by Escher Wyss in 1885. Escher Wyss was the largest machine factory in Zurich. The company built 500 ships as well as water- and steam-turbines. The ship assembly building was renovated for re-use as a theatre in the year 2000. This branch of the

<sup>5</sup> Bärtschi 2006, P. 247 – 248.

<sup>6</sup> Bärtschi 1998, P. 101 – 104.

<sup>7</sup> API/Bärtschi 1994, P. 30 – 31.

Zurich theatre goes under the name “Schiffbau”, which means shipbuilding. It is very popular. The project became the subject of a political debate, because it was heavily over budget, partly due to new underground constructions. The earth was contaminated with heavy metal and had to be removed. The tall chimney built in 1894, the water tank and the large machine room were also preserved. This way an ideal mixture usage is ensured today. The Austrian Company VA-Tech Hydro and the German Company MAN still does research work and constructs water and gas turbines with some 600 employees in the Escher Wyss area. A techno park with teaching rooms, three new hotels, a shopping centre and new apartments have breathed life into the industrial area again. The open space called Turbine-Square is the largest public square in Zurich. The former foundry is preserved including the work tracks. It serves as a mall and is still in its original state. About 300 million Euro was invested into the whole project.<sup>8</sup>

The gasworks of Zurich in Schlieren were the largest works of this kind in Switzerland. In the 19<sup>th</sup> Century, more than 100 public gasworks were built in the entire country. They produced coke and gas out of coal. Gas was used for lighting, but mainly for gas cookers and heating systems until today. However, today it has to be transported through gas pipes all the way from countries like Afghanistan and Russia. After the shutdown of the gas production in Zurich, it was easy to convince politicians to preserve the water tower designed as medieval city tower. Everybody liked its historical architecture from 1894. It is a reproduction of the town gate in Baden. A lot more persuasion was needed to preserve modern processing facilities. Almost all Swiss gas facilities have been demolished. In Schlieren, however, the coke warehouse and one gas

<sup>8</sup>Bärtschi 2005, P. 51 – 58.

meter were preserved. The renovation of the 60 metre high gas meter was nearly impossible to finance. Currently, the last of the four 40 metre high telescopic gas holders is being renovated for 2 million Euro in order to serve as a showroom. The other three have been demolished.<sup>9</sup>

The largest Swiss project to preserve industrial assets is in Winterthur. The Sulzer Company owned 22 hectares of industrial areas in the City and another 55 hectares in Oberwinterthur. In 1970 Sulzer employed 43000 people worldwide, and 15000 in Winterthur. Until 2006 the machine building company reduced 96% of the jobs in Winterthur. Only 600 employees are left under the company's name today. During the clash, Sulzer planned a project to demolish all the factories in the central area of the town. A strong opposition and the difficulty of finding tenants for offices in the newly planed buildings caused Sulzer to a change it's mind.. In 2003 the real estate experts at Sulzer and the local authorities signed a town planning project, which included the preservation of 20 out of the 100 buildings. The legally binding plan also determines building lines along the roads in that area; demolitions, new buildings and renovations are included. The plan guarantees the preservation of the urban structures that have grown over the past 170 years in this industrial area.<sup>10</sup>

One production location has survived in the middle of the old Sulzer factory area in Winterthur. The former "Swiss locomotive and machine factory" now goes by the name of Stadler Winterthur. The sheds from 1871 and the assembly shop dating back to 1924

<sup>9</sup> Bärtschi 1983, P. 377 – 384, 470 – 472.

<sup>10</sup> Bärtschi 1990, P. 12 – 44.

are still used for the construction and maintenance of locomotives. From the 3000 jobs of the former SLM some 300 still exist today.<sup>11</sup>

At least Winterthur remains a locomotive town and an important railway junction. The old locomotive depot, dating back to 1859, serves as office of Arias-Industriekultur as well as for SBB-Historic. There are also some interesting, historical vehicles for occasional special trips.<sup>12</sup>

So we return to the subject of railways. Switzerland has over 50 private associations for the preservation of historic rolling stock. Maybe in future the largest Swiss preservation of a technical unit will be the Rhaetic Railway. There is a possibility, that the Albula and the Bernina Railways will be put on the ICOMOS-list as a world monument in the year 2007. It's not actually an industrial site, but it is really one of the most impressive technical sites of Switzerland and well worth being preserved as a whole monument with all it's bridges, tunnels and buildings as well as the surrounding landscape.

<sup>11</sup> Bärtschi (Hg.) 2002, P. 112 – 233.

<sup>12</sup> Bärtschi 2005, P. 84 – 93.

## **Abstract**

Unfortunately, Switzerland is not as successful as other countries regarding the preservation of big scale industrial equipment. Since the small country of 7.3 million inhabitants is divided into 26 cantons, which are all responsible for preserving their own historic monuments, there is no national policy.

However, some case studies can show, that a few cantonal governments and many private initiatives have been successful in the preserving large industrial sites. One of the most fascinating chapters in the history of Swiss engineering is the construction of power stations. In the Canton of Zurich the power station Eglisau on the Rhine has been preserved integrally. Another big old power station to be renewed borders the river Aare near Mühleberg. The famous concrete construction built in the years 1917 to 1920 will be renovated in the next years. But unfortunately other early power stations like Rheinfelden (1898), Augst-Whylen (1912), Laufenburg (1914) have been or will be modernised or even demolished like the two oldest power stations in Ruppoldingen and Wynau, dating back to 1896.

In the former industrial towns of Zurich and Winterthur, two big areas of ancient machine factories and the site of the gas works have been redeveloped under protection of important factory buildings and remaining parts of production. In the Area of the machine factory Escher Wyss in Zurich there are left two enterprises for turbine production. Escher Wyss was the largest machine factory in Zurich. The company built 500 ships as well as water- and steam-turbines. The ship assembly building was renovated for re-use as a theatre in the year 2000. This branch of the Zurich theatre goes under the name "Schiffbau" which means shipbuilding. It is very popular. The project became the subject of political debate, as it was heavily over budget, partly due to new

underground constructions. The earth was contaminated with heavy metal and had to be removed. The tall chimney, built in 1894, the water tank and the large machine room were also preserved. This ensures an ideal mixture usage today. The Austrian Company VA-Tech Hydro and the German Company MAN still carry out research and construction on water and gas turbines with some 600 workers in the Escher Wyss Area. A techno park with teaching rooms, three new hotels, a shopping centre, and new apartments has breathed life into the industrial area again. The open space called turbine-place is the largest public square in Zurich. The former foundry is preserved including the work tracks. It serves as a mall and is still in its original state. About 300 million euro was invested for the whole project.

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Photos for the printed report (with numbers of the lecture):

- (1) Rhaetic railway near Filisur, Photo H.P. Bärtschi 1981
- (3) Ruppoldingen, demolition of the power station, Photo H.P. Bärtschi 1996
- (4) Power station Eglisau, Photo H.P. Bärtschi 1983
- (11) Pumping station Genf, Photo H.P. Bärtschi 1998
- (14) Ship assembly hall Escher Wyss Zürich, Photo H.P. Bärtschi 1999
- (19) Gasworks of Zurich in Schlieren, Photo H.P. Bärtschi 1979
- (26) Urban structures on the Sulzer area in Winterthur, Photo H.P. Bärtschi 1989
- (27) Assembly in the “Swiss locomotive and machine factory” 1924, Photo SLM
- (28) Winterthur locomotive depot with offices ARIAS-Industriekultur, Photo H.P. Bärtschi 1998

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National Representative TICCIH The International Committee for the Conservation of the Industrial Heritage, National Representative Switzerland

**Founder/Member/Board member of following and more Organisations (total 36):**

- ICOMOS International Council on Monuments and Sites, Landesgruppe Schweiz
  - SIA Schweizerischer Ingenieur- und Architekten-Verein, Aufnahme als ordentliches Mitglied, Zürich 5.2.1987
  - SIA-Fachgruppe Architektur, SIA-GAI Gruppe Architekten und Ingenieure Winterthur
  - BSA Bund Schweizer Architekten, Gastmitglied
  - Eidgenössische Denkmalpflegekommission, Experte und Konsulent
  - SGHB Schweiz. Gesellschaft für historische Bergbauforschung, Vorstand 1989-98,Präsident 1995-98
  - GSK Gesellschaft für Schweizerische Kunstgeschichte
  - AGGS Allgemeine geschichtsforschende Gesellschaft der Schweiz
  - VWHS Verein für wirtschaftshistorische Studien
  - SGWS Schweiz. Gesellschaft für Wirtschafts- und Sozialgeschichte
  - SH und ZH Schweizer und Zürcher Heimatschutz
  - Stiftung Industriekultur, Archiv Technik- Arbeiter- und Bauaufnahmen Winterthur
  - Stiftung Hänggirturm Museum für Ingenieurbaukunst Enneda Glarus
  - VEHI Verein zur Erhaltung alter Handwerks- und Industrieanlagen Zürcher Oberland
  - ILP Industrielehrpfad Zürcher Oberland, Initiant
  - Stiftung Mühlerama Zürich, Stiftungsratsmitglied
  - DVZO Dampfbahnverein Zürcher Oberland
  - Industriekulturpfad Limmat Wasserschloss/Baden, Gründungsmitglied
  - Industrieweg Glarus, Gründungsmitglied
  - Industrielehrpfad Bischofszell-Hauptwil, Gründungsmitglied
  - Verein Kraftzentrale Schönenberg, Gründungsmitglied
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