

ABB – a Company on the Move

Excerpts from a Success Story

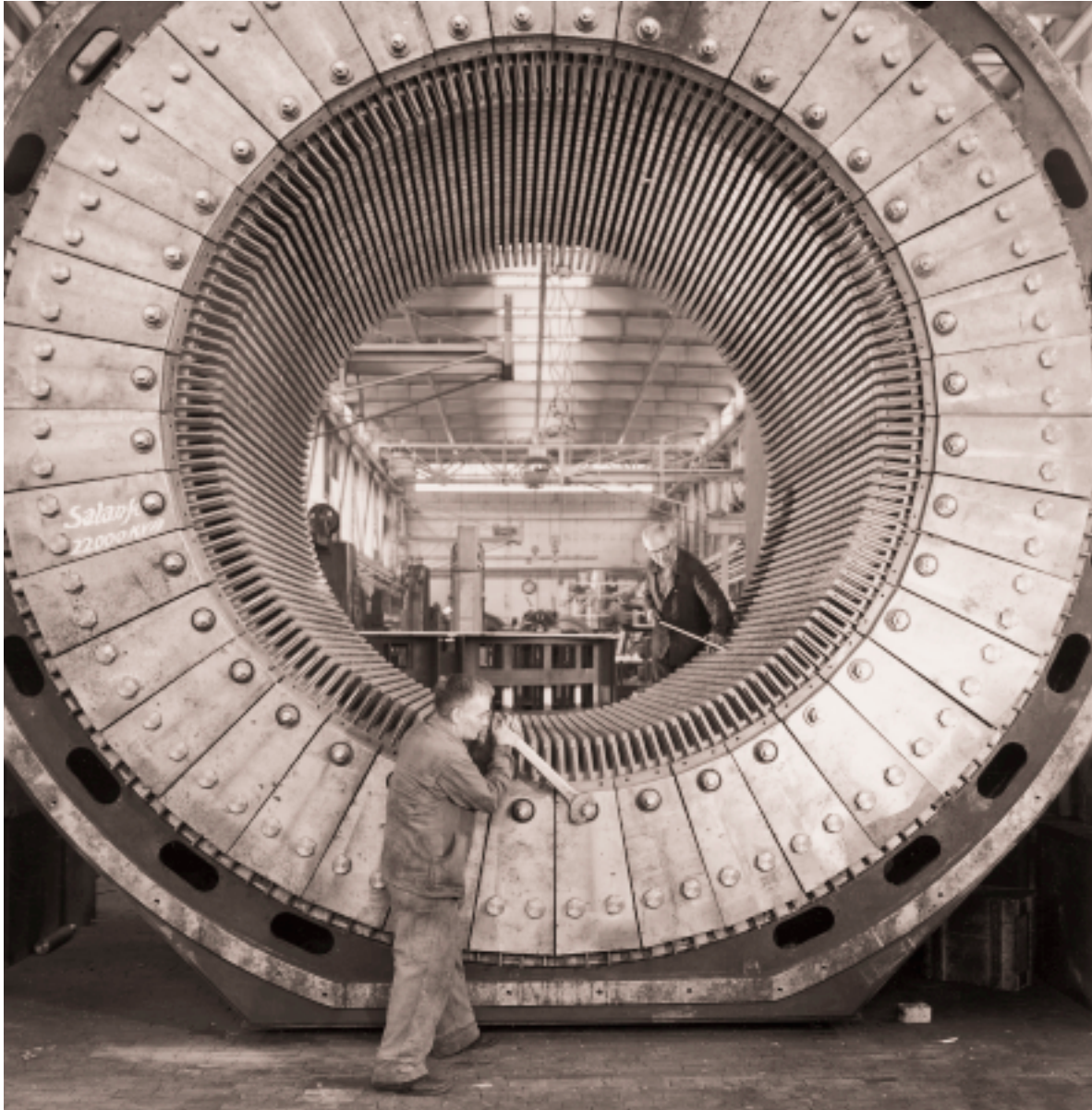


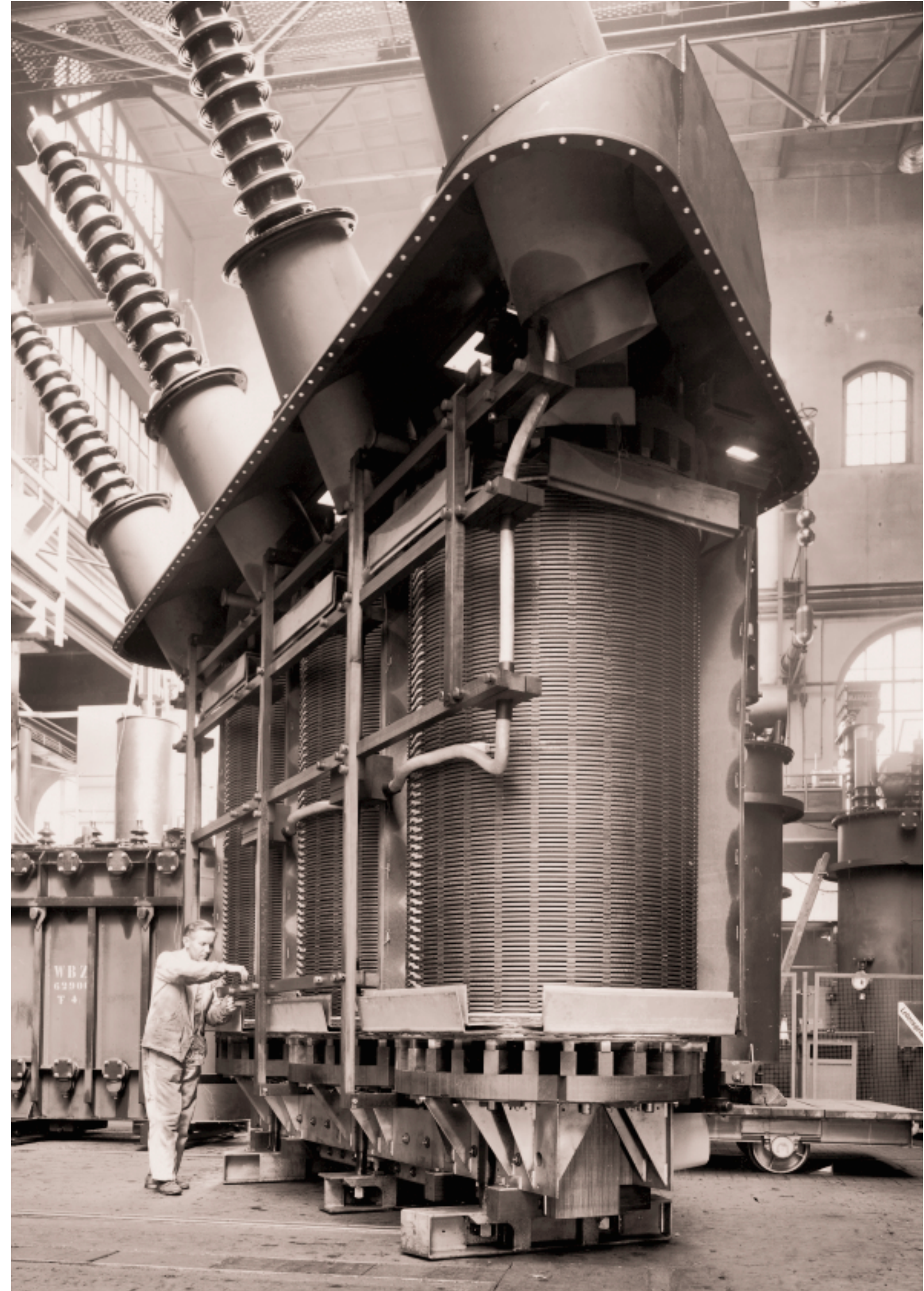
ABB Switzerland embodies the more than 100-year-old story of a successful company on the move. Anything on the move will leave its mark behind. This brochure is about these movements and about the marks left in their wake.

The movements of ABB Switzerland and the marks they have left are reflected in the locations where the company conducts business and in the revolutionary products it develops. They are evident in its fields of activity and its corporate strategies.

But they are also manifested in those who keep the company in motion. In the people at the helm of the company who develop the strategies and in those in the factories, offices and laboratories who work together to assure the company's success.

This brochure traces the movements of BBC Brown Boveri and ABB Switzerland over the years and the marks they have left behind. It provides an insight into an important chapter of Swiss economic and industrial history. As the story unfolds, it becomes apparent that in staying on the move, a company does more than make history. Even more importantly, it forges its own future.

The year 1891 is a memorable one. It was the year Charles E. Brown and Walter Boveri founded Brown, Boveri & Cie. in Baden. It marks the beginning of an impressive success story that has left indelible marks on the Swiss economy. The electrical engineering company accomplished one pioneering feat after another, opening up new markets and growing at a breathtaking pace in the process. But the growth was by no means linear. Time and again, BBC had to get through difficult periods and adapt its strategies to new market realities. That remained the case some 100 years after the company's founding when BBC became ABB, opening up yet another chapter of Swiss business history.





Boveri and Brown, painting from 1904



Laufen a. Neckar, first transmission of electricity, 1891



Toro1 office building, Zurich-Oerlikon



BBC and Asea becoming ABB, signing of merger agreement in 1988



First BBC share, 1900

1918 Factory School

BBC opened the first factory school for apprentices in Baden. The high-quality apprenticeship training there soon became a model for training throughout Switzerland. In 1957 the company added a school for design engineers (technical engineering school since 1971).

1924 Deaths of the Founders

Charles E. Brown and Walter Boveri died in the same year. Charles E. Brown had withdrawn from the company long before, but Walter Boveri was at the helm right up to his death.

1946 Growth

The Second World War was followed by an impressive growth period lasting until 1980. The company increased consolidated sales seventy-fold and expanded into new lines of business like electronics and nuclear energy. It also opened subsidiaries in South America, Africa and Asia. In Switzerland, it took over Maschinenfabrik Oerlikon in 1967 and Sécheron in Geneva in 1969.

1988 Unification

The Swiss company BBC and the Swedish company Asea decided to merge. On 1 January 1988 the two firms brought their previous group companies into the newly founded Asea Brown Boveri Ltd as assets. What had been the BBC parent company now became ABB Switzerland.

1999 Concentration

ABB went back to concentrating on its two core fields of business: Power Technologies and Automation Technologies. Various business units, including the former core unit Power Generation, were sold.

2004 Future

ABB Switzerland continues its effective implementation of the new strategy and has achieved impressive successes in both segments.

1886 A Vision Becomes Reality

Charles E. Brown, still employed at Maschinenfabrik Oerlikon, succeeded in transporting electricity over long distances. With his pioneering installations in Solothurn (1886) and Frankfurt (1891), he paved the way for the general electrification of modern society. In 1888 Brown began formulating plans to found his own electrical engineering company with his fellow employee Walter Boveri.

1891 The Founding of the Company

Brown and Boveri put their plans into practice on 2 October 1891 when they established the general partnership Brown, Boveri & Cie. in Baden. Baden was an ideal choice. Land was cheap and so was labour. The rail service was good and they were able to get their own railway siding. In their first contract, the young company fitted the Kappelerhof power station in Baden with all the requisite electrical equipment.

1893 The Power of Innovation

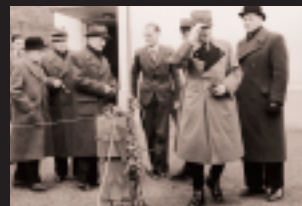
From the very outset, BBC made a name for itself with its innovations. In 1893 the company built Europe's first large-scale thermal power station designed for alternating current in Frankfurt am Main. In 1900 BBC took up construction and the development of steam turbines. By 1904/1905 turbosets were already accounting for half of total turnover.

1900 The Group

Brown, Boveri & Cie. grew and began establishing subsidiaries abroad. By the First World War, BBC had built or acquired enterprises in Germany (1900), France (1901), Italy (1903) and a number of other European countries. Before these steps could be taken, BBC had to convert to a joint-stock company in 1900.



BBC factory in Mannheim, ca. 1905



General Guisan in Baden, 1943



Power station in Frankfurt am Main, 1905



First BBC steam turbine, 1901



"Riad 8" gas turbine power station, Saudi Arabia



Generator assembly in Baden, 1895



Jungfrau Railway, 1898



Lok 2000 assembly plant in Zurich-Oerlikon, 1992



BBC subsidiary in Oslo, 1908



Motor-winding shop in Münchenstein, 1915

1857–1918

- 1857–1864
Worldwide economic crisis
- 1859–1864
Construction of the Suez Canal
- 1861–1865
Civil War in the United States
- 1864
Geneva Convention of the Red Cross
- 1867
Founding of Nestlé, Vevey
- 1871
Europe's first cog railway (Vitznau–Rigi)
- 1872
Total revision of Swiss constitution
- 1873
Major economic depression
- 1875
Founding of Federal Court in Lausanne
- 1876
Founding of Maschinenfabrik Oerlikon
- 1876
Opening of the Basel Stock Exchange
- 1882
Opening of the Gotthard Railway
- 1889
World's Fair in Paris
- 1890
First Social Democrat in Swiss Parliament
- 1891
First Catholic Conservative National Councillor
- 1891
Founding of Brown, Boveri & Cie. in Baden
- 1898
Nationalisation of the railway: SBB
- 1898
First electric locomotive went into operation
- 1905/1906
Revolution in Russia
- 1907
Founding of the Swiss National Bank
- 1914–1918
First World War

Charles E. L. Brown was a typical child of the late 19th century industrial age and belle époque. He firmly believed in the unlimited possibilities of technology and was interested in all of the fine arts. Brown was a curious and eccentric man who lived life to the fullest. Römerburg, his romantic fairy-tale mansion in Baden, was the stuff of legends. Every morning he would be seen emerging from it to climb atop his “ordinary”, an old-style high bicycle with one large wheel in front and one small one behind, and peddle off to his company. He would practice tricks on his ordinary, in public, on the square in front of the schoolhouse in Baden. Brown was fascinated by everything that moved, by cars and by the early aeroplanes. He would have liked nothing better than to fly himself, but he forewent that adventure. Exactly why is unknown, but everyone at the time was pleased with his decision. Flying would not have been an ideal activity for Brown, given his extreme short-sightedness. Charles E. L. Brown was well aware of his innate talents. “I could have been anything”, he said of himself self-confidently. “Musician, sculptor, painter, whatever I would have done, I would have become a great man.”

Brown was born to the Charles Brown-Pfau family in Winterthur on 17 June 1863 as the oldest of six children. His father, also a gifted design engineer, was co-founder of SLM (Schweizerische Lokomotiv- und Maschinenfabrik) in Winterthur. Charles attended aca-

demic secondary school and then studied mechanical engineering at the engineering school in Winterthur. He received one year of practical training at Bürgin & Alioth in Basel, a company BBC would later take over. Then he worked for a brief time at SLM before switching in 1884 to Werkzeug- und Maschinenfabrik Oerlikon with his father and brother. There Charles Brown Senior became head of the electrical engineering department. On his father's retirement, Charles Junior took over the position. In 1887 he married his wife Amelie. They had two sons and two daughters. In 1891 he joined with his deputy director Walter Boveri to establish BBC.

A master of the art of living, Charles E. Brown decided to leave BBC in 1911. There was still so much to discover and explore, and much of it was beyond the factory walls. Brown went on a world tour and enjoyed what he saw. In 1914 his wife died. Two years later he married Hilda Goldschmid and moved to Montagnola in Ticino canton. There he became a father again, this time of two sons. He was a devoted father to his children and spent much time with them. Although still interested in technical matters, he gave precedence to other pursuits. Art, poetry and music all captivated him and these were the fields in which his children succeeded brilliantly. He died of a heart attack on 2 May 1924 – happy and peaceful like a child, according to the eulogy at the funeral.



Charles E. L. Brown – the Pioneer



Engineer Albert Hafter – a Believer in Loyal Service

BBC was in its pioneer phase. The factory and work conditions were harsh, the pay low and the workdays long. Yet many blue- and white-collar employees spent their entire lives working for the Baden-based company. One was the engineer Albert Hafter, a man who served his employer with the utmost loyalty.

Hafter first reported for duty in 1891 at the provisional BBC offices set up in Haus zum Schwert. A rousing mere employees were then on the company payroll. By the time he retired in 1933, BBC had become a leading international corporation and the communities neighbouring BBC had changed markedly. Between 1880 and 1910, Baden's population grew from 3,643 to 8,239 and Wettingen's from 1,934 to 5,986.

Hafter worked 56 hours a week for paltry pay. That meant 10 hours a day, with white-collar workers receiving Saturday afternoon off. In his diary, Hafter noted: “With the advent of industry and full liberties, the working hours were set exceedingly long in some places, but they were brought into manageable bounds through private initiatives and legal regulations.” Hafter was fascinated by the new world unfolding before his eyes. He recorded that Professor Salbi telephoned wirelessly on 14 December 1906 and that the Zeppelin had also flown over Baden in 1906. He also recorded his pride in seeing his boss

C. E. L. Brown receive an honorary doctorate on 10 November 1911.

Not all BBC employees were as loyal as Hafter. There was unrest, particularly on the factory floor. The workers' paper Arbeiterstimme put the situation in a nutshell in 1893 when it wrote: “The way workers are treated is contemptible.” Hafter had an office job and was better off than the blue-collar workers. His mind was not set on protest, he wanted to serve. That attitude was rewarded, and he was asked to keep the minutes when important business transactions had to be recorded in writing. It was a position of trust: “In the negotiations between Mr Boveri and Dr Denzler, who ordered the Interlaken plant from us in 1893, a controversy arose about lightning protection. My minutes proved an earlier assertion wrong, to Mr Boveri's gratification, and the matter was decided in our favour.” Hafter's reliability was rewarded; in 1918 he was named the first director of apprentices at BBC.

Hafter was much appreciated. When he retired, a top delegation from the board of directors was on hand to bid him farewell: Board President Fritz Funk, Board Vice-President Sidney Brown and Managing Director Henri Naville. The loyal employee received his just rewards.

A Focus on People

BBC and ABB is a story of people: some brilliant and some average; some at the very top of the ladder and some at the very bottom; some satisfied and some dissatisfied. It is a social history of the men and women who laid the foundations for the success of BBC and ABB and of those who have continued to fight for that success, people at the workbench and in the office, at the drawing board and in the laboratory. For them BBC/ABB often was and still is more than a mere employer, and it is for their sake that BBC/ABB has striven to be more than a mere employer. BBC/ABB is a corporate culture with a clear focus on people.





Writing office, 1940



Design room, 1940



"Brisgi", a housing development for Italians, ca. 1950



"Dynamoheim", a BBC housing development, 1896



"Martinsberg" community centre, 1954



Apprentices busy with early-morning gymnastics, 1933

Walter Boveri (1865–1924) was furious. The year was 1888. No sooner had the 23-year-old engineer returned from his business trip to Russia than he was called on the carpet by the company management for his exorbitant travel expenses. This prompted Boveri to put an old plan of his into action: the founding of his own company. He had dreamed up this vision with his boss at the time, Charles E. Brown (1863–1924), the head of the electrical department at Maschinenfabrik Oerlikon (MFO) near Zurich. Both were fascinated with the idea, but Brown did not want to bother with the details. He just wanted to solve problems and develop machinery. He left the "grudge work" to his younger partner, matters like raising the CHF 500,000 needed for founding the company. Boveri solved the problem by marrying the daughter of a rich textile industrialist.

Division of Labour

This division of labour between Brown and Boveri prior to the founding would prove to be typical. Brown, an Englishman, was a brilliant design engineer who liked to live life to the fullest. Boveri, a German, was a businessman through and through. He was the one to negotiate with business partners, forge ties with customers, calculate down to the last rappen. But both were committed to absolute top performance. They wanted to be the very best, and they proceeded time and again to prove that they were the very best.

Off to a Rocky Start

In this pioneering phase, the workers had very few rights but a lot of duties. Tensions began mounting from 1893 and even erupted in a strike in 1899. But this rocky start has not been typical of the company. Soon the company had developed a climate between employer and employees which was based on mutual respect. The working hours were reduced.

BBC Family

For many of its employees, BBC has been more than just an employer. Its influence has extended far into their private lives and leisure time. In 1898 the company built "Dynamoheim" in Wettingen, the first company housing development. BBC was especially active in company housing construction after the Second World War. BBC workers have had their own break lounges since 1898 and their own cafeteria since 1904. In 1943 Walter Boveri's mansion was converted to a club house. In 1953 the company opened a company community centre called the "Martinsberg". Both properties have extensive recreational facilities.

A Sense of Fairness even in Times of Crisis

The BBC family has also proved itself in times of crisis. Forced to lay off large numbers of workers in 1932 during the Great Depression, the company management issued a memo instructing managers to break the news of the dismissals gently and to avoid dismissing fathers with children if at all possible. The company has always practised fairness and from the 1970s on has displayed this trait time and again in its periodic social reports.

Education as a Core Competence

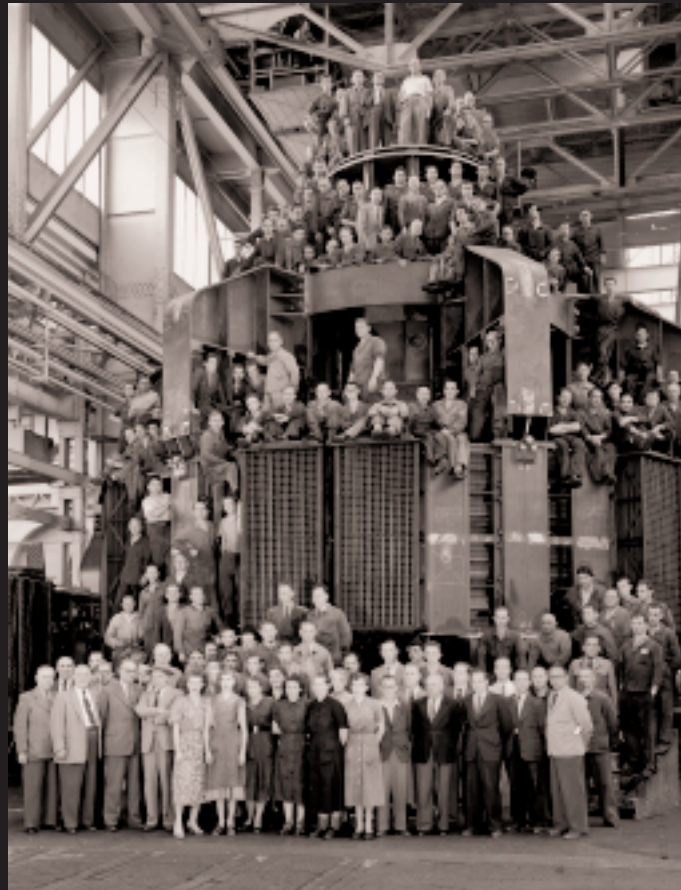
Throughout its history, the company has always aspired to delivering top performances. That is why BBC has always invested in the education and training of its workforce. In 1918 BBC opened the first factory school for apprentices. Sixty years later the company was providing training in 20 vocations. In 1957 the school for design engineers was opened. BBC has always wanted to attract the best people and to help mould them into top workers itself. ABB Switzerland has remained true to this principle down to this very day, even though the design engineering school has long been called the ABB Technikerschule (technicians' school) and the former apprenticeship workshops were recently renamed ABB Lernzentren (learning centres).



Electronics: PCB component insertion, ca. 1970



Design engineer at drawing board, 1975



Hydro-electric power generator, 1952



Generator assembly, 1895



PC training for apprentices



Project work in apprenticeship training



Apprenticeship training



Secretariat, ca. 1910

1914 – 1945

1914 – 1918

First World War

1917

Russian Revolution

1917

General strike in Switzerland

1919

Proportional representation for National Council

1919

Introduction of the 8-hour workday

1921

Split-up of SP, founding of KPS

1922

Highpoint of the post-war crisis

1922

First radio transmitters in Lausanne and Bern

1925

Constitutional article governing old-age and survivors' insurance

1928

Swiss Exhibition on Female Labour (SAFFA)

1929

Stock market crash in the United States

1933

Hitler became German chancellor

1935

General compulsory military service in Germany

1936

Spanish Civil War

1936

Peak unemployment in Switzerland

1937

"Peace agreement" within metal industry

1938

Austria annexed by the Third Reich

1939

Introduction of structures for the war economy

1939 – 1945

Second World War



Walter Boveri Junior – the Mover and Shaker

At the outbreak of the First World War, Walter Boveri Junior was 20 years old. At the end of the Second World War, he celebrated his 50th birthday. In the years between, Boveri faced two crises that threatened to ruin BBC, the Roaring Twenties and a personal fiasco. This period was what shaped the man. As BBC president, he put the company on a broad basis and gave it a thick financial cushion; on a personal level, he remained largely independent of BBC.

Boveri grew up in a wealthy upper middle-class family. His cousin Margret Boveri described the home as follows: "For me, a younger cousin from a German university town, the Boveri villa was the most open-handed and open-minded of homes, with its beautiful furnishings, efficient household staff, and the freedom all guests were given." Walter Junior was the second of three children. He was bright and completed his studies with little effort. What he wanted most was simply to enjoy life. As a young man he raced at breakneck speed over the bumpy streets and highways of the interwar years, and even his parents were not allowed to enter his apartment in Zurich without announcing their visit in advance.

But Walter Boveri was far more than a man about town. After the First World War, he joined BBC and proved to be an efficient manager. Yet in 1924 his father died, and Fritz

Funk was appointed the president of the board of directors. Funk ordered Boveri to his office and fired him on the spot. Funk tolerated no rival. Boveri changed his line of work, becoming a successful financial consultant at a private bank. He then set about restoring his reputation at BBC. In 1930, BBC named him to its board of directors. Three years later he founded his own private bank. In 1938 he was appointed president of BBC. At the helm of BBC, he steered the company, which had gone through difficult years, back onto a course of strong growth. Boveri diversified into new production areas like electronics and nuclear energy, opened new subsidiaries and put in place a rather conservative financial policy.

Throughout it all, he remained first and foremost a banker. His focus at BBC was on strategic management. He was in Baden only two days a week. In his later years, the brevity of his time there coupled with his advanced age became a growing problem. In 1966 Boveri had to step down from his position as BBC president and was named honorary president. He died in 1972 at his home in Herrliberg, high above Zürichsee.



Karl Rinderknecht – the Blade Doctor

When Karl Rinderknecht was about to set out on his career in 1923 after having completed training as a machine mechanic, Switzerland faced massive unemployment. Nearly 100,000 people were out of work, and strikes and political unrest were the order of the day. But by 1923, the worst was already over and the jobless figures began to drop for several years. Until the Great Depression came in 1929. These were the stormy economic times in which young Karl Rinderknecht had to find his bearings.

After his apprenticeship, Rinderknecht found a job first in Olten. Two years later he went to the military recruit school. Then he was unemployed. In 1926 he found a position at the Brown Boveri blade assembly plant. The trained mechanic was often entrusted with testing and experimentation tasks. "I earned less doing it, but it was more fun." CHF –.90 was what Rinderknecht earned per hour, up to CHF 1.15 for piecework. After going to the school for non-commissioned officers, Rinderknecht's career began to take off. "You'll be leaving tomorrow to do assembly work in Belgium", his foreman told him on 15 October 1927. From then on Rinderknecht worked all over the world for BBC, even in the United States. In 1927/1928 BBC built the largest steam turbine in the world for the Hell Gate power plant in New York. Rinderknecht was put in charge of the machine's blades. Two years later BBC had to break off its

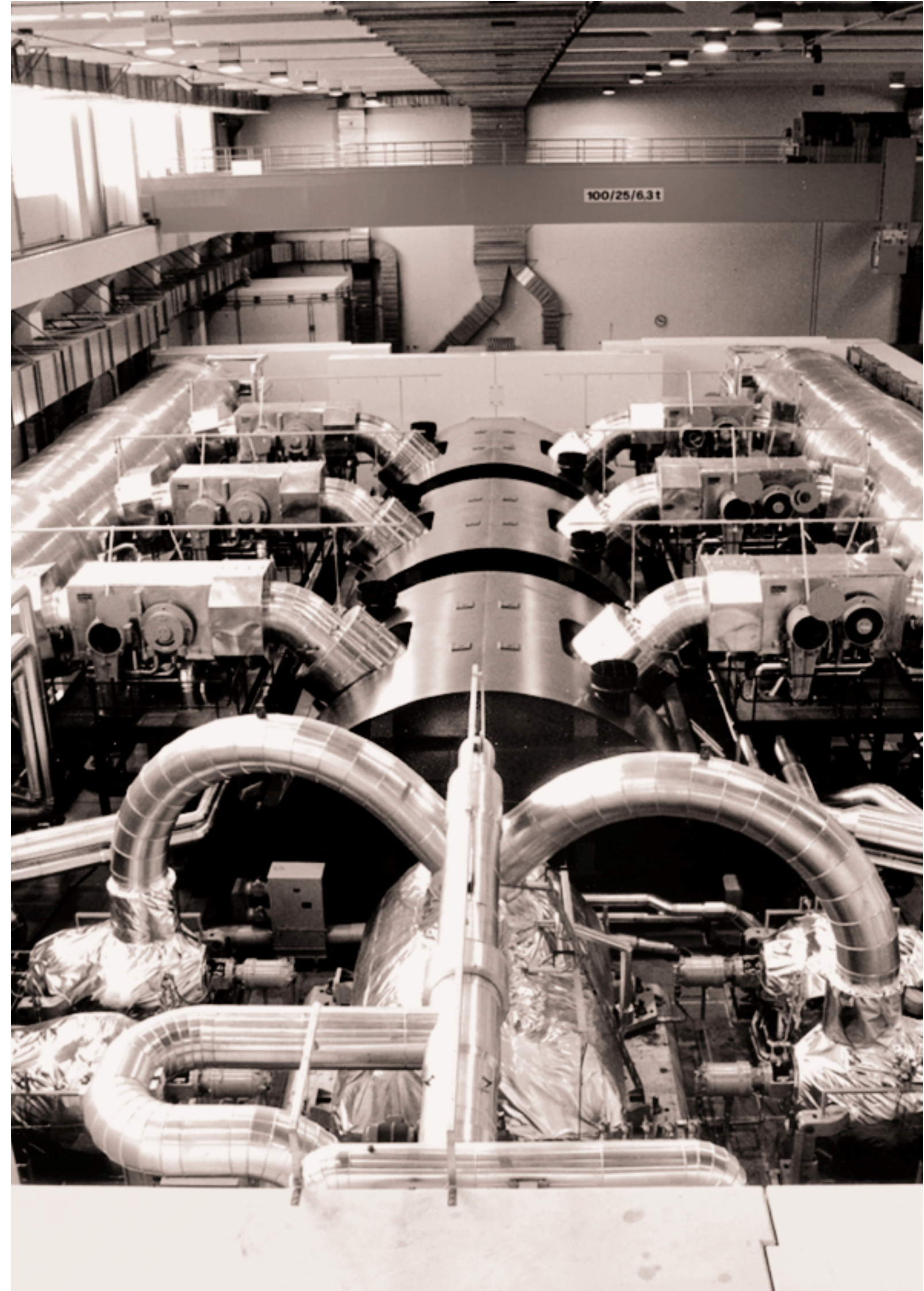
American venture; there was too much protectionism in North American laws.

Since he had left, the times had become tougher again. Whenever Rinderknecht went on an assembly project he was paid, but in between he was unemployed. In mid-January 1931 he wrote in his journal: "In Baden again and without a job. I have to go for unemployment compensation like a beggar." Assembly jobs and unemployment alternated with each other frequently. That autumn he married. No sooner had he done so than he found himself jobless again: "We had plenty of time to enjoy our honeymoon. For six weeks it was interrupted only once a day when I had to go to the municipal office for unemployment compensation."

After that his fortunes took another turn for the better. BBC had enough work from the late 1930s on. Wages rose; in 1936 he was already earning CHF 1.10 an hour again. Rinderknecht worked as much as he could and was usually on the road over the holidays. During the Second World War he worked in Germany, Holland, Poland, and afterwards everywhere in the world, always repairing and replacing blades. When he left BBC in 1968, his colleagues conferred upon him the unofficial title of "Blade Doctor".

When the Spark Flies

When the spark flies, current flows – electrically and intellectually. In their more than one-hundred-year history, BBC and ABB have seen a lot more than a single spark fly. The company has generated one innovation after another. The list of products bearing the distinction of being first, biggest, or best is correspondingly long. Accidental? Not at all! It is the explicit company strategy and a result of hard work. BBC and ABB declared innovation to be a core skill more than a century ago, and that emphasis will not change in the future.





"Betatron", a radiation unit for hospitals, 1981



Electrification of the Simplon line, 1908



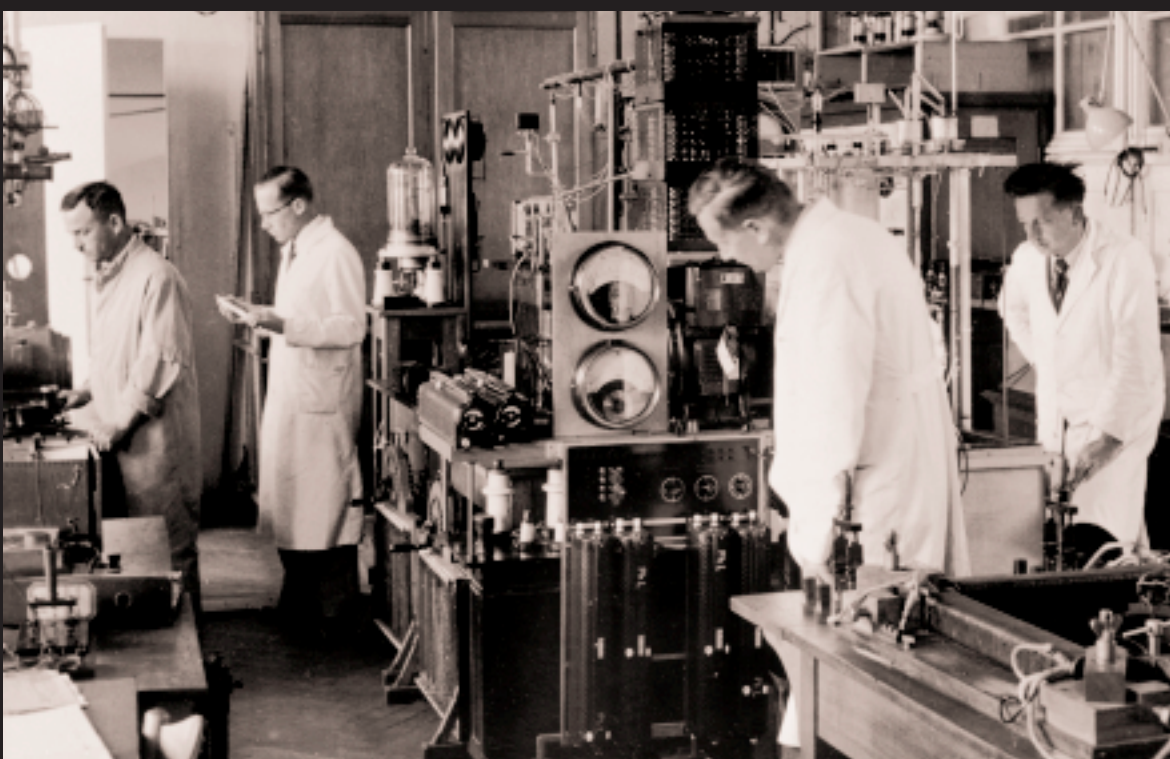
Burgdorf-Thun Railway, 1899, the world's first full railway powered by rotary current



First cylindrical rotor for a turbogenerator, 1901



Test stand for locomotive engines, 1895. In the centre of the picture is Charles Brown.



Physical Laboratory, 1940



Semiconductor research, ca. 1980



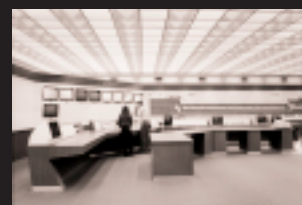
Semiconductor production in a "clean room"



South entryway to Gotthard automotive tunnel with BBC control system, ca. 1982



Assembly of voltage regulators, ca. 1910



Control console for Gotthard automotive tunnel, ca. 1982



Staff at turbine-testing centre, ca. 1910

Rewarding Investments

In the first fifty years of its history, Brown Boveri expanded its activities into virtually all fields of electrical engineering. After the Second World War, research spending rose considerably. Boveri Junior committed the company to new, revolutionary innovations, as is clear from these comments he made during a meeting of the board of directors while the war was still on: "All our thoughts and efforts must be directed to finding products that are both lucrative and technically challenging to develop."

New Fields of Endeavour

The company demonstrated its willingness to carry out Boveri's wish. No matter what the field, BBC delivered newer and better performing products and continued venturing into new areas. One example is information technology; others are nuclear power, industrial electronics and automation. This all would not have been possible without extensive investments in the company's research infrastructure. In 1957/1958 the large central laboratory was built in Baden, followed in 1973 by the research centre in Dättwil.

Research as a Core Skill

In the 1990s, ABB declared innovation to be a core company skill and invested a total of USD 2.6 billion in R&D at the turn of the millennium, twice as much as in 1988. The focus of research changes constantly. ABB conducts its research and planning precisely to market requirements and customer specifications. Switzerland has maintained its outstanding position in researching and developing new products. The research laboratory in Dättwil ranks as one of the top facilities among the eight ABB Research Centres worldwide. A fourth of all ABB research funds are allocated to Switzerland, and there is no sign at all that this will change. Innovation is a core skill at ABB and to a great extent, also quite Swiss.

In its early years, BBC was bursting with innovations and creations from Charles E. Brown and his employees: the first large-scale power station designed for alternating current (1893), the world's first standard railway operated by rotary current (1899), the first steam turbine built on the continent (1901). Brown kept coming up with solutions and visions for problems considered previously impossible to solve, even when he was faced with opposition or sheer incomprehension. In 1906 BBC took on the task of electrifying the Simplon railway tunnel at its own expense. The Swiss government had not believed in this vision. Brown proved it wrong by creating new realities.

Institutionalised Research

But then in 1911, Brown decided to retire from his professional duties. After that, BBC proved that its innovative powers were not based on a single man's genius. The group had long been operating extensive research laboratories, in Switzerland and abroad. In 1912, BBC engineer Ludwig Roebel patented the rod named for him, the Roebel rod. With this invention, BBC became a leader in the construction of high-performance turbine generators. In 1923 BBC presented the first turbocharger, a technical masterpiece that would dramatically increase the efficiency of diesel engines. ABB Switzerland remains a world market leader today in the production of turbochargers.

1945 – 1981

- 1945
End of the Second World War
- 1945
Founding of the United Nations
- 1947
Introduction of old-age and survivors' insurance
- 1950 – 1953
Korean War
- 1953
Trial TV operations in Zurich and Geneva
- 1956
Hungarian uprising
- 1957
Founding of the European Economic Community
- 1959
"Magic Formula" in National Council (for assigning a fixed number of seats in the cabinet to each party)
- 1960
Founding of EFTA
- 1962
Cuban Crisis
- 1965 – 1973
US involvement in the Vietnam War
- 1966
Cultural Revolution in China
- 1968
Student demonstrations and unrest in Geneva and Zurich
- 1969
First Swiss nuclear power plant
- 1971
Introduction of suffrage for women
- 1973
Introduction of the flexible exchange rate for the Swiss franc
- 1974
Worldwide recession
- 1974
Third initiative on excessive foreign influence rejected
- 1975
Occupation of nuclear power plant premises at Kaiseraugst
- 1976
Collapse of South Vietnam
- 1979
Soviets marched into Afghanistan
- 1980/1981
Student demonstrations and unrest in Swiss cities



Franz Luterbacher – the Quiet Reformer

When Franz Luterbacher was named BBC president in 1970, Switzerland was in a period of rapid change. Soon thereafter the Club of Rome would raise the question of the "limits of growth", the Arab states would cut off oil production for a time and, demonstrators in Kaiseraugst would prevent the construction of a nuclear power plant. In a climate like this, the fundamental conditions of conducting business were also changing. BBC had to realign itself.

Franz Luterbacher did not come from an industrial dynasty as his predecessors had. His grandfather and father were classical scholars. He was born in Burgdorf in 1918, attended the local schools there and then studied law at the University of Bern. On graduating and becoming a lawyer, Luterbacher took a position in the Swiss financial administration where he was named head of legal services in 1948. Finally, he switched to the private sector in 1954 to become director of finance at Maschinenfabrik Oerlikon. In 1960 he was named president of the board. In 1967 when BBC and MFO merged, Luterbacher acted initially as managing director before becoming BBC president three years later. His election to president of the board of directors was not prearranged. In fact, former Federal Councillor Hans Schaffner was Max Schmidheiny's chosen successor. However, Schaffner threw in the towel just before the vote, and Luterbacher ended up taking the helm.

The group of companies grew rapidly in the 1950s and 1960s. By 1970 it had nearly 92,000 employees worldwide, some 15,600 of whom were in Switzerland. However, BBC did not have the structures to fit its size. The company was more a loose conglomerate of independent companies than a tightly run global group. Luterbacher responded by reorganising the group, setting up a five-member executive board as the top corporate body and dividing BBC into five divisions. Throughout his years at the company, Luterbacher carried out a number of such structural reforms.

Luterbacher approached the task with a steady hand. He was no showman, not one to rant and rave at meetings. A civil exchange of opinions was more important to him, as was reaching consensus within the company and within the company management. He drew energy for this tough job on long hikes in the Bernese Alps, where he had an isolated mountain cabin, without phone or electricity. In 1985 he handed over the reins to Fritz Leutwiler. By that time, general economic conditions had changed so much that far-reaching reforms were once again called for.



Hanspeter Ritz – a Member of the BBC Family

When Hanspeter Ritz joined BBC in 1947, the order books were full and there was a huge backlog of work. This situation would not change until the end of the 1970s. Throughout this long boom, cost pressure was more or less a foreign concept to the mechanical engineer. What was important was to deliver the right product at the right time. In his 40 years at the company, Hanspeter Ritz would do his part to assure the prosperity of BBC.

It all began with a plate of meat. Just before graduation, the aspiring mechanical engineer visited a number of companies with his fellow students. At BBC he was served a plate of meat at the end of the visit whereas the competition had only seen fit to give him a glass of beer. This generosity convinced the young man. He began his career at BBC in one of the design departments. However, he did not start with grand, revolutionary designs as he had imagined as a student but with routine drawings, on a rung very near the bottom of the ladder. Then his work became more interesting. Ritz switched to the testing centre for the commissioning of steam and gas turbines and travelled for the first time to Athens just shortly after the Greek revolution. In 1953 he had an urge to try his hand in Sales and his request was approved. Yet while still waiting to start his new job, he was appointed head of blade production. Now he was in charge of 360 workers, who produced turbine blades in

3 shifts in 40 to 50 operations. In 1968 Ritz transferred to Quality Control.

Hanspeter Ritz describes BBC as having a family atmosphere. "There were no rigid career paths", he recalled. "We all discussed everything with everybody and had a lot of freedom. If problems arose, we helped each other solve them: Engineering helped Sales or Production or vice versa. For example, blade production is very loud and the inside of the factory stinks because of the oil-water mixture needed for cooling the milling machines. Sales responded by donating an account for a ventilation system so the noise would not penetrate to the outside at night through open windows. This sense of camaraderie throughout all levels of the hierarchy is something I have never forgotten."

The "BBC Family" is a concept that goes well beyond the company premises. Ritz enjoyed taking part in the recreational offerings at BBC, and noted that the company also has close ties to the city in which it is located. "Many a Baden race would never have been staged so well had it not been for the instrumental role played by BBC", noted Hanspeter Ritz. He retired in 1987. Shortly thereafter, the group's executive board announced the merger with Asea.

Switzerland as Home, the World as a Business Location and Market

In the beginning was the small country town of Baden with its cold and hot springs and a rather tranquil way of life. Then came BBC and transformed the town into a flourishing mechanical and electrical engineering centre. From this base, BBC then went out to conquer the markets in Europe and around the globe, establishing subsidiaries everywhere it went. Switzerland remains the home turf, for the group and for ABB Switzerland. However, the territories covered keep changing in scope and shape today, just as they did back then, over a hundred years ago.





Walter Boveri at BBC construction site, 1891



The first office and factory buildings, 1891



First workshop at BBC in Baden, 1892



BBC employees on their way home, ca. 1950



Brown Boveri Milan, ca. 1970



Company premises in Baden, 1898



End of the workday in Baden, 1915



End of the workday at Baden works, ca. 1960



Winding shop in Baden, ca. 1910



Night time view of BBC Baden, ca. 1960



High-voltage laboratory and transformer factory, 1952



End of the workday, ca. 1900



The new turbocharger factory, 1953



"Konnex" office building, 1995



Announcement of company's founding, 1891

Charles Brown, the father of one of the company's founders, and Conrad Baumann, the father-in-law of the other, were sceptical. Setting up a company in a rural area was an obvious mistake. Basel would be preferable said the one, Zurich was the place to go said the other. Walter Boveri and Charles E. L. Brown remained stubbornly determined. Karl and Theodor Pfister from Baden had convinced them.

Baden as a Business Location

The arguments in favour of Baden were compelling. Land was cheap and plentiful. Baden had good rail connections and the Hasel property where Brown, Boveri & Cie. was to be built could have its own railway siding. Most importantly, however, if BBC agreed to set up in Baden, it was assured its first big contract. Karl and Theodor Pfister had received the concession to build the first power station in Baden. BBC would supply the electrical equipment it needed. The purchase was finalised on 24 February 1891.

From Health Resort to Industrial Centre

Brown and Boveri's decision to locate their business in Baden had far-ranging effects. BBC expanded at an explosive pace. Baden became bipolar. A significant industrial zone sprang up alongside the health resort and spa. Technicians, engineers and workers became a common sight on the town's streets. In fact, they began to dominate them. At least early in the morning when they streamed by on foot or on bicycles on their way to work and in the evening when they returned home.

BBC Acted as a Magnet

BBC did not remain the only industrial company in the Baden region, and the newcomers who opened

up shop here were often sponsored by Walter Boveri. In 1894 he brought about the founding of the Aktiengesellschaft Olten-Aarburg and in 1895 of Motor AG für angewandte Elektrizität. The former was the nucleus of what would later become Nordostschweizerische Kraftwerke; the latter, of Motor-Columbus AG.

Europe and Overseas Markets

BBC produced primarily for the export trade. However, lasting success abroad required establishing a permanent foothold there. This prompted BBC to establish its own production sites first in Europe and later, after the Second World War, on the other continents. Germany started the ball rolling, with the company opening a factory in Frankfurt in 1895 and founding BBC Mannheim in 1900. BBC also had a foothold in France, Italy, Norway, Austria and a number of other countries even before the First World War. Between the World Wars, the group failed in its venture in North America, but after the Second World War, BBC established itself in all other continents.

Domestic Expansion

The company also kept expanding in Switzerland. It built, modernised and expanded its Baden facilities and acquired a number of companies. The most important steps in expansion were the construction of the new workshops in Birr and the takeover of Maschinenfabrik Oerlikon in Zurich in 1967 and Sécheron in Geneva in 1969.

Transformation Process

In 1988 the various subsidiaries of BBC became independent national companies of ABB. The parent company in Baden became the headquarters of ABB Switzerland. Much has changed: many a production hall in Baden and Zurich now stand empty, but the properties have a bright future. The company has drawn up plans to create new sections of town, Baden North in Baden and the Zurich North Centre in Zurich. The plans call for mixed zoning of the properties, featuring attractive housing and office space in direct proximity to the still remaining industrial production areas. ABB is investing in its home turf while solidifying its position in world markets from its base in Switzerland.

1980 – until today

- 1980/81 Union opposition to regime in Poland
- 1981 Equality article in the constitution
- 1981 Assassination attempt on Pope John Paul II
- 1984 Elisabeth Kopp first woman in National Council
- 1989 Fall of the Berlin Wall
- 1989 Rejection of "Switzerland without an Army" initiative
- 1990 Reunification of Germany
- 1990 Collapse of the Soviet Union
- 1991 700th Anniversary of the Swiss Confederation
- 1991 First Gulf War
- 1992 Switzerland rejected accession to the EEA
- 1995 End of civil war in former Yugoslavia
- 1999 War in Kosovo
- 2000 Entry into force of new federal constitution
- 2000 Acceptance of bilateral agreements with the EU
- 2001 Terror attacks in New York
- 2001 Ruth Dreifuss as first female President of the Swiss Confederation
- 2002 Major crashes in the global economy
- 2002 National Exposition Expo.02
- 2002 Switzerland joined United Nations
- 2003 Second Gulf War



Rolf Schaumann – the Developer

In the 1980s and 1990s the world was changing dramatically. The economy became globalised and in the worldwide market the only thing that counted anymore was offering the best deal. Values handed down from generation to generation lost meaning, long-established companies had to develop new strategies. BBC did just that, merging with the renowned Swedish company Asea in 1988. BBC contributed its enormous technical prowess to the newly created entity; Asea, its consistent orientation to markets and customers. Both of these strengths were joined together in a new strategy.

Rolf Schaumann is the ultimate representative of this strategy. Since coming to the helm of ABB Switzerland in 2001, he has persuasively communicated the company's core values. As a former development engineer and salesman, he understands the importance of high-quality products and of a consistent market orientation. Schaumann is an "old BBC hand". He joined the Baden-based company in 1967, working first in the development group for Medium-Voltage Systems and then becoming a sales engineer in Australia. He then went on to fill various key positions at BBC and ABB. Originally the young electrical engineer from Munich had wanted to stay with BBC only two or three years to gain "big business experience" and explore the Swiss Alps. As it has turned out, the responsibilities he has been given have been so exciting and

diverse that he is still with the company all these years later.

Schaumann is fascinated by the processes of change, development and transformation. At the beginning of his career, he developed new products. As managing director of BBC and of ABB Medium-Voltage Systems, Switzerland, he transformed a business unit that was deeply in the red into a solidly profitable mainstay of the group. As country manager in China he developed a new market. And at ABB Switzerland? "I would like to improve the already strong international market position of ABB Switzerland", he says. He knows that this can only be done with teamwork. That too fascinates him, highly diverse individuals co-operating effectively together in a global group of companies.

Rolf Schaumann is aware of the potential ABB Switzerland possesses. He emphasises two aspects in particular: attitude and technical expertise. The Swiss are quite open to customer requests, which makes customised solutions a matter of course. They also have impressive technical expertise. ABB Switzerland ranks at least number three in all areas within the group and number one in many others. Customers who place orders with ABB Switzerland know they will receive top quality. Of one thing Rolf Schaumann is certain: ABB Switzerland has a grand history behind it and a bright future in front of it.



Roman Belloli – an Engineer with a Bright Future

When Roman Belloli was looking for an apprenticeship position, he applied at BBC. By the time he began his apprenticeship, he was working at ABB. He experienced first-hand the changes and the different phases the company went through and admits openly that some of what happened unsettled him. Yet he remains loyal to ABB. The company offers visionary careers.

Roman Belloli grew up in a family long associated with BBC. His father worked at BBC, as did his uncle and brother. His father began as an installer of telecommunication and electronics equipment, his brother as a machine mechanic, his uncle as a mechanical draftsman and he, Roman Belloli, trained as an electrical mechanic. His training lasted until 1993; the last two years he found to be especially exciting and challenging. He was working at the ABB Research Centre in Dättwil and was given a lot of responsibility even as an apprentice. He was asked to come up with solutions to a lot of problems; how he did so was left up to him.

After his training, Roman Belloli transferred to ABB Transport Systems and a short time later he found himself in charge of a line handling warranty and follow-up work for the Lok2000 in Lausanne. At ABB it is not the title that matters, it is the quality of the work and performance. Roman Belloli delivered on both counts. Nonetheless, he left ABB in 1995. He

began studies at engineering school, dropped out and then went first to a small software firm and then to a small crane-building company. Despite the valuable experience he gained at both these SMEs, he saw no future in what he was doing. He felt drawn again to ABB, where he could manage and develop his own projects.

His new job was now in Power Technologies. Soon he was being assigned important projects that took him to places like Saudi Arabia, Libya and Mexico. However, major changes occurred at this time. ABB sold its Transport Systems unit to Daimler Chrysler and a short time later its Power Generation unit to Alstom. These actions and the many negative headlines surrounding ABB sometimes make him somewhat sceptical about the future.

But he has every intention of actively shaping that future. That is why he is attending the ABB technical engineering school on the side. He wants to complete the coursework to become a technician TS. His goal is to manage at least one major project for ABB again, like he was able to do in Saudi Arabia. That is what fascinates him about his work and about ABB Switzerland: that he can tackle a lot of tasks on his own here. And that two things count above all else at ABB Switzerland: on-the-job motivation and personal commitment.

The Agile Giant

Neither national economies nor individual companies can expect to grow continuously and uniformly. Economic history describes economic growth as a constant boom-bust cycle. The busts are particularly important. They force a company to realign itself. In times of crisis the company has to put all its powers of innovation and renewal on the line. Only companies that can muster the energy and agility to renew themselves end up entering the next period of prosperity strengthened. BBC and ABB are among the successful examples in this regard in modern economic history.





High-voltage switchgear, 1974



International management conference in Cannes, 1988



Information der Führungskräfte der Asea Brown Boveri Baden 14. Januar 1988



Inspection of semiconductor components, ca. 1990



Information publication for key personnel after the announcement of the merger, 1988

Europe's leading electrical engineering groups. In the years between the World Wars, BBC sought - unsuccessfully - to gain a foothold in the US market and also built up its market position in Europe. In the long boom following the Second World War, BBC ventured into a whole host of new production areas and established itself on all continents. Expansion has naturally remained one of the group's key characteristics since the merger with Asea.

Consistent Crisis Management

In the periods in between, the electrical engineering giant has proved its endurance and developed new visions. As early as the First World War and the period of economic crisis that followed in its wake, the company management constantly analysed the group for structural weaknesses and ways of cutting costs and then implemented its findings. This same approach was taken in the Great Depression and during the Second World War. In these later periods the emphasis was put on discovering new market segments and promising lines of business. The merger of Asea and BBC was the result of just such a fundamental learning process, in which the group committed itself to a strong customer and market orientation. The players involved did not all show the same degree of willingness to accept change. But in the end, the forward-looking forces at both BBC and ABB prevailed.

In the modern world, from 1850 to the present, national economies have gone through alternating periods of relatively long economic booms and shorter periods of deep uncertainty. In growth phases, decision-makers are convinced of their ability to forecast future trends accurately. They invest confidently in new projects and enterprises. In times of crisis this certainty disappears. However, these tough periods are especially crucial to economic growth. They are times of fundamental learning. Businessmen are forced to realign their companies with the market, to throw off ballast and to discover new market opportunities. BBC and ABB are prototypes of this theoretical construct from economic history.

Growth and Contraction

The company was founded in 1891 during an extended period of economic growth. It was a time shaped by unqualified belief in the possibilities of industrial means of production. Growth phases also occurred in the 1920s between the World Wars and during the long boom from 1950 to the early 1980s. Periods of contraction came during the First World War and in the difficult economic times thereafter: the Great Depression in the 1930s, the late 1980s, and most recently, the turn of the third millennium.

Expansion

Flourishing economic times at BBC and ABB have always been characterised by expansion and the penetration of new market segments. In its early years, the Baden-based company evolved into one of

Resorting now to Tried and Tested Methods

In the crisis at the turn of the millennium, ABB carried out yet another of these analyses of its own strengths and weaknesses with determination and adjusted problematic areas most urgently in need of correction. The strategic realignment emphasising power and automation technologies allows the group to strengthen its focus on customers all the more. ABB Switzerland is carrying out this process with exemplary success. This is evident from the company's leading position within the group in areas like the production of turbochargers, switchgear and railway transformers. The agile giant ABB stands well-equipped to face the future.



Dättwil Research Centre, 1973



BBC robots in action at a car factory



Semiconductor production, 1996



Test laboratory for control equipment systems



Growing silicon crystals, ca. 1990



Control and instrumentation equipment for power station, ca. 1995



Semiconductor production, 1996

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