

## History of VARTA Microbattery GmbH

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1798

Doctor Luigi Galvani uses frogs legs to demonstrate the conversion of chemical energy to electrical energy, This is where the story of the original batteries begins.

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1799

The Italian physicist Alessandro Volta succeeds in storing electricity by using piles of plates made from different metals.

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1802

Johann Wilhelm Ritter, an apothecary's assistant, develops a rechargeable battery based on the voltaic pile, the original form of the accumulator battery.



1881

Henri Tudor succeeds in constructing the first practical lead accumulator in a box.



1887

Adolph Müller founds the ‚Accumulatoren-Fabrik Tudorschen Systems Bösche & Müller OHG‘ in Hagen, the first seed of today's **VARTA**.



1889

Change of company name to ‚Accumulatoren Fabrik Tudorschen Systems Müller & Einbeck oHG‘

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1890

Change of company name to ‚Accumulatoren-Fabrik Aktiengesellschaft AFA‘ with stakes being taken by AEG and Siemens.



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*1895* First German battery-powered tramway in Hagen.



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*1896* In a former snack hut on the premises of the works in Hagen a battery museum is opened. On the expedition to the North Pole by Fridtjof Nansen, AFA batteries survive tests in cold conditions down to 30 to 50 degrees below.

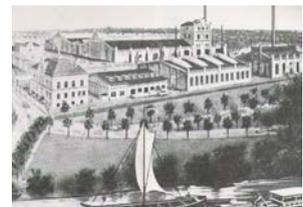


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*1890-1914* Acquisition and founding of many factories and subsidiaries both at home and abroad.

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*1904* Founding of the **VARTA** Accumulatoren-GmbH subsidiary in Berlin-Oberschöneweide. (**VARTA** is the acronym for the German for Sales, Charging, Repair of Portable Accumulators)



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*1905* Together with AEG and Siemens, AFA founded the 'Gesellschaft für elektrische Zugbeleuchtung mbH' – Company for electrical train lighting) Berlin.

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*1906* Takeover of the Accumulatoren-Werke Witten GmbH (Witten in the Ruhr). Founding of Elektromontana GmbH (jointly with RWE).

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*1913* AFA acquires Deutsche Edison Accumulatoren-Company (DEAC), founded in 1905 for the manufacture of steel batteries, which had been producing batteries in their main works in Hagen since 1920.

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*1914* AFA head office moved from Hagen to Berlin.

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1923

Günther Quandt acquires a majority holding in AFA and becomes Chairman of the Board at AFA.



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1926

Acquisition of Pertrix Chemische Fabrik AG, which was founded in 1917 in Hamburg. In the Pertrix works in Berlin-Niederschöneweide dry batteries and flash lights are produced.



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1927

Acquisition of the Dominit Werke AG (Dortmund), a mining lamp factory.

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1928

The founder of the company, Adolph Müller, passes on October 13.

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1932

A new mass radio receiver is launched as the „Volksempfänger“ (the „people’s receiver“), and Pertrix air-oxygen elements are developed to run it.



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1935

The Zeppelin airship The Hindenburg is equipped with VARTA batteries.



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1936-1938

The accumulator works in Hanover-Stöcken are commissioned.

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1938

Günther Quandt becomes Chairman of the Board of AFA.

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*1939-1945*

The AFA works in Hagen, Hanover, Berlin-Oberschönweide and Berlin Niederschönweide work to produce munitions and for the war effort.

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*1941-1945*

From the start of 1941 AFA uses foreign civilian workers and prisoners of war as forced labor. In 1943 around 1,600 Eastern Europeans, Italians, Poles, Frenchmen and French prisoners of war were working at the works in Hagen. In July 1943 the Neuengamme Concentration Camp Outlier of the AFA Hanover-Stöcken works is built. At the end of 1944 of the total 6,500 workers in the Neuengamme concentration camp there were 1,500 camp prisoners and a further 3,700 forced laborers. From end of 1941 onwards AFA Berlin built barracks on the works site and used Soviet and French prisoners of war, Jewish forced laborers and Eastern European forced labor and Polish workers.

The AFA subsidiary Pertrix in Berlin used prisoners of war and female concentration camp prisoners from 1943 onwards.

In Niederschöneweide from 1944 an Outlier Camp of the Sachsenhausen Camp was created. And in the works in Posen and Vienna, foreign forced laborers, prisoners of war and jail inmates were put to work.



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*1945*

A large part of the buildings of the original works in Hagen were destroyed by air raids. The works in Berlin-Oberschönweide were dismantled and converted into a Soviet limited company. The dry battery works in Niederschönweide were confiscated.

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*1946*

Founding of the Pertrix-Werke Hannover GmbH after the works in Berlin-Niederschönweide were confiscated.

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*1946*

AFA rents for its subsidiary Bavaria GmbH the site of the closed-down Kessler-factory which made aircraft parts in Wasseralfingen, in Ellwangen, Württemberg, and it is renamed to BMF, Batterie- und Metallwarenfabrik GmbH.

The items produced in Hanover and Ullersricht (near Weiden) are assembled in Ellwangen. Initially Ellwangen products included machines for sealing cans, rakes, funnels, shoe-trees and wall pegs.

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*1947*

AFA takes over BMF, a company which makes dry batteries in the town of Ellwangen an der Jagst, in Württemberg in southern Germany. The range of products also includes loudspeakers, electrolytic condensers and bicycle light systems

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*1949*

The BMF company and Pertrix-Werke GmbH, together with the Hanover works of the Pertrix-Union GmbH are brought together in Ellwangen. Over the next few years the production of zinc-carbon batteries is gradually built up in Ellwangen – mass production starts in the 1950s with the mono and baby sizes.



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*1950*

The first rechargeable, gasproof button cells are manufactured by DEAC, a subsidiary of AFA, in Hagen.



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*1950s*

Transistor radios begin to appear and increase demand for HT and anode batteries. Over this period Ellwangen is one of the largest European manufacturing sites for cells with plates, including 15 sizes of cells and more than 50 different types of battery.

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*1954*

In the Hagen works the standard production of rechargeable button cells is started up. Dr. Günther Quandt passes on December 30.

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*1955*

After the death of his father, Günther, Harald Quandt becomes Chairman of the Supervisory Board at AFA. In Ellwangen the paper-lined battery is developed, a double laminated dry battery, which is patented in 23 countries. Automated mass-production is now possible.



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*1958*

Pertrix-Union GmbH in Ellwangen creates a branch in Schopfloch for the production of dry batteries.

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*1960*

To enable modern mass production the first large production hall using pre-stressed concrete is constructed. Pertrix-Union purchases a factory in Breitenbach in Alsace, France.



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*1962*

Change of name of AFA and its subsidiaries to **VARTA** Aktiengesellschaft.

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*1963*

Pertrix-Union Ellwangen is renamed to **VARTA**-Pertrix-Union GmbH.

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*1965*

Acquisition of the Kasimir Baumgarten battery factory in Dischingen.

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*1966*

In Kelkheim near Frankfurt am Main, **VARTA AG** founds the largest European battery research center.

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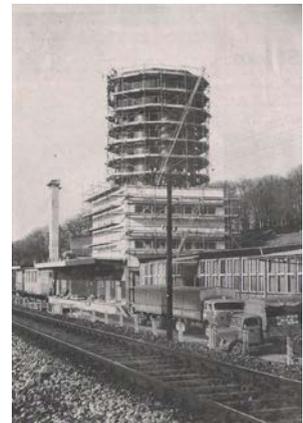
*1967*

Harald Quandt passes on September 22.

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*1968*

A 30 meter high mixing tower for raw materials is built on the works site in Ellwangen. The first primary button cells are produced in Ellwangen. The main works of the Holding company **VARTA AG** in Hagen, Hanover and Ellwangen become independent limited companies.



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*1969*

Neil A. Armstrong is the first human being to walk on the moon. His camera is using VARTA batteries.



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<i>1970</i>	Start of manufacture of alkaline batteries in Ellwangen.
<i>1971</i>	Pilot manufacture of button cells in Ellwangen.
<i>1972</i>	Expansion to the Far East with the founding of button cell production in Singapore by <b>VARTA Private Ltd. VARTA GmbH</b> Ellwangen is absorbed into <b>VARTA Batterie AG</b>
<i>1973</i>	Silver oxide-zinc cells and button cells for hearing aids are modified in the Ellwangen works.
<i>1974</i>	Construction of another large hall for production. In Ellwangen at this time, around 300 million dry batteries can be produced annually.
<i>1975</i>	In Ellwangen button cells for watches are produced.
<i>1979</i>	Lithium button cell production moved from the Ellwangen factory to Singapore.
<i>1980</i>	The production of alkaline manganese batteries is started large-scale in Dischingen. In Ellwangen environmentally-friendly zinc air batteries are developed for hearing aids.
<i>1981</i>	In Ellwangen a new modern button cell works is constructed.
<i>1983 and 1986</i>	Expansion of the works at Dischingen. Only high performance alkaline manganese energy 2000 batteries are produced here.
<i>1984</i>	Lithium circular cell manufacture in Ellwangen

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<i>1986</i>	<b>VARTA AG</b> in Bad Homburg acts as a holding company, <b>VARTA Batterie AG</b> (Hanover) and <b>VARTA Plastic GmbH</b> (Wächtersbach) are the subsidiary companies. <b>VARTA Plastic GmbH</b> produces technical plastic parts. <b>VARTA Batterie AG</b> consists of three parts: Industrial batteries (Hagen works), Starter batteries (Hanover works ) and batteries for devices (Hanover and Ellwangen works).
<i>1991</i>	Expansion of battery assembly for the Ellwangen works in Batam, Indonesia.
<i>1996</i>	Button cell production is stopped in the Singapore works and is relocated to Ellwangen.
<i>1997</i>	Expansion of NiMH manufacture in Ellwangen.
<i>1999</i>	The production of zinc-carbon batteries is stopped in Ellwangen.
<i>2001</i>	The business area of micro-batteries is split off from <b>VARTA AG</b> the newly created <b>VARTA Microbattery GmbH</b> becomes a subsidiary of <b>VARTA AG</b> Hanover.
<i>2002</i>	Merger of all the worldwide micro-battery activities in <b>VARTA Microbattery GmbH</b> by restructuring <b>VARTA AG</b> . Further expansion of battery assembly in Batam, Indonesia.
<i>2004</i>	Expansion of battery assembly in China by <b>VARTA Microbattery</b> .
<i>2007</i>	<b>VARTA Microbattery GmbH</b> is taken over in February 2007 by the Austrian VEG Beteiligungs GmbH part of the Global Equity Partners Group and then at the end of 2007 is sold to Montana Tech Components AG, which is also a holding of Global Equity Partners Group. <b>VARTA AG</b> with its registered office in Hanover continues to exist.

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2009

Volkswagen AG and **VARTA Microbattery GmbH** found a cooperative research venture “VW-VM Forschungsgesellschaft mbH & Co. KG” as a Joint Venture for the development of lithium ion batteries.

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2011

Foundation stone is laid for the new production hall for hearing aid batteries in Ellwangen. In August 2011 **VARTA AG** is acquired by Montana Tech Components AG, which had also taken over **VARTA Microbattery GmbH**. In the public takeover bid document sent to shareholders, the merger of **VARTA AG** and **VARTA Microbattery GmbH** described as desirable.



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2012

The cooperative project „INESS“ between **VARTA Microbattery GmbH** and EnBW ODR AG for intermediate energy storage is started up. **VARTA** celebrates its 125th birthday. The world’s largest and most modern hearing aid battery factory is opened.

