



## Inquiring minds and innovations: from small tartaric acid factory to global pharmaceutical company

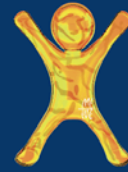
### Innovative from the start

Taking new paths, developing innovative ideas leading to medicines and thereby creating lasting value – this endeavour provides the company history of Boehringer Ingelheim. As early as in 1893, only eight years after Albert Boehringer had laid the foundations of his company by buying a small tartaric acid factory in Ingelheim, Germany, the first discovery is made: the industrial manufacturing process for lactic acid using bacteria. Lactic acid was, for example, needed as the basis for producing baking powder. The new, large-scale process replaces the laborious small-scale production in pharmacies and makes Boehringer Ingelheim a pioneer in the industrial use of biotechnology processes. In 1912, follows the first branded medicine, the painkiller Laudanon<sup>®</sup>, produced on a basis of six opium alkaloids. Boehringer Ingelheim also always succeeds in securing external expertise for the company. The best example is the fruitful cooperation with Professor Heinrich Otto Wieland, later winner of the Nobel Prize for chemistry, and his brother Professor Hermann Wieland. In 1917, the two men build up Boehringer Ingelheim's first scientific department and develop Lobelin<sup>®</sup>, an emergency drug used for arrested breathing.

Sympatol<sup>®</sup>, an important branded circulatory drug that opens the door to different, new therapeutic areas and is the reason for examination of cardiovascular diseases as a direction for research at Boehringer Ingelheim, goes on the market in 1930.

In 1941, Boehringer Ingelheim further expands its competence in the area of respiratory medicines: Aludrin<sup>®</sup>, the first synthetically produced asthma medication, offers completely new ways in treatment and later opens the way to beta-blockers.





The analgesic Thomapyrin® is a Consumer Health Care classic that has been produced and marketed from the Swabian site Biberach an der Riss since 1946. The company Dr. Karl Thomä & Cie. from Winnenden near Stuttgart, acquired by Albert Boehringer back in 1928, is in the same year relocated to Biberach under the slightly altered name of Dr. Karl Thomae GmbH.



### **Boehringer Ingelheim “conquers the world“: internationalisation and indication area expansion**

In the 1940s, international markets gain increasing importance for the chemical-pharmaceutical industry. Boehringer Ingelheim responds to this by establishing companies outside Germany, setting up the first one in Vienna, Austria, in 1948. More follow in Europe and overseas. The internationalisation of sales of medications from the company’s own research and development leads to markedly increased turnover: in 1950, earnings from business outside Germany amount to 11.6 million German marks; in 1986, they already total 3.3 billion German marks of which more than 80 percent comes from abroad. In 2009, Boehringer Ingelheim achieves net sales of more than EUR 11.3 billion with prescription medicines, of which less than six percent come from Germany.



In the late 1950s, Boehringer Ingelheim launches new pharmaceuticals and thereby lays the foundation for its research programme: means of treating respiratory, cardiovascular and gastrointestinal diseases.

The Biotechnikum in Biberach an der Riss commences production in 1986 as the first biotechnological manufacturing plant in Germany. The launch of the thrombolytic Actilyse® in 1987 marks a double milestone for Boehringer Ingelheim: Actilyse® is the company’s first preparation from biotechnological production; it offers patients a thrombolytic therapy for acute heart attack for the first time. Today, Boehringer Ingelheim is one of the leading companies in Europe for medicines manufactured with biotechnology.





## Research and development – investment in the future

In 1995, Boehringer Ingelheim for the first time invests more than a billion German marks in research and development; in the following years, the company launches several innovative products on the market, including the blockbuster (medicines with worldwide sales exceeding USD 1.0 billion per year) Flomax<sup>®</sup>/Alna<sup>®</sup> for the treatment of benign prostate hyperplasia, Sifrol<sup>®</sup>/Mirapexin<sup>®</sup>/Mirapex<sup>®</sup> for the symptomatic treatment of Parkinson's disease, and Micardis<sup>®</sup> for the treatment of hypertension.

Spiriva<sup>®</sup>, for the treatment of chronic obstructive pulmonary disease (COPD), receives approval Europe-wide in 2002 and is launched in more than 90 countries over the following years. Today, Spiriva<sup>®</sup> is the most prescribed COPD therapy worldwide.

2008 is a special year for Boehringer Ingelheim clinical research: the results of five large-scale clinical studies with thousands of patients are presented to the medical world. All these studies contribute to enhance medical knowledge and the treatment of the three most frequent causes of death - heart disease, stroke and COPD. The study results also influence standards in medical treatment.

In 2009, Pradaxa<sup>®</sup>, the novel oral thrombin inhibitor from Boehringer Ingelheim's own research, in a major clinical study with more than 18,000 patients, for the first time beats an established active ingredient in the vitamin K antagonist class for which there had been no therapeutic alternative for 50 years. Pradaxa<sup>®</sup> is launched on the market in 2008 for the prevention of venous thrombo-embolic events after knee or hip replacement operations. The next goal for Pradaxa<sup>®</sup> is to secure international market approval for stroke prevention in atrial fibrillation.





As in previous years, Boehringer Ingelheim in 2009 again invests considerably in its future. For the research and development of new medicines and therapies expenditure is once more increased by more than EUR 100 million to EUR 2.2 billion. The company thereby reinvests 21 percent of net sales from its Prescription Medicines business directly in research and development. Simultaneously, Boehringer Ingelheim maintains its growth path and outpaces the pharmaceutical market for tenth time in a row. The Animal Health business in particular shows very pleasing development. Ingelvac CircoFLEX<sup>®</sup>, with sales of EUR 157 million, is the largest single vaccine for swine worldwide. Successful integration at the end of 2009 of animal health business taken over from Fort Dodge in the USA provides additional growth.

### A look to the future

Boehringer Ingelheim maintains its commitment to researching and developing innovative medicines for the treatment of diseases with unmet therapeutic need, at present primarily in the areas of oncology and diabetes. In these indications the company has promising active ingredients in the pipeline that should be launched on the market in the next few years.

In the Animal Health business too Boehringer Ingelheim is expanding its research activities: in Hanover, Germany, the company is currently constructing a European research center for animal vaccines that should be inaugurated at the end of 2011.

For the production of the novel thrombin inhibitor Pradaxa<sup>®</sup> Boehringer Ingelheim built a new plant for EUR 64 million, thereby creating 60 new, high-value jobs at its corporate headquarters site in Ingelheim. By 2011, the plant will be expanded with a further EUR 119 million. The additional manufacturing capacities will ensure that global demand for Pradaxa<sup>®</sup> can be met.

