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Insights\_Uhde



Dr. C. Otto

Pariser Schönheitskönigin 1907

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# Celebrating 150 years of innovative coking technology

Dr. Carlos Otto, a courageous innovator and pioneering entrepreneur, founded his first firm on 20 July 1872. This year, we're celebrating the 150th anniversary of his groundbreaking achievements in coking technology. His work inspired generations of coking chemists and plant engineers in the many legacy companies that trace their origins to Dr. C. Otto & Comp.

**Enterprising innovator**

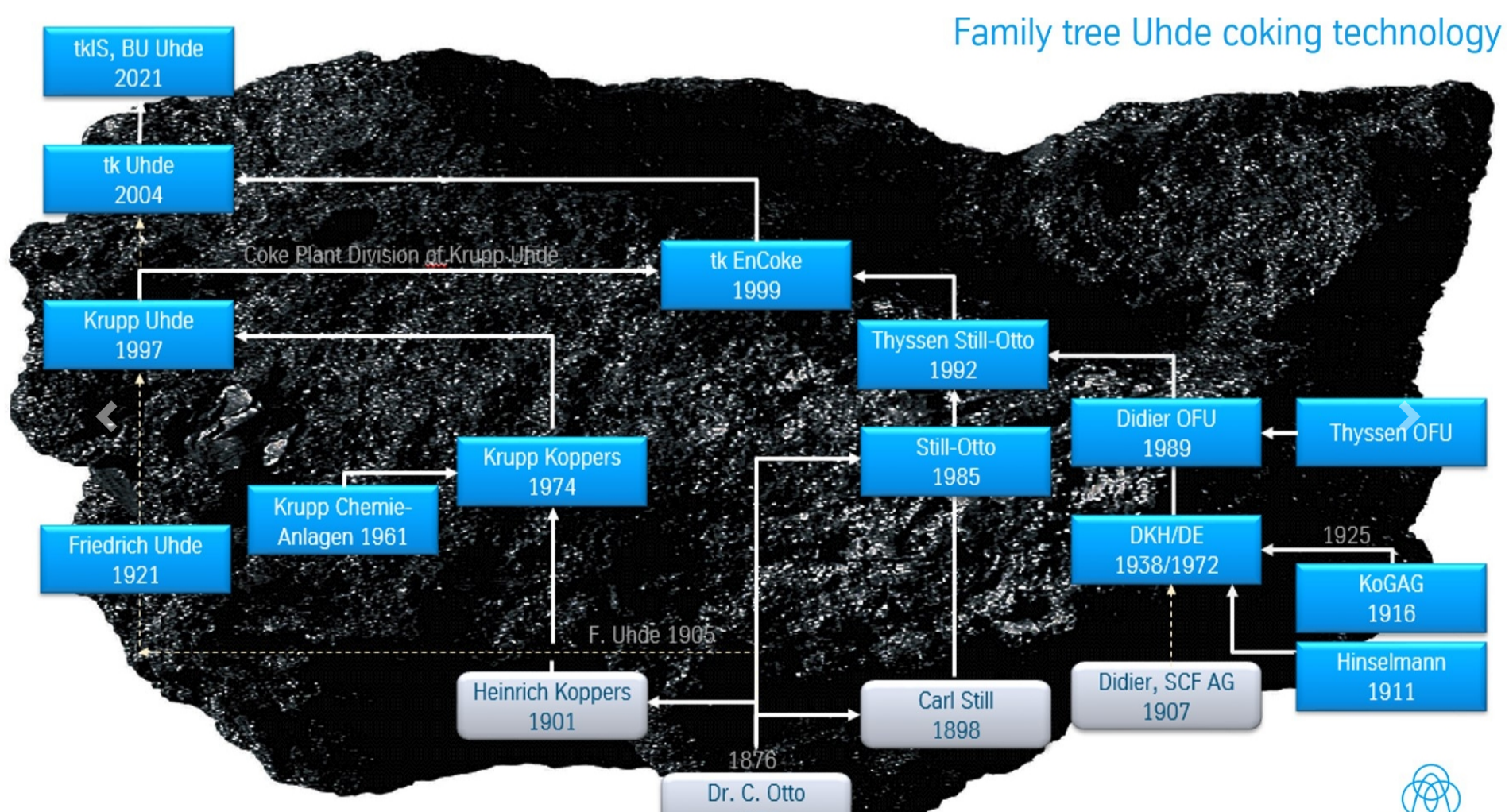
In the 1860s, Dr. Carlos Otto made a name for himself as a practically minded chemist at H.J. Vygen & Co, a manufacturer of fireproof materials, refractory linings and cement products in Duisburg. Although more and more blast furnaces were being built in Rhenish-Westphalia from the 1850s onwards, most of the fireproof linings were still being imported from England. Dr. Otto's employer was determined to replace them with German products. Dr. Otto successfully introduced scientific principles to the company's production processes, significantly improved the quality of the fireproof materials, and extended the product portfolio.

### An eye for new business

Although Dr. Otto was earning good money at Vygen, he set up his own firm in Bochum in 1872 to realize his own ideas in the production of fireproof materials and utilization of by-products from coke-making. Within a decade and despite a severe recession in Germany, Dr. C. Otto & Comp. had become one of the leading German manufacturers of fireproof products – in both qualitative and quantitative terms. In the early 1880s, Dr. Otto broke new ground by combining the construction of Coppée-licensed coke plants with facilities to utilize the by-products of coke-making such as tar, benzene and ammonia, which were in great demand. Rhenish-Westphalian coal mine and coke plant operators were averse to taking such a risk. Dr. Otto wasn't. And history proved him right.

### Coke's significance

Germany once had hundreds of blast furnaces and more than 34,000 Otto-type coke ovens, which played a key role in the country becoming an industrial powerhouse in the last quarter of the 19<sup>th</sup> century. The surprising social significance of coke-making at that time is illustrated by a photo depicting the visit of a Paris beauty queen to a Dr. C. Otto & Comp. coke plant in France in 1907.



Family tree coking technology - thyssenkrupp Industrial Solutions, Business Unit Uhde

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**The bottom line:** Nowadays, there are just five coke plants left in Germany and no beauty queens have ever been spotted there. But Dr. Otto's innovative spirit lives on in the Uhde Business Unit of thyssenkrupp Industrial Solutions. 150 years of experience and expertise are reflected in the current coking technology portfolio with its main focus on EP or EPC services. The core business is still the design and construction of high-performance coke plants worldwide – with digitalized functions and features now bringing the operators significant added value. These days, the profitable utilization of by-products from coke-making is taken for granted. The groundbreaking idea came from Dr. Carlos Otto.

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