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Schlumberger Ltd.

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Introduction

Schlumberger Ltd., now known as SLB, stands as a monumental figure in the story of American industrial ingenuity and global enterprise. Founded in France and headquartered in Houston, Texas, the company's evolution mirrors the transformation of the oil and gas industry itself. Beginning as a modest partnership centered around "electrical prospecting," the Schlumberger brothers' enterprise reimagined how the world searched for and extracted energy resources. Through decades of innovation and steadfast commitment to science, Schlumberger has grown from its early European roots to become the world's largest offshore drilling contractor by revenue and a staple of the S&P 500 index.

From navigating the wildcat oil fields of East Texas to establishing sophisticated research hubs across North America and Europe, Schlumberger's journey has never stood still. The company pioneered the first electrical resistivity well log in 1927, a technology that laid the groundwork for modern subsurface exploration. Over the ensuing decades, the organization's history became interwoven with that of the United States' own energy narrative. As the American oil industry boomed, Schlumberger was at its side—introducing innovations, absorbing new companies, and redefining the very boundaries of what an oilfield services provider could accomplish.

Yet, the story of Schlumberger is not simply a tale of expansion or profit. It is one of adaptation and reinvention. The company faced down challenges ranging from wartime disruptions to transformational shifts in technology and fluctuating global demand. Each era brought new challenges, but also new opportunities: partnerships with giants like Dow Chemical, acquisitions of pioneering firms, and forays into the digitization of oilfield data. Schlumberger demonstrated a unique ability to anticipate where the industry was heading, investing early in research and digital technologies that would shape the sector for decades to come.

In the contemporary era, SLB maintains a presence on four major stock exchanges and operates in more than 100 countries. The company has broadened its focus beyond the traditional energy business, investing in carbon capture, digital integration, and sustainability initiatives. With divisions dedicated to reservoir performance, well construction, and software solutions, Schlumberger stands at the crossroads of tradition and innovation. Recent major acquisitions, such as the purchase of ChampionX, underscore its continued commitment to leading in both technology and market presence.

This book invites you to explore the multi-faceted narrative of Schlumberger Ltd.—a company that has not only mirrored the dynamics of the energy world but also

actively influenced them. We will trace its roots from the laboratories of France, through the boomtowns of Texas, into the digital age of global energy. Along the way, we will examine its business strategies, technological breakthroughs, competitive landscape, and its enduring pledge toward environmental responsibility.

By the final chapter, readers will gain a comprehensive understanding of how Schlumberger built its legacy and positioned itself for the energy challenges and opportunities of tomorrow. Whether you are a student of business history, an energy professional, or simply curious about the giants of American industry, the story of Schlumberger Ltd. provides enduring lessons on innovation, resilience, and global impact.

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CHAPTER ONE: The Schlumberger Brothers and Early Electrical Prospecting

The story of Schlumberger Ltd., now known as SLB, begins not in the bustling oilfields of Texas, but in the academic halls and familial landscapes of early 20th-century France. It was here that two brothers, Conrad and Marcel Schlumberger, embarked on a scientific journey that would ultimately revolutionize the global energy industry. Born in Guebwiller, Alsace, a region with a rich history that had oscillated between French and German control, the brothers were part of an affluent Protestant family. Their father, Paul Schlumberger, was a textile manufacturer and an early investor in the Suez Canal, a financial and engineering marvel of its time. Their maternal great-grandfather was none other than François Guizot, a prominent French historian and statesman who served as Prime Minister of France in the mid-19th century. This intellectual and entrepreneurial lineage undoubtedly fostered an environment ripe for innovation.

Conrad, the elder brother, pursued physics, graduating from École Polytechnique in 1900 and continuing his studies at the École des Mines. Marcel, six years his junior, followed a path in civil engineering, earning his degree from École Centrale Paris in 1907. While Conrad initially worked as a mining engineer and later became a professor of physics at the École des Mines in Paris, Marcel also started his career in the mining industry and as a railway engineer. The outbreak of World War I saw both brothers serve in the French army, with Conrad as an artillery officer.

Even before the war, Conrad's mind was captivated by a groundbreaking idea: using electrical measurements to probe the Earth's subsurface. He theorized that different underground rock formations would possess varying electrical conductivities. More specifically, he believed that metal ore deposits would be more conductive than the surrounding rock, a characteristic that could be exploited for detection. His initial experiments, remarkably, took place in a bathtub filled with sand, where he demonstrated how hidden coins could be located by observing distortions in an established electrical field. These early tests, dating back to around 1911-1912, laid the theoretical groundwork for what would become known as "electrical prospecting."

After the war, in 1919, Marcel joined Conrad, and their father, Paul, provided crucial financial backing to formalize their research efforts. This partnership was cemented with a contract that stipulated scientific advancements should take precedence over immediate financial gain—a principle that would subtly guide the company's ethos for years to come. With their father's support, the brothers officially established a business focused on "electrical prospecting," securing patents for their innovative

techniques across various countries. Their early work was initially geared towards the metal ore mining industry, where they refined their surface electrical measurement system, which became known as a "Schlumberger array."

The early 1920s saw the Schlumberger brothers taking their innovative electrical prospecting methods beyond their Normandy estate. In 1923, Conrad resigned his professorship to dedicate himself fully to the burgeoning business. They began conducting geophysical surveys in a diverse range of countries, including Romania, Canada, Serbia, South Africa, the Democratic Republic of the Congo (then Belgian Congo), and the United States. A particularly significant early achievement was their first large-scale petroleum survey in Romania, where they successfully mapped an oil-productive salt dome using their electrical prospecting techniques.

These early endeavors were not without their challenges. The concept of using electricity to "see" underground was met with a healthy dose of skepticism from traditional geologists and seasoned wildcatters. After all, their "Magic Box," as some called their measurement apparatus, seemed almost too simple to unlock the Earth's hidden treasures. Despite the initial disbelief, the Schlumberger brothers meticulously documented their findings, and the accuracy of their discoveries gradually won over the doubters. Their work moved from the theoretical to the practical, demonstrating that their electrical measurements could indeed provide valuable insights into subsurface structures.

The crucial turning point, however, involved a shift in focus from merely mapping surface resistivity to directly measuring subsurface variations. The brothers realized that to truly understand the deeper formations, they needed to take their measurements *inside* the wellbore. This critical insight, to be explored in the next chapter, would lead to the development of wireline logging and forever change the landscape of oil exploration. The groundwork laid by Conrad and Marcel in these formative years, fueled by scientific curiosity and an unwavering belief in their methods, was the essential prelude to the global enterprise that Schlumberger would become.

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