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QUALCOMM Inc.

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Introduction

From the heart of San Diego to the global stage, QUALCOMM Inc. has grown from a modest startup to a linchpin of the modern digital era. At the forefront of wireless communications, QUALCOMM's influence extends into nearly every pocket, purse, and dashboard around the world. The company's journey has been punctuated by momentous breakthroughs in technology, bold business decisions, and—like all great enterprises—its share of setbacks and controversies. This book tells the story of QUALCOMM: how a team of visionaries harnessed engineering brilliance, strategic risk-taking, and relentless innovation to redefine the future of connectivity.

The story begins in the mid-1980s, a time of tectonic shifts in American technology and enterprise. Founded by Irwin Jacobs and six colleagues, all with deep roots in communications research, QUALCOMM started as a contract R&D company, bidding on government projects and chasing the arc of possibility in wireless. Their path diverged from conventional wisdom with the invention and advocacy for Code Division Multiple Access (CDMA) technology, forever altering the course of mobile telecommunications. This pivotal gamble, met with both skepticism and resistance, ultimately proved transformative—ushering in a new age of digital cellular networks.

QUALCOMM's rise would not have been possible without its unique blend of business acumen and technological innovation. By combining a dual revenue model that balanced hardware sales with the power of intellectual property licensing, the company ensured longevity and adaptability in an ever-volatile industry. Along the way, it introduced defining products like Omnitrac and Snapdragon, saw its chipsets become the backbone of countless devices, and evolved beyond handsets into the realms of automotive technology, the Internet of Things (IoT), artificial intelligence, and augmented/virtual reality.

Yet, QUALCOMM's story is not one of linear progress. The company has faced fierce competitors, regulatory scrutiny, and legal battles over its licensing practices. It has navigated geopolitical storms, staved off hostile takeovers, and weathered criticism regarding its influence over wireless standards and royalty structures. Its trajectory reflects not only the challenges inherent to the high-tech sector but the changing landscape of global commerce and innovation policy.

Despite these hurdles, QUALCOMM has consistently demonstrated resilience and vision—embracing new markets, forging critical partnerships, acquiring leading-edge startups, and championing social and environmental responsibility. Initiatives aiming to bridge the digital divide and minimize carbon footprints are woven into its corporate fabric, positioning the company as a responsible innovator on the global stage.

As QUALCOMM stands poised to shape the future of connectivity, automation, and intelligent computing, this book provides a comprehensive look at its past and present while contemplating the challenges and opportunities that lie ahead. Through twenty-five chapters, readers will gain insight into the key events, people, technologies, and strategies that have enabled QUALCOMM to become not only a giant of American industry but a company whose inventions touch lives around the world every day.

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CHAPTER ONE: The Birth of a Vision: Founding QUALCOMM

In the vibrant summer of 1985, a pivotal meeting unfolded in the unassuming den of Dr. Irwin Jacobs' San Diego home. This wasn't a casual gathering, but a convergence of seven minds, all seasoned veterans from Linkabit, a communications research firm Jacobs had co-founded earlier. These individuals—Irwin Jacobs, Andrew Viterbi, Franklin Antonio, Adelia Coffman, Andrew Cohen, Klein Gilhousen, and Harvey White—shared a common vision: to establish a company dedicated to pushing the boundaries of communication technology. Their collective ambition was to create "Quality Communications," a phrase that would soon be distilled into the now-iconous name, QUALCOMM.

The inception of QUALCOMM was far from a spontaneous decision; it was the culmination of years of academic rigor and practical experience. Irwin Jacobs, a distinguished electrical engineer, had already left an indelible mark in academia, having served as an Assistant and Associate Professor of Electrical Engineering at MIT, and later as a founding faculty member at UC San Diego's Computer Science and Engineering department. His co-authorship of the seminal textbook "Principles of Communication Engineering" in 1965 underscored his deep theoretical foundations in the field. Similarly, Andrew Viterbi, another luminary, brought a wealth of expertise, having co-founded Linkabit with Jacobs in 1968. This prior venture focused on developing satellite encryption devices, laying crucial groundwork for their future endeavors.

The collective experience of the founding team was a potent blend of theoretical knowledge and practical application, positioning them uniquely to tackle complex challenges in digital communications. They were not merely engineers but innovators with a knack for identifying nascent opportunities. Their early discussions revolved around the immense, yet largely untapped, potential of wireless communication. They believed this burgeoning field held the key to transforming how people interacted, worked, and lived.

Initially, QUALCOMM embarked on its journey as a contract research and development center. This strategic starting point allowed the nascent company to leverage its founders' expertise and build a reputation for solving intricate technical problems, primarily for government and defense projects. This early focus provided a stable foundation and crucial funding, enabling them to explore various applications of digital satellite communications that held commercial promise. The goal, however, was always more ambitious than simply being a service provider; the founders envisioned

a full-fledged integrated business encompassing research, development, and manufacturing.

The name "Qualcomm" itself was a deliberate choice, a concise yet powerful encapsulation of their core mission: "Quality Communications." This moniker wasn't just a catchy title; it reflected a profound commitment to delivering superior communication solutions and set the tone for the company's future trajectory. It symbolized their dedication to excellence and innovation, signaling to the world that this new enterprise was serious about making a significant impact on how information traveled.

The founding capital for QUALCOMM was a modest \$800,000, a sum that in hindsight seems remarkably small for a company that would eventually become a global powerhouse. Despite these humble beginnings, operating out of an office located above a pizza restaurant in a San Diego strip mall, the intellectual capital and sheer determination of the founding team more than compensated for the limited initial investment. They understood that true innovation wasn't solely about grand financial backing but about pioneering ideas and the relentless pursuit of their realization.

While the immediate focus was on securing contract R&D work, the founders were simultaneously scouting for a commercial product that could provide a substantial revenue stream and fund their more ambitious research initiatives. They initially considered military applications, given their background, but Irwin Jacobs soon recognized the immense potential within the transportation industry. This astute observation would soon lead to a groundbreaking innovation that would not only prove highly successful but also directly fuel QUALCOMM's revolutionary work in cellular technology.

The early days were characterized by intense ideation and strategic planning, as the founders meticulously outlined their technological roadmap. They were not content with incremental improvements; their sights were set on disruptive innovation. This bold vision, particularly their conviction in a technology known as Code Division Multiple Access (CDMA), would set them on a collision course with the prevailing industry standards and dramatically alter the landscape of wireless communication. But that particular battle was still some years away. For now, the focus was on building a solid foundation, project by project, and proving their mettle in the competitive world of high-tech research and development.

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