DR. CHARLES E. REED, 94, retired executive from General Electric (GE), passed away on November 16, 2007, at his home in Bridgeport, Connecticut, at the age of 94.

My first memories of Charlie Reed date back to my days as a young engineer at GE, working on my first silicon catalysis project. One day, my boss told me I was going to have an important visitor. Not long after, an older gentleman walked into my lab, but I did not recognize him. He asked a lot of questions, and he was intensely interested in everything we discussed. I remember thinking that his enthusiasm and curiosity were contagious.

I later asked a colleague who he was. The reply, “That was Dr. Charles Reed! Not only a distinguished GE leader, but also an amazing engineer.” I was speechless — Charlie was “THE” engineer who had developed the fluidization process I was working on. In this first meeting it was already obvious to me that Charlie Reed was a passionate scientist — curious and humble, intuitive and inspiring. He loved his craft, and his enthusiasm was apparent in everything he did and to every life he touched.
Born in Findlay, Ohio, in 1913, Charlie graduated from Case Institute of Technology in Cleveland and later from the Massachusetts Institute of Technology (MIT) with a doctorate in chemical engineering by the age of 24. He joined GE in 1942, leaving an assistant professorship at MIT to become a research associate at the GE Research Laboratory. Now it seems such a gamble: this was a time when the company was far better known for its efforts in the electrical industry than for its embryonic chemical businesses.

Over the next three decades, Charlie helped GE become a top manufacturer of high-performance, engineered materials. He managed GE’s first chemical engineering division which led to the development of the first commercial production plant for the manufacture of silicone polymer oils, rubbers, and resins. Charlie became the first general manager of GE’s Silicone Products Business Department when it was organized in 1952. Six years later, he moved to the post of general manager of the Metallurgical Products Business Department, which produced cemented tungsten carbides, permanent magnets, the first Man-Made™ industrial diamonds, and Borazon® cubic boron nitride products. When the two departments were combined, GE made him general manager for the new Chemical and Metallurgical Business Division. Under his guidance, the division capitalized on the success of GE’s LEXAN® polycarbonate resin.

GE elected Charlie to the position of company vice president in 1962. This was followed by six years as group executive for Components and Materials and then senior vice president on the corporate staff. Later, he was named head of the corporate technology staff and director of corporate strategic planning.

Charlie served as a member of GE’s Corporate Policy Board and consultant to the chairman and CEO until he retired in 1978. He was a fellow of the American Institute of Chemical Engineers, and he held numerous patents in silicone manufacturing. Although Charlie was less directly involved in management after his retirement, he remained extremely active in many small local companies as both investor and advisor.

GE credits Charlie with more than $3 billion in annual sales from the engineering materials businesses he built and managed.
These products can be found in everything from bathtub caulk and oil-drilling equipment to football helmets and aircraft—virtually everywhere, including outer space, in the soles of the boots worn by the astronauts who first walked on the moon. Jack Welch has said that “under Charlie Reed’s leadership, GE became a world leader in high-technology materials—first in the silicone industry, then in the manufacture of man-made diamonds, and ultimately in the engineering plastics industry.”

We often refer to an expert by saying “he wrote the textbook on that”—but Charlie actually did. He was co-author of *Applied Mathematics in Chemical Engineering* (McGraw-Hill, 1957)—which is still considered the classic educational text in the field. And for a scientist, there is no honor greater than the National Medal of Technology. In 1991, Charlie traveled to the White House where President George H. W. Bush presented him with that award, our nation’s highest technology honor.

Charlie was the kind of person who saw the future and pursued opportunities despite—or maybe because of—the limited frame of reference we have as humans. His vision and principles were so well respected that they formed a kind of creed—we called it “Reed’s Creed”—and it had these tenets:

- Always look for the competitive advantage.
- Exploit it with effective teamwork among engineering, manufacturing, marketing, and finance.
- Avoid the complacency that comes with a single success.
- Look for the breakthroughs in science and technology that will help you extend your market basket.
- Make your own products obsolete before the competition does.

In all of the best ways, Charlie embodied the type of executive who leads well, seizes the future, and gives back generously to younger men and women so they can continue the rich legacy of science, technology, and engineering. After retiring from GE,
Charlie was chairman of the board for the Biological Energy Corporation and a member of the boards of several other organizations, including the University of Bridgeport in Connecticut. He was a member of the National Academy of Engineering and he endowed many foundations and charitable causes during his lifetime and beyond.

Despite his promotion to the highest management levels at GE, he remained an engineer at heart throughout his life and he never lost his passion for innovation. I remember planning a meeting of senior leaders at GE. I had asked Charlie to attend the session as our guest speaker, requesting that he share how he evaluated risk and took the initiative to launch new businesses for GE. He was about 80 years old at the time and had been retired for nearly 15 years, but he began to speak and it was like we were listening to an engineer fresh out of school. He explained how he had worked in thixotropic liquids and how that had given him the idea to move into new materials. He talked for more than an hour and the time flew by as he explained his management philosophy with a little bit of history thrown in for good measure.

While I might not remember every detail of that talk, I will never forget his obvious passion for innovation and his clear explanation of the need to take prudent risks. He told the group that the decision to build the first polycarbonate plant was made before the complete process had been worked out. He knew that polycarbonate was an incredible product and that speed was essential if the company were to capture the market. As I listened, I was struck by the contrast between today’s overly disciplined financial leaders, who often stifle innovation with their fear of failure, and Charlie’s visionary leadership — a combination of gut level trust in the technology and financial common sense. This is something we’ve lost. Today there are many accomplished MBAs in the executive seat. But Charlie was more — the type of leader who could give a deep technical lecture as well as discuss the merits of risk taking in business while explaining the sensitivities in the NPV calculation. I will never forget his parting advice, “Don’t let the bean counters set your strategy.”
Charlie Reed was a remarkable man and without peer in his field. He brought value to his company, to his profession, to an entire industry, and to everyone who knew him. It was Leonardo da Vinci who said that “a life well spent is long.” At 94, our friend undeniably had a long life. And, Charlie, you certainly spent it well.