About the Author

I am now CEO of CMC Associates, Acton, MA, which is to say that I am an independent consultant, and I can give myself any title I want. I have been actively involved in industrial automation work since 1958 when I started doing instrumentation for a small chemical plant of Ethyl Corp. in Baton Rouge, LA. It wasn't too long after I graduated from University of Florida in Chemical Engineering, that I began working on my MS at LSU in Baton Rouge. Paul Murrill and Cecil Smith were in my graduate school Automatic Control class, the first ever taught at LSU. In 1964, I received my MS in Chemical Engineering.

In 1964, I became one of the pioneers in computer control at Union-Camp in Savannah, GA, now part of International Paper. I developed, installed, and operated an IBM 1800 computer for control of both a fast Kraft paper machine and a Kamyr continuous digester, and consulted to our Franklin, VA mill for bleach plant control. To think that the IBM 1800 had less computing capability and disk storage than the very first IBM PC 15 years later. I did all of the software design and Fortran programming for this real-time system that actually performed closed loop feedback advanced control. What a great experience to have been a control systems pioneer.

Foxboro Company was my next stop. I went to work immediately on their PDP-8 based control systems. I led the team to convert their control systems to the PDP-11 as the FOX/2 and 2A. Later I led the team that brought the FOX/1 to market in my first role as a department manager. Next, I became the Marketing guy for the computer control products and planned the successor line, the FOX/1A. My final assignment at Foxboro

was in the R&D area where I ran a project to introduce a new architecture into control systems. Along the way, I completed the coursework and obtained my MBA.

With computer control as my specialty, I was recruited by Ken Harple, the founder of ModComp in Ft. Lauderdale, FL, my hometown, as Director of Industry Marketing. ModComp needed control systems software, so I worked with my old friend Dr. Cecil Smith to create a control systems package for their computers. After a financial meltdown at ModComp, I found myself working for Cecil Smith selling his software on ModComp and other computers.

Ken Harple again recruited me for Autech Data Systems, a company he had formed to build process control systems, after he had been forced out of ModComp. This was great fun and gave me the chance to design my own DCS, the DAC-6000, a Faultproof system. It was the first DCS to feature ruggedized 1oo2D fault-tolerant controllers, an Ethernet-based fiber optic network, and a PC-based touchscreen operator console, all exhibited at ISA 1983. In this time-frame, I joined the ISA50 standards committee to help develop Fieldbus. Failure to secure financing caused a complete shutdown of Autech before we could become self-sustaining.

After solving problems for Computer Products, Inc., Analogic, and other companies as an independent consultant, I moved back to Massachusetts to work for Arthur D. Little, Inc., a world-class technology-based consulting company. ADL taught me the mechanisms of consulting. Most of my time was spent in new product innovation, telecommunications, and some industrial automation. One of my projects was to design the mechanism to detect and suppress commercials while recording video broadcasts so that the VCR would fast-forward past the commercials without missing any story material. This innovative project resulted in two US patents: 5,692,093 (1996), 5,455,630 (1995). Licenses were sold by ADL to all VCR manufacturers and it is called Commercial Advance™. I also took over management of the ISA and IEC Fieldbus standards committees.

When ADL began its downward spiral eventually leading to bankruptcy and dissolution, I joined Andy Chatha at ARC Advisory Group. ARC gave me a marvelous platform and the opportunity to influence the automation industry. It was here that I had the chance to spread the word on the use of Ethernet for industrial automation and began this trend toward its widespread use.

Now, in my own consulting company, I have the chance to help many companies, but at a more leisurely pace. Writing books was not my chosen profession, but it is honorable, and certainly fills my days. Recently, I have added publication of the CMC Wireless Report, a bimonthly publication concentrating on the industrial wireless market. Subscriptions to this report support my very active role on the ISA100 standards committee, where I co-chair the User Working Group and the WirelessHART Convergence Subcommittee.

Richard H. Caro, CEO
CMC Associates
2 Beth Circle
Acton, MA 01720-3407 USA
Dick@CMC.us