

# About the Author



I am now CEO of CMC Associates (Acton, Massachusetts), which is to say that I am an independent consultant and 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, Louisiana. Not too long after graduating from the University of Florida in chemical engineering, I began working on my masters in science at Louisiana State University in Baton Rouge. Paul Murrill and Cecil Smith, now fellow ISA authors, were in my graduate automatic control class, the first ever taught at LSU. In 1964, I received my M.S. in chemical engineering.

In 1964, I became one of the pioneers in computer control while working at Union-Camp in Savannah, Georgia (now part of International Paper). There 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 the Franklin, Virginia mill for bleach plant control. I performed all the software design and FORTRAN programming for this real-time system, which actually performed closed-loop advanced feedback control. To think that the IBM 1800 had less computing capability and disk storage than the very first IBM PC fifteen years later! I feel very fortunate to have had the chance to be a control systems pioneer.

Foxboro Company was my next stop. I went to work immediately on its PDP-8-based control systems. I led the team that converted its 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 project as a department manager. I then became the

marketing guy for Foxboro's 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 earned my MBA.

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

Following this, 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, and a Faultproof system. It was the first DCS to feature ruggedized fault-tolerant controllers, an Ethernet-based fiber-optic network, and a PC-based touchscreen operator console, all exhibited at ISA 1983. In this same period, I joined the ISA SP50 standards committee to help develop Fieldbus. Failure to secure financing forced Autech to shut down 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., (ADL) a world-class technology-based consulting company. ADL taught me the dynamics of consulting. Most of my time was spent in new product innovation and telecommunications, but I also did some industrial automation. One of my projects was to design the mechanism for detecting and suppressing commercials while recording video broadcasts so the VCR can fast-forward past commercials without missing any story material. This innovative project resulted in two U.S. patents: 5,455,630 in 1995 and 5,692,093 in 1996. ADL sold licenses for it to all VCR manufacturers as Commercial Advance™. In this period, I

also took over the management of the ISA and IEC fieldbus standards committees.

When ADL began the downward spiral that eventually led to its bankruptcy and dissolution, I joined Andy Chatha at ARC Advisory Group. ARC gave me a marvelous platform to influence the automation industry. During this time, the international fieldbus standard was completed and published. ARC gave me the opportunity to spread the word on the use of Ethernet for industrial automation, initiating the trend I actually began in 1983, toward its widespread use today.

Now, at 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 an honorable one and certainly fills my days. These days my time is filled with work on the emerging ISA100.11a standard, where I co-chair the User Working Group. Building consensus among the users and resolving differences from WirelessHART is intellectually stimulating and a valuable service.

I have been privileged to receive a number of awards, mostly from ISA. In 2000 I received the ISA Standards Award for my leadership in completing the ISA 50.02 and IEC 61158 fieldbus standards. In 2001 I was elected to be an ISA Fellow, a lofty honor indeed. In 2005 I was elected to the Process Automation Hall of Fame. Also in 2005 I became an ISA Certified Automation Professional.

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