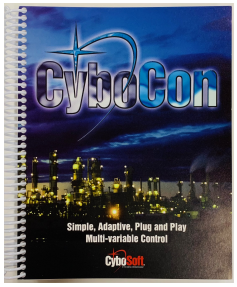
MFA in Control with CyboCon
Author's Comments for Edition 6.0

We are entering the era of the 4th Industrial Revolution. It is an exciting time for technology companies and practitioners to have the opportunity to participate in this new revolution. The 4 generations of industrial revolution can be summarized as:

- 1st, 1782 – Mechanization, Water Power, Steam Power.
- 2nd, 1913 – Mass Production, Electricity, Automobiles, Airplanes.
- 3rd, 1954 – Electronics, Automation, IT, Bio-Tech, Space Exploration.
- 4th, 2015 – AI, Lights-Out Factories, Digitalization, and a Smart World.

Looking back, only 200 some years ago, the First Industrial Revolution liberated humans from heavy labor work for the first time in thousands of years. Just 100 years ago, the Second Industrial Revolution made mass production possible and allowed us to enjoy the lifestyle enabled by electricity, cars, airplanes, etc. We have just lived through the era empowered by electronics, computers, IT, smart phones, and modern medicine. Now, we have entered the era of the 4th Industrial Revolution, where a smart world is being built. Looking forward, what can we do to contribute?

In 1997, when we introduced the CyboCon MFA Control Software at the ISA (International Society of Automation) Show, I did not predict that artificial intelligence (AI) would become a key factor in the 4th Industrial Revolution. The artificial neural network (ANN) based MFA control is an AI technology. In this regard, CyboSoft can be considered an AI pioneer. Now, MFA has become the only commercially successful smart controller that does not require mathematical models. Due to its smart and general-purpose nature, MFA can make major contributions in the era of the 4th Industrial Revolution, where smart sensors and controllers are needed for lights-out factories, and smart equipment, machines, and devices.



MFA IN CONTROL

CyboSoft has made significant effort to develop and package complete MFA control solutions for a specific industrial process or equipment where there can be multiple control and measurement challenges. These are typically industry-wide problems that cannot be solved using traditional control methods. In this edition, MFA Control Solutions are added in Section 1.6, each of which will have a specific user guide as a supplemental document. Many of these solutions have been installed in large scale and are available for new customers to acquire and deploy. CyboSoft's Process Modeling and Control Simulation software family and CyboFlare Smoke Auto-Detection software are introduced. These new products reflect our spirit in making continuous innovations.

In this edition, we also showcase the CyboInverter, an award-winning solar power inverter that can play a major role in the fossil to renewable energy and electricity transformation. The embedded MFA control and optimization technology inside the CyboInverter demonstrates what we can do and contribute in this exciting new era.

George S. Cheng, Ph.D. CEO
CyboSoft and CyboEnergy
October 2021 in Rancho Cordova, California, USA