Budapesti Műszaki és Gazdaságtudományi Egyetem
Méréstechnika és Információs Rendszerek Tanszék

An industrial example for designing and implementing PLC programs

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Industry and production is a central topic of the humanity in the 21th century. The need for materials and products has increased greatly in the last hundred years. We live in an advanced, fast world when the everyday life requires reliable infrastructure, production and economy to keep and improve our lives. The industrial production experienced technological advancements in a never resting pace. To meet with the economy's requirements we need reliable, safe and resilient production and factories.

The control systems of these factories are critical to the operation of the economy that are often highly interconnected and mutually dependent systems. For example, approximately 90 percent of the U.S.'s critical infrastructure is privately owned and operated. This leads us to think about how important to design and implement industrial systems with proper care.

The engineers of our present have the ability to think through and implement measures to sustain our economy and way of living. Standards and regulations are marking the playground of industry. The engineering work could be supported with well-defined guidelines and workflows. An engineering workflow created with experience and domain knowledge becomes invaluable in a company's life. These workflows need to be documented, reviewed from time to time, adjusted to new needs and improved to keep up with the technological advancements.

New trends appear continuously, e.g. the automated testing and test generation got more attention nowadays. The industry needs to optimize their resources and the human resource is the most valuable of all. The academic society is researching this field centuries ago and need for these techniques required because our systems are getting more complex than ever.