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# From Automation and Control Training to the Overall Roll-Out of Industry 4.0 Across South-East Asian Nations

# (ASEAN FACTORI 4.0)

**PROJECT No. 609854-EPP-1-2019-1-FR-EPPKA2-CBHE-JP**

**Accreditation**

In collaboration with the Factori Erasmus+ project 609854-EPP-1-2019-1-FR-EPPKA2-CBHE-JP, the Faculty of Engineering at Chulalongkorn University has made the decision to propose enhancements to three courses within the electrical engineering and chemical engineering curricula. Those courses are:

2105676 INSTRUMENTATION IN CHEMICAL PROCESS

(Master of Engineering in Chemical Engineering)

2102435 INDUSTRIAL AUTOMATION

(Bachelor of Engineering in Electrical Engineering)

2105472 PROCESS DYNAMICS AND CONTROL

(Bachelor of Engineering in Chemical Engineering)

These modifications will integrate the Basics of modern communication networks, History of Programmable Logic Controllers (PLC) and programming languages, Modern Industrial Networks, Industrial Applications of Programmable Logic Controllers, and Industrial Control Systems.

The proposed modifications will be implemented through seminar sessions and laboratory work. Specifically, the benchmark approach will be utilized as a part of the laboratory work within these three existing courses. The benchmark is situated in the Intelligent Control Automation of Process Systems (ICAPS) laboratory, which is housed within the Electrical Engineering Department. This dedicated facility provides a hands-on environment for students to gain practical experience with Programmable Logic Controllers (PLCs) and their application in various industrial processes.

This integration aims to provide students with practical hands-on experience in these subjects, enabling them to develop a comprehensive understanding of modern communication networks and the practical application of Programmable Logic Controllers in industrial settings. Additionally, students have the opportunity to download an E-book titled “Programmable Logic Controller Fundamental and Training” containing all the teaching materials and laboratory work. This E-book serves as a valuable resource, allowing students to access the necessary materials for their studies and laboratory exercises conveniently.