

## SMART MANUFACTURING AND INDUSTRY 4.0 - MODULAR PROGRAM

Together with ESEIAAT, part of UPC (Universitat Politècnica de Catalunya), AG Solution created a comprehensive Industry 4.0 program. Course participants will learn the main concepts of smart manufacturing and how to plan, design and execute a digitalization strategy.



## PROGRAM OVERVIEW

The full program consists of **8 modules** – depending on your specific needs each module can be booked separately.

### MODULE 1: INDUSTRY 4.0 – AN INTRODUCTION

OVERVIEW OF INDUSTRY 4.0: DEFINITION, COMPONENTS, GOALS AND CHALLENGES.

### MODULE 3: CONCEPTS FOR INDUSTRY 4.0 – AUTOMATION

IN-DEPTH AUTOMATION OVERVIEW INCLUDING: AUTOMATION LAYERS, DATA SOURCES AND PROCESSES, ARCHITECTURE TYPES, AUTOMATION PROJECT MANAGEMENT AND REGULATIONS.

### MODULE 5: DATA ANALYTICS AND AI

DEFINITION AND CONCEPTS OF BIG DATA: BIG DATA ARCHITECTURE, DATA LIFECYCLE MANAGEMENT AND TYPES OF DATA ANALYTICS, ILLUSTRATED BY INDUSTRY EXAMPLES.

### MODULE 2: ISA95 – AUTOMATION STANDARD

INTRODUCTION OF THE ISA95 AUTOMATION STANDARD AND HOW TO APPLY IT IN THE AUTOMATIZATION PROCESS OF A COMPANY.

### MODULE 4: CONCEPTS FOR INDUSTRY 4.0 – MANUFACTURING EXECUTION SYSTEMS (MES)

MES AS THE HEART OF INDUSTRY 4.0. TO MANAGE, MONITOR AND SYNCHRONIZE THE EXECUTION OF REAL-TIME, PHYSICAL PROCESSES INVOLVED IN TRANSFORMING RAW MATERIALS INTO INTERMEDIATE AND/OR FINISHED GOODS.

### MODULE 6-8: PROJECT – DIGITALIZATION OF AN INDUSTRY

DURING AN INDUSTRY 4.0 PROJECT WITHIN A PHARMACEUTICAL COMPANY, COURSE PARTICIPANTS WILL GET AN INTRODUCTION TO INDUSTRY 4.0 IN A REAL-WORLD EXAMPLE PROJECT: DEVELOPMENT OF AN EBR (ELECTRONIC BATCH RECORD) USING STATE-OF-THE-ART MES SOFTWARE.

## WHO IS THIS PROGRAM FOR?

### ROLES

- C-LEVEL: CDO, COO, CIO, CTO, ...
- HEAD OF INNOVATION
- PLANT MANAGERS
- MANUFACTURING ENGINEERS
- MAINTENANCE ENGINEERS
- QUALITY ENGINEERS
- SIMULATIONS MANAGER
- DIRECTOR OF AUTOMATION
- MANAGER OF OPERATIONS
- ....

**START YOUR  
DIGITIZATION  
JOURNEY TODAY**

### INDUSTRY

- PROCESS INDUSTRY
- FOOD & BEVERAGES
- CHEMICAL INDUSTRY
- LIFE SCIENCE & PHARMA
- ENERGY & WASTE MANAGEMENT
- ...