

# Crystal System Group

## Practica for students

### Program description

Program / Project: Crystal System Academy

Author: Oana Croitoru

Scope: Program description

Title: Practica program for UPB students\_2023

Date: 25.04.2023



IT Consulting  
IT Engineering

# Practica program for students - 2023

**Description:** the Practica program in Romania is an opportunity for students and young professionals to gain experience in their field of study or career. During the Practica program, students and young professionals work in a real working environment and are supervised by a trainer/mentor. They learn to apply theoretical knowledge in practice, develop practical skills and integrate into a professional environment. This is a national education program that Crystal Academy supports as partner of UPB during each year, in the summer. **The students registered for our Practica program will not be paid.**

**Duration:** 26 June – 31 August

**How:** 26 June – 7 July, from Monday to Friday in the Industry 4.0 lab, 4-5 hours/day

10 July – 18 August: meetings only on Mondays and Thursdays

21 – 25 August: project presentations by teams in the Industry 4.0 lab @UPB

**Who:** Trainers: Traian Stamate, Eduard Lita and Bogdan Serban

**Project themes:** as per next slide

**Target students:** from faculties of UPB that registered via our link, 1<sup>st</sup> to 4<sup>th</sup> year and Master, selection of a maximum 30.

**Expected benefits for students:** hybrid and flexible delivery of the program; acquiring skills in cutting-edge technologies that will allow the student a better visibility on the job market, familiarization with SAP technologies, UiPath, Google Cloud and other; acquiring soft skills such as project management, creativity, complex problem solving, critical thinking; a familiar location (@UPB Industry 4.0 lab) for the in-person sessions, etc.

**Registration link:** <https://survey.crystal-system.eu/index.php?r=survey/index&sid=762774&lang=en>

# Project themes

1. Recunoașterea obiectelor in timp real si sortarea acestora utilizând Google Cloud Vision – folosind linia de sortare de la Fischer Technik.
2. Automatizare de proces in SAP ERP cu comanda vocala si feedback(mail sau mesaj pe telefon).
3. Utilizarea tehnologiei RPA in procesarea comenzilor digitale (Se preia diferite șabloane de documente PDF si se va face o automatizare utilizând modulul OCR).
4. Realizarea unui proces de automatizare de interpretare si răspuns a unui flux de de mailuri cu feedback (mail si telefon - proiectul cu returnare de confirmare de înscriere la curs pe mail si mesaj pe telefon daca este posibil).
5. Realizarea unei arhitecturi scalabile Edge cu controller-ul PLCnext si Cloud Services (AWS sau Google) integrare MQTT Sparkplug B, Kubernetes.
6. Containerizing Industrial IoT Applications cu Docker si Balena on PLCnext.
7. Implementarea unui robot de automatizare procese (UiPath RPA) pentru întreg fluxul de producție materializat de echipamentul CP lab, incluzand roboti mobile autonomi, Fleet manager si Manufacturing Execution System MES4.
8. Integrare date de proces (presiune, debit, informații RFID) in Cloud, via controller industrial CtrX Bosch folosind arhitectura MQTT si Cloud SQL.
9. Automatizarea unui proces care sa downloadeze niste liste din Teams intr-un singur email si sa centralizeze cate prezente a avut fiecare student, prezent in listele de Teams.
10. Realizarea unor lecții practice si a materialelor aferente pentru utilizarea echipamentelor Fischer technik (roboti mobili cu statie meteo, roboti cu panouri solare, sistem de simulare procese industriale cu integrare Cloud, RFID, etc).



# Thank You.



Oana Croitoru, Talent Academy and Education Manager



[oana.croitoru@crystal-system.eu](mailto:oana.croitoru@crystal-system.eu); [talents@crystal-system.eu](mailto:talents@crystal-system.eu)



+40 753 030 119