

ADIKAVI NANNAYA UNIVERSITY: RAJAMAHENDHRAVARAM  
University College of Engineering

**Department of Electronics & Instrumentation Engineering**

Mr. J. Hanumanthu,  
Course Coordinator  
Dept. of EIE



Mobile No. +91 70135 70933  
Mail id: eie.uceng@aknu.edu.in

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**Report of Two – day Workshop on  
“Industrial Automation”**

**on 07-08, April-2022, at 10:00AM in AY:2021-22**

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## **1. Introduction**

The Department of EIE, University College of Engineering has organized two-day Workshop on “**Industrial Automation**”, on 07-08, April-2022 in the Academic Year 2021-22. The main theme of this two-day Workshop is to enlighten and creating the awareness among the students about various automation techniques followed in industry. In process-industries, many process variables such as temperature, pressure, flow, level, density, humidity come across to measure and control continuously for maximum yield of the product. Industrial automation is the control of machinery and processes used in various industries by autonomous systems through the use of technologies like robotics and computer software.

Industries implement automation to increase productivity and reduce costs related to employees, their benefits and other associated expenses, while increasing precision and flexibility. With the Industrial Revolution came mechanization, which brought cheaper and more plentiful goods. Generally, the mechanical processes in industries were faster and produced greater quantities of goods but still required skilled workers. Not only did machines require operators but when errors occurred, they would waste materials, cause production issues and even damage equipment.

With the arrival of automation, control loops were added to machine operation. These can be open control loops that allow for human input or closed loops which are fully automated. Industrial control systems (ICS) allow for monitoring and control locally and remotely. With these increasingly advanced control mechanisms, industries can operate 24 hours a day. Productivity has increased, errors are reduced and quality is improved. Recent advancements in automation in industrial production are focused on flexibility and quality. Manufacturing flexibility not only allows for more product types, but also lets consumers order customized products that are automatically produced.

The workshop was mainly focused on Industrial Automation, their types and hierarchy of an Industrial Automation System and automation devices such as PLC's, SCADA and DCS with hands on Experience.

The workshop also provided a great insight into the challenges and Opportunities in the field of Industrial Automation who would like to take up their career in this field.

## 2. Broucher



ISO 9001 : 2015  
Certified

# ADIKAVI NANNAYA UNIVERSITY

## UNIVERSITY COLLEGE OF ENGINEERING

### RAJAMAHENDRAVARAM



Approved by  
AICTE

### Department of Electronics & Instrumentation Engineering

#### RESOURCE PERSON



**MR. R. Krishna Chaitanya**  
Founder & Senior Engineer  
R K Automation

#### CONVENOR

**Dr.D.kishore**

#### CO-CONVENOR

**Mr.J.Hanumanthu**  
**Dr.D.Srinivasa Rao**

### Two-day workshop on "Industrial Automation"



**Chief Patron**  
**Prof.M.Jagannadha Rao**  
Vice Chancellor

#### Patron

**Prof. T.Ashok**  
Registrar

#### Co-Patron

**Dr. V.Persis**  
Principal

**On 7-8 April, 2022**  
**Time : 10:00 AM**  
**Venue : Seminar Hall**

#### INDUSTRIAL AUTOMATION



**PLC:**  
Sales & Service:  
• PLC Panels Design & Commissioning  
• PLC Programming  
• PLC Troubleshooting  
• Retrofitting works is our speciality  
• Multi Brand PLCs Sales & Services

**TRAINING:**  
PLC communication with PC (Download, Upload, Editing...etc the PLC program)  
PLC programming techniques using timers, counters, triggers, arithmetics...etc  
Real time applications including Interlocking, Auto/Manual...etc  
Practical exposure on different machinery including industrial visits  
PLC Brands like Mitsubishi, Siemens, Allen Bradley, Delta...etc ..... and Many More.....



**SCADA:**  
Sales & Service:  
• SCADA Screen Developments  
• SCADA with Printings  
• SCADA with DATA logging  
• SCADA with Mobile interface  
• With Multi Brand PLCs

**TRAINING:**  
PLC communication with SCADA (One-to-One & One-to-Many)  
SCADA Communication protocols and SCADA networks  
SCADA Screen developments including buttons, Animations, trend graph, Bar graph,  
Gauges, Sliders, ON/OFF status, Alarms...etc  
SCADA data loggings, Report generation...etc ..... and Many More.....



**VFD:**  
Sales & Service:  
• VFD Panels & installations  
• VFD parameters & commissioning  
• High, Medium & Low torque models  
• For all different applications  
• With Multi Brand VFDs

**TRAINING:**  
VFD principle of Working, Wiring & Parameters, advantages...etc  
Multi speeds (5 different speeds) & applications  
Analog and digital commands and applications  
Communication based controlling with PLC  
Applications along with PLC & HMI with Auto / Manual modes .... Many More.....



**HMI:**  
Sales & Service:  
• HMI Screen Developments  
• HMI with Printings  
• HMI with DATA logging  
• HMI with Mobile interface  
• With Multi Brand HMIs

**TRAINING:**  
HMI & PLC communication  
RS232, RS422, RS485, Ethernet Communication with PLC  
HMI Screen Development  
Alerts & Error messages of the machine on HMI Screen  
SCADA data loggings, Report generation...etc ..... Many More.....

### 3. Welcome Address & Opening Remarks

The Convener of workshop Dr. D. Kishore, Assistant Professor, department of EIE has commenced the workshop at 10.30AM by welcoming honorable Vice Chancellor Prof. Mokka Jagannadha Rao, Principal Dr. V Persis, University College of Engineering, Resource person Mr. R Krishna Chaitanya, Founder & Senior Engineer, RK Automation, Guntur, the course Coordinator of EIE Mr. J. Hanumanthu, Assistant Professor. The convener invited all the participants of this program i.e., students and faculty of various departments from the University College of Engineering, and also from Industry. He emphasized the significance of workshop and brief introduction about Automation in process control. The convener acknowledged the support and encouragement provided by Honorable Vice Chancellor Prof. Mokka Jagannadha Rao sir, Registrar Prof. T Ashok sir for his support and Principal Dr.V. Perisis madam for her continuous encouragement.



Finally, he instructed all the participants about how the workshop will progress for the two days

#### **4. Inaugural Address – Chief Guest**

Honorable Vice Chancellor Prof. Mokka Jagannadha Rao, in his inaugural speech welcomed all the participants and resource person of the two - day workshop on Industrial Automation. He has briefed about the importance of the workshop and the various activities that are initiated by the AKNU and also expressed his delight over the conduction of this program for individual as well as institutional development and also encouraged the organizing committee to come up with many more proposals of this kind in the future. He has shared his experience in this field and motivated with his knowledge and dynamic skills.

The Honorable VC has addressed the gathering to importance of Industrial Automation methods for the process industries.



The Honorable VC has concluded his message to the students to take-up internships and projects in the chosen field and explore further for their betterment.

### **5. Key note Address-Guest of Honor**

Respected Principal, Dr. V. Persis, University College of Engineering started her speech by welcoming all the participants, resource person **Mr. R Krishna Chaitanya**, and conveyed his regards to Honorable Vice Chancellor Prof. M. Jagannadha Rao.

At the outset Respected Principal has congratulated the Convener and the Department of EIE to come with this idea of conducting the Two- Day workshop on Industrial Automation. Respected principal has clarified the apprehensions about the EIE branch and motivated the students to explore further challenges in the field of Electronics and Instrumentation Engineering.

Respected Principal concluded her discourse to the students to utilize this Two-Day Workshop on **Industrial Automation**,

## 6. Felicitation

Felicitation to Chief Guest and Resource Person



## 7. Vote of thanks

Vote of thanks was proposed by Dr. D. Srinivasarao, Assistant Professor, Department of EIE, University College of Engineering, AKNU. He started with thanking the Honorable Vice Chancellor Prof. M. Jagannadha Rao for providing all the necessary approvals for the smooth conduct of the program.

A special vote of thank was conveyed to the respected Principal Dr. V. Persis for her continuous support and suggestions from time to time for successful completion of the program.

A special thanks was conveyed to the respected Registrar Prof. T. Ashok for his support for completion of this program.

Profound thanks to the Course Coordinator of department of EIE Mr. J Hanumanthu, for his restless efforts to bring this a fruitful discussion.

A special gratitude and immense thanks to the resource person **Mr. R Krishna Chaitanya**, Founder & Senior Engineer, RK Automation, Guntur, was conveyed for spending his valuable time inspite of his busy schedule for the Two - Day workshop on “**Industrial Automation**”.

A special vote of thanks to the Course Coordinators of other departments, Non-teaching staff, administrative staff, press media and their services were acknowledged.

Last but not the least, the active and enthusiastic student participants were highly appreciated.



## 8. Technical Session

Dr. D. Srinivasarao Divi, Assistant Professor, Department of EIE briefed the profile of **Mr. R Krishna Chaitanya**, to the dignitaries, faculty and the students.

After the formal introduction of resource person, he took over the session by greeting Vice Chancellor Prof. M. Jagannadha Rao, respected Principal Dr. V. Persis, Convener of the program Dr. D.Kishore & participants from all various fields.

**Mr. R Krishna Chaitanya** has started his first day session with the fundamental concepts of the process control, presented on the role of process control in the process-industries and significance of the process control. The session was presented with real time example of the process control applications. He presented about the importance of Automation to the process and explained various methods. Presented about the necessity of Industrial Automation and explained with real time equipment which is carried out along with him.





He motivated the students with some illustrative examples with hardware kits and student participants also showed much enthusiasm in interacting with the speaker.

The workshop was continued for the next day i.e on 08-04-2022. The students are really interacted with the resource person to know much more about the real time Industrial Automation. The session was ended with some Q & A session both student participants and faculty. He shared his contact details for further interactions.

## 9. Closing Ceremony

At the evening of the second day of the workshop the closing ceremony was organized. For this function Dr. P Venkateswara Rao, DEAN, CDC attended as special Invitee of the function. He was the students for their future goal achievements and conveyed best wishes to the students who are going to passed out. He also congratulated all the faculty of EIE department for the efforts of conducting such a fruitful workshop.





At least the Course coordinator Mr. J Hanumanthu conveyed this heartfelt thanks to all the dignitaries of the Adikavi Nannaya University, students, press and Media and Non teaching staff .

## **10. Concluding Remarks**

The two-day Workshop on “Industrial Automation” was concluded with the following remarks.

1. The basics of process control were introduced.
2. The various real-time applications of chemical plants in the area of process control was discussed.
3. Discussed about the importance of Industrial Automation and about various Automation Methods.
4. Real time applications of Automation was experienced through hands on session
5. The program was organized two days and concluded by the question & answer session with the resource person.

## **11. Outcome of the Workshop**

The main outcome of this workshop is to create awareness among the students and faculty about the Industrial Automation process industries. The two-day workshop has provided a great opportunity for all the participants to interact with the eminent resource person and thereby got clarifications regarding the Automation and control techniques related to Instrumentation and Control research area. The main outcome attributed out of this program is to have MOU's and internships to the students in due course of action.