R.M.K. GROUP OF INSTITUTIONS

CENTRE OF EXCELLENCE – FACTORY AUTOMATION
Sponsored by Mitsubishi Electric India Private Limited

Webinar on
PLC and DCS Applications in Process Industries

Expert on Session:
Mr. Rajkumar M
Instrumentation Engineer
Qatar Solar Technologies
Doha, Qatar

FA CoE Students

Date & Time:
8th May 2020
10.30 AM to 11.30 AM

Co-ordinators
Ms.Kayalvizhi M   Ms.Karthika G   Mr.Hariharan N   Ms.Karthika V   Ms.Dhanalakshmi R
AP – EIE.RMKEC   AP – EIE.RMDEC   AP – EEE.RMKCET   AP – EEE.RMKEC   AP – EEE.RMDEC

PLC&DCS Application in process industries

Session Expert
Mr.Rajkumar M
Instrumentation Engineer
Qatar Solar Technologies
Doha, Qatar

Ms. Kayalvizhi M FA—COE coordinator welcomed and introduced the session expert, Over 60 factory Automation Students from the RMK group of Institution were Participated.

The session expert concentrated on 2 topics, 1. PLC and 2.DCS

Programmable logic controller :(PLC)

Introduction to PLC:

In the most basic terms, a programmable logic controller (PLC) is a computer with a microprocessor but has no keyboard, mouse or monitor. It is essentially built to withstand very harsh industrial environments.

Programmable logic controller (PLC)

Automation

Industrial computer

Assembly lines   **Amusement rides**   **Light fixtures**
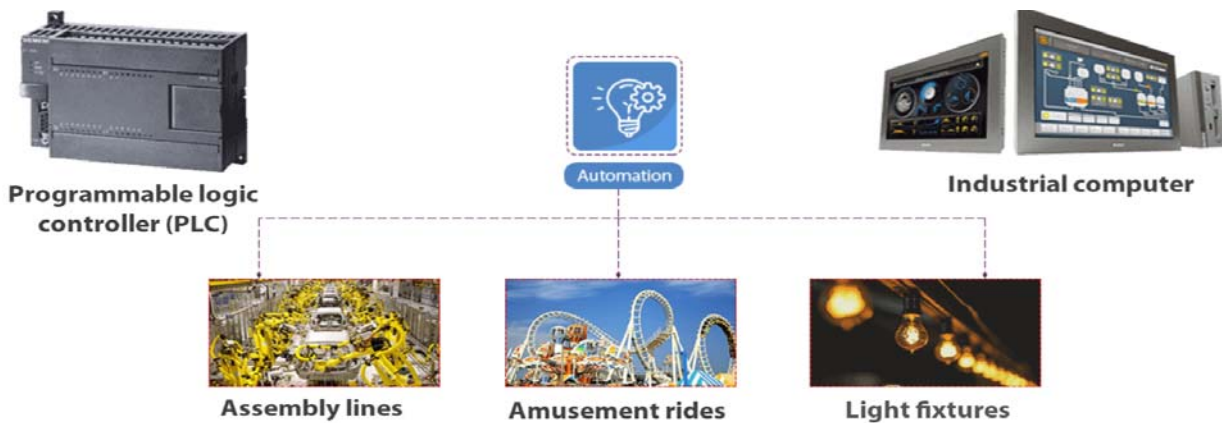
He explained about the application PLC in doing automation and coated some realtime examples

Introduction to PLC and its Application

Input   PLC   Output

He also explained about the DCS

What is Distributed Control Systems (DCS)?

Distributed Control Systems (DCS) is a computerized control system for a process or plant that consists of a large number of control loops, in which autonomous controllers are distributed throughout the system, but there is central operator supervisory control.

DCS can be used to enhance reliability and reduce installation costs by localizing control functions near the process plant, with remote monitoring and supervision.

Structure of DCS:

As DCS contains the distribution of the control processing around nodes in the system, the complete system is reliable and mitigates a single processor failure. It will affect one section of the plant process; if a processor fails and the whole process will be affected when the central computer fails. This distribution of computing power to the field Input / Output (I/O) field connection racks also ensures fast controller processing times by removing possible network and central processing delays.
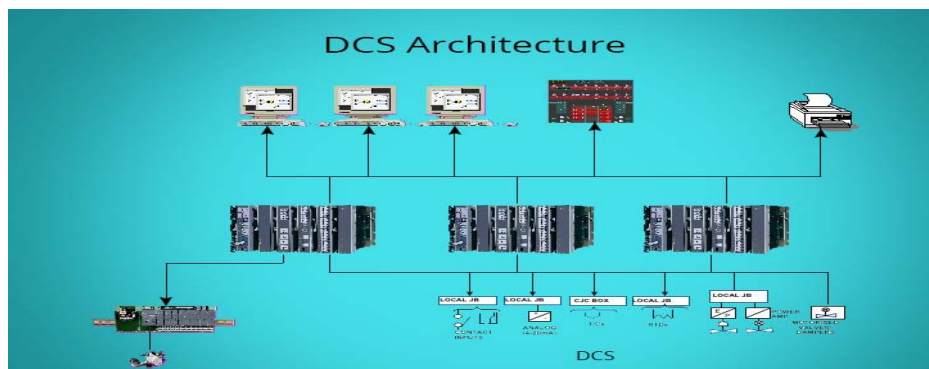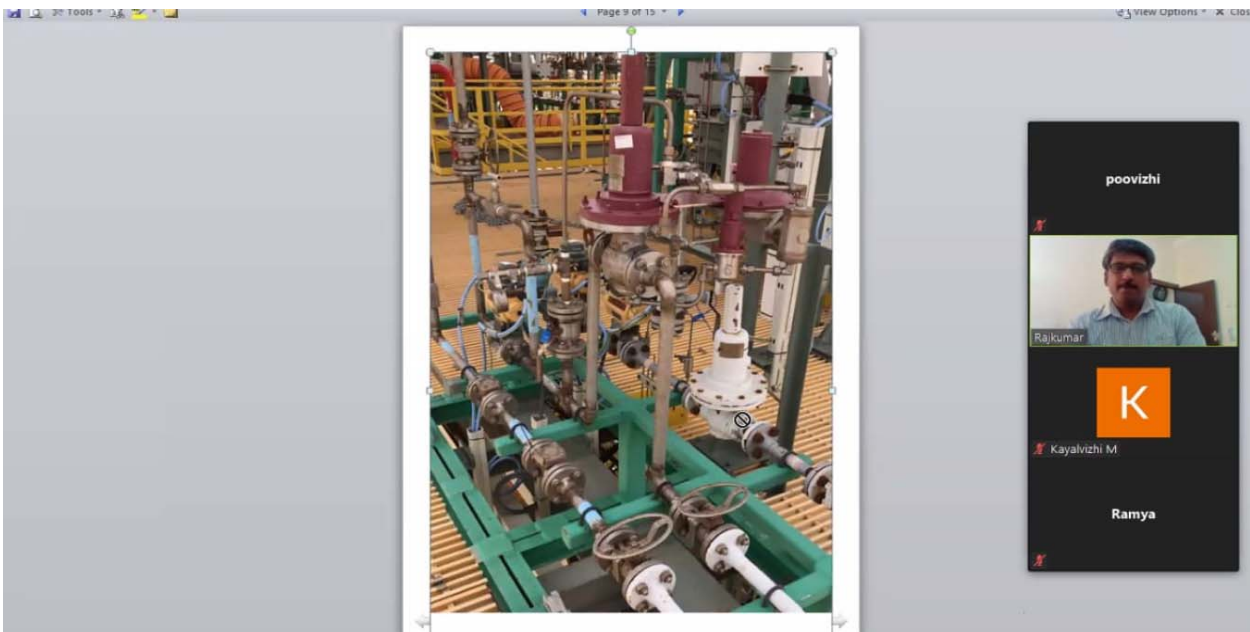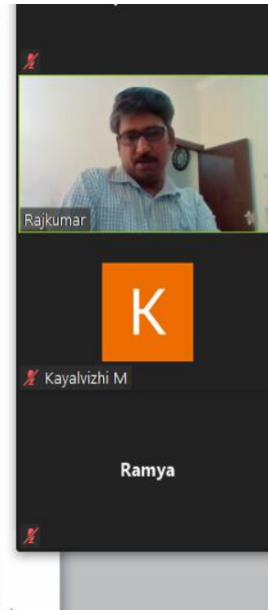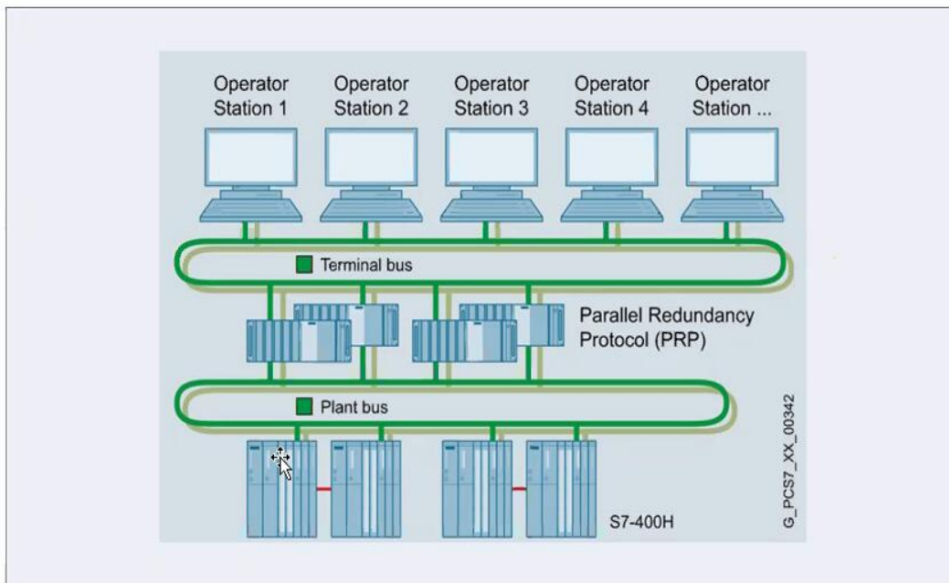

The architecture of DCS:

Distribution Control Systems (DCS) consists of three major qualities.

1) Various control functions can be distributed into small sets of subsystems that are of semiautonomous. These are interconnected by a high-speed communication bus and their functions include data presentation, data acquisition, process control, process supervision, reporting information, storing and retrieval of information.

2) The second characteristic is the automation of manufacturing process by integrating advanced control strategies.

3) The third characteristic is arranging the things as a system.

Few Snapshots of the Webinar

Thank You