u

p р

i

S

0

C

0

m

p

PRODUCTION OPERATION AUTOMATION (POA)



Motivation. In bulk production, repetitive activities are uneconomical to be done manually. In addition, they are demotivating for the operator. Hence, when possible, these activities should be automated.

Goals. The program of production operation automation (POA) is a set of activities directed to develop an automated system that will mimic the manual operations.

Program overview. The POA includes the activities shown in the right side flowchart. The employees of the firm participate in the development of the automated system.

Weaknesses of current approaches. In many cases, the manual operations are automated by introducing an automatic system available on the shelf. Because this system was developed for a generic production process, it includes a multitude of operations of which few are useful for the current automation. Hence, the customer is paying for many useless functions.

Advantages of our approach. We conceive a customized system that includes exclusively the operations deserving automation. Although the components of this automated system are made by external suppliers, we make an exercise of conception and integration. In addition, we can make customized designs of the microprocessor that controls the automated system.

UNDERSTAND:

- -Identify the operations to automate
- -Specify the user requirements
- -Map the improved operations

CONCEIVE:

- -Conceive the mechanics of the system to automate
- -Specify the sensors, actuators and human-machine interfaces
- -Conceive the control of the system to automate (microprocessors, wireless communications and power source)

DESIGN:

- -Define the modules of the system to

- -Design the automated modules

IMPLEMENT:

- -Implement a prototype of the automated system

INSTALL:

-Install the automated system in the customer factory