

# **A Miniaturized Model of the Industrial Solid Material Process Control Plant**

**Rhiza S. Sadjad**

Department of Electrical Engineering,  
Hasanuddin University Makassar, INDONESIA 90245  
rhiza@unhas.ac.id, <http://www.unhas.ac.id/rhiza/>



# The Main Issue

**How to create a  
RELEVANT  
Engineering  
Higher Education  
System**





**Makassar is the GATE  
to East INDONESIA**



# INDUSTRIAL PLANTS:

- Mostly extracting natural resources
- Mostly involving solid material processes

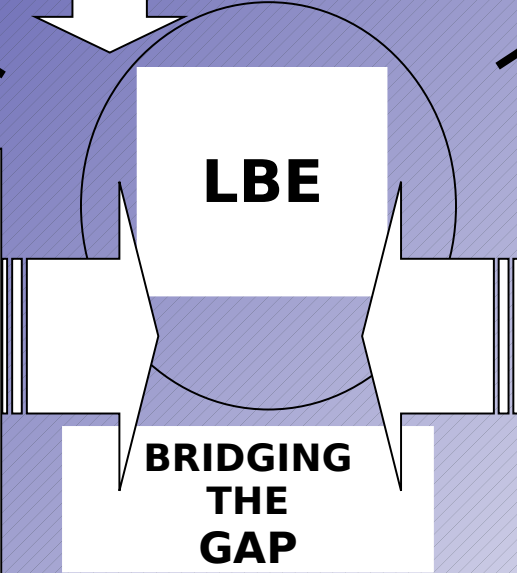
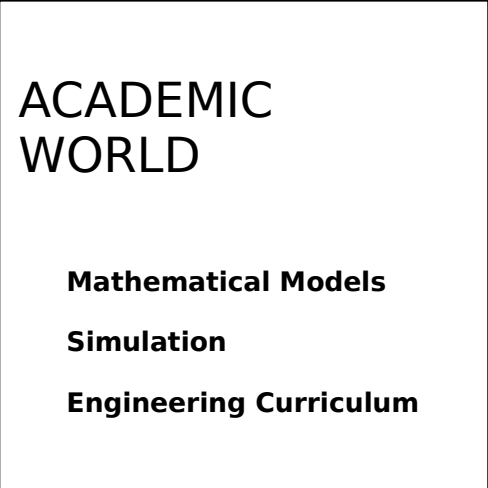
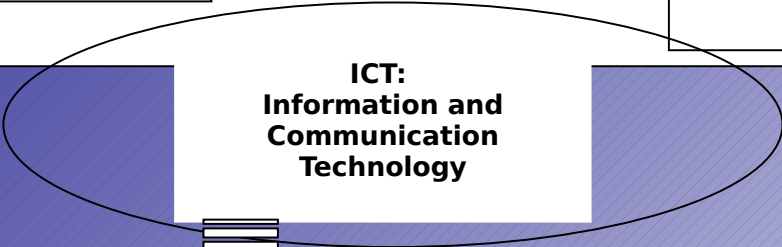
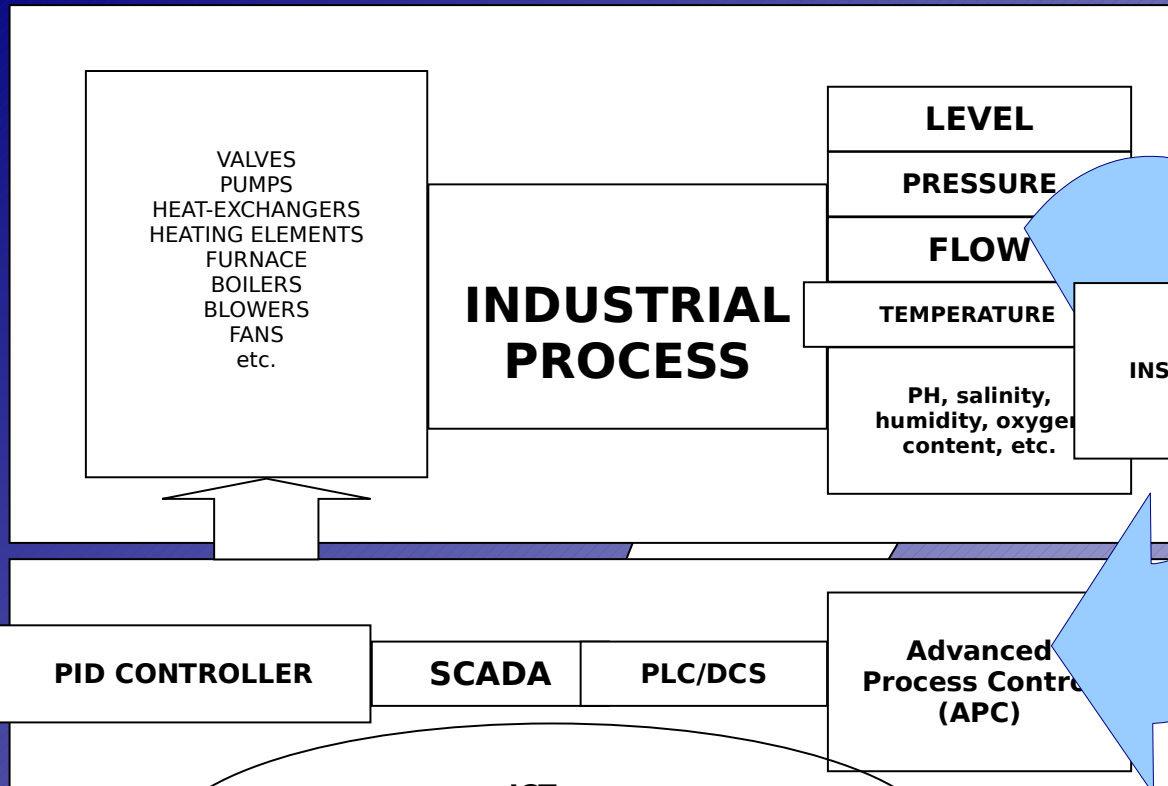
## Examples:

- Mining industries: oil, coal, nickel, copper, silver and gold.
- Cement industries
- Flour milling and packaging
- Agro-industry: rice, cacao, coconut, corn, etc.
- Electrical Power Plants

## Problems:

- R & D and training facilities N/A in industrial sites
- Higher education system only serves ACADEMIC purposes





Available in the MARKET,  
laboratory equipment for  
**PROCESS CONTROL  
TECHNOLOGY:**

Miniaturized (iconic, scaled  
model) PLANTS (processes)  
involving  
**LIQUID and GAS**

**NON- AVAILABLE**  
Miniaturized PLANTS  
involving  
**SOLID  
MATERIALS**



# The Preliminary DESIGN of a MODEL PLANT:

