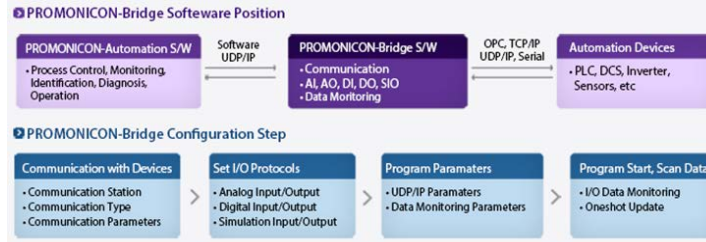




## Product 1. PROMONICON Software

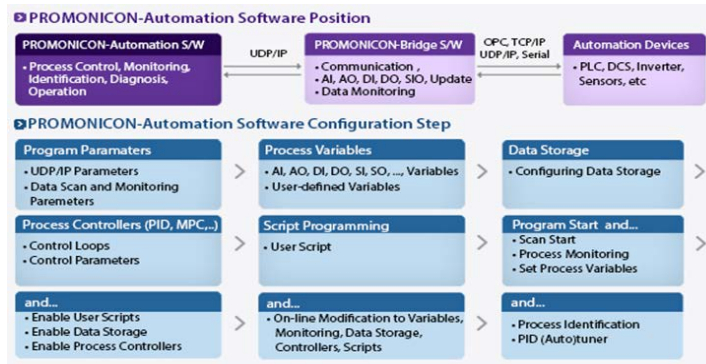
### PROMONICON-Bridge

Software for data acquisition from/to various automation devices such as PLC, DCS, SCADA, Inverter etc. and transferring data/command between PROMONICON-Automation and automation devices

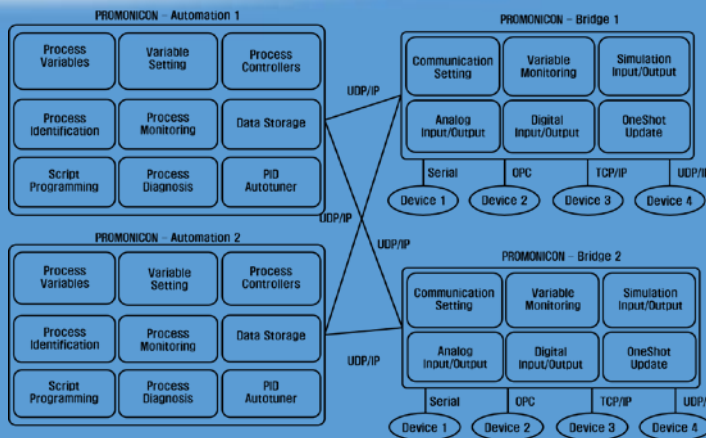


### PROMONICON-Automation

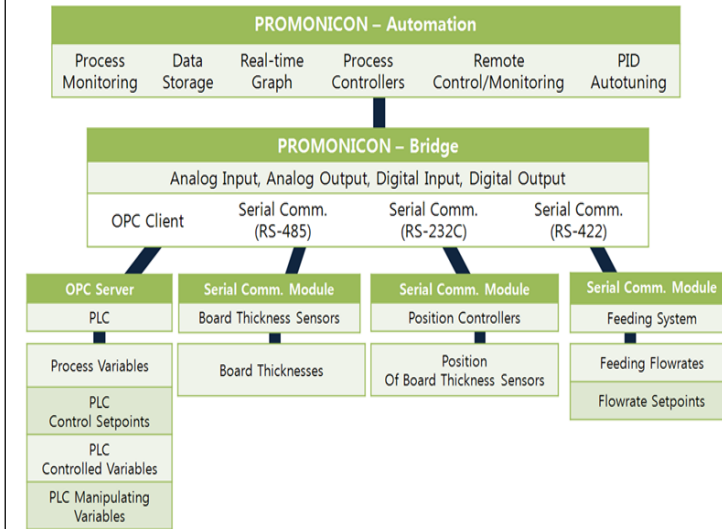
Software for process [remote] control, operation and monitoring through process controllers, scripts, PID autotuning, control performance monitoring, real-time graph, process diagram, report generation, data storage, alarms etc.



### Network Structure of PROMONICON Software



### Application Example to an Extruder System



### Price of PROMONICON Software

#### 1. Basic Version

- Connection to automation devices (PLC, DCS, SCADA etc.) through serial, OPC, UDP/IP, TCP/IP communication
- Data storage, real-time graph, process diagram
- Report generation in the form of Excel, alarms
- Script programming, file IO interface for complex user's logic
- Remote monitoring and control
- Simulation process

#### 2. Advanced Version

- PROMONICON basic version
- PID controllers, PID autotuning
- Gain scheduling, Split control, Programmable setpoint change, cascade control
- Automation stage-to-stage transition for multi-stage processed

#### 3. Professional Version

- PROMONICON advanced version
- Control performance monitoring
- Batch control, Run-to-run control
- APC [MPC] control
- Process optimization based on successive LP

#### 4. Academic Version (KRW 1M (USD 1K)/15 copy/year)

- PROMONICON advanced version with the limited number of I/O

- The founder has been researching process control and automation and developing control theories and industrial automation softwares since 1992.

- TBB is founded to contribute to automation industries and academia through commercializing the research experiences and results.

- TBB develops and provides various automation systems including hardware and software products for process automation.

### TBB Products

1. PROMONICON Software for Process Control, Monitoring and Diagnosis
2. Experimental Equipment for Liquid Level Control Practice
3. Remote Process Control Experiment
4. Training Courses for Process System Engineering
5. PID Tuning
6. Vision System
7. Plant Automation

## Product 2. Liquid Level Control System



### Purpose

PID Tuning Practice

### Components

Notebook / PROMONICON Software

5 Tanks / 2 Pressure Sensors

Proportional Valve / Pump

Data Acquisition Box or PLC

### Specifications

Third Order Dynamics

About 0.5 min Time Delay about 1.2min Time Constant

About 0.9 Process Gain

Real-time Graph, Process Diagram

Data storage in the form of CSV

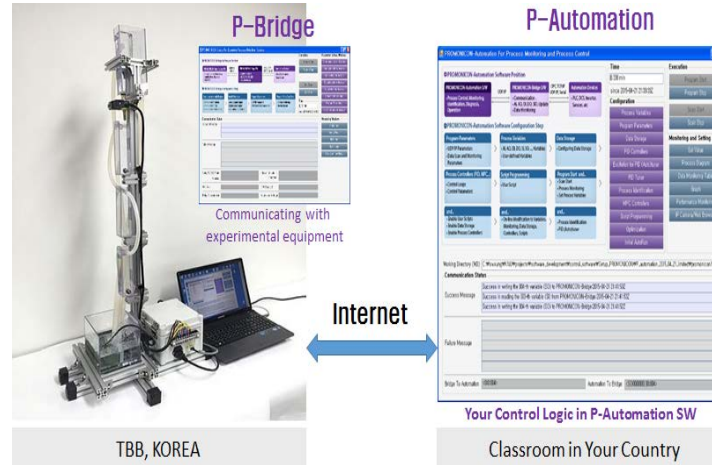
Remote Experiment

Lecture Note for Process Reaction Curve Method

### Price

KRW 3.5M (USD 3.5K) / set

## Product 3. Remote Control Experiment



### Specifications

Accessible at any time through the internet

Various control logics of P-Automation such as PID control, PID autotuning, cascade control, gain scheduling, non-linear gain, time delay compensator, etc.

High speed internet communication (under 0.2 sec/sampling)

### Why Remote Control Experiment?

No cost for experimental equipment

No cost for maintenance

Low price

Support from a control expert

### Price

KRW 50K (USD 50) /day

KRW 300K (USD 300) /week

KRW 1M (USD 1K) /month

## Product 4. Process System Training Courses



### Course 1. Process Simulation Softwares

Basics of Thermodynamics and Unit Operations (7 hours)

Plant Simulation and Design using ASPEN Plus (14 hours)

Plant Simulation and Design using HYSYS (7 hours)

Plant Simulation and Design using PROII (7 hours)

### Course 2. Process Control and Identification

PID Controller and Autotuning (7 hours)

Advanced Process Control (7 hours)

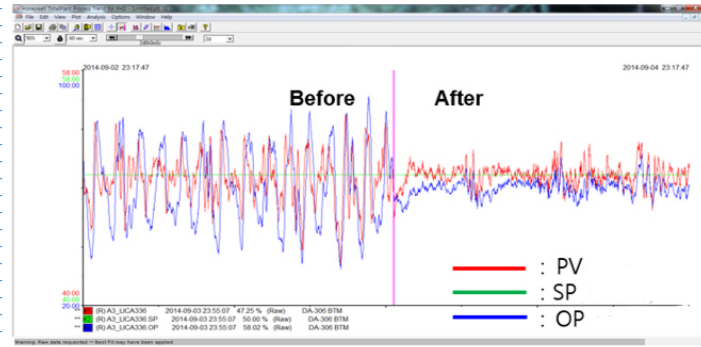
System Identification (7 hours)

### Price

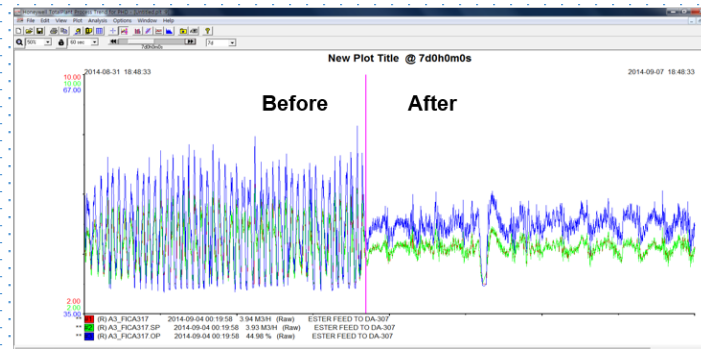
KRW 300K (USD 300)/person/course

## Product 5. PID Tuning

### • Column Level : LICA



### • Feed Flow: FICA



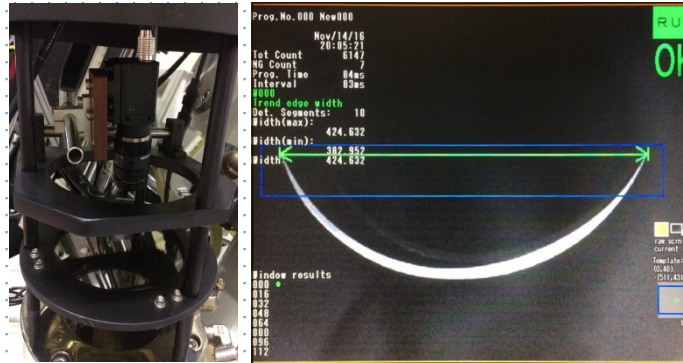
### Purpose

Stabilizing plant, improving control performance, saving utility cost or increasing production rate for industrial plants through tuning the PID controllers and implementing new process controllers

### Price

KRW 1M (USD 1K) / day

## Product 6. Vision System



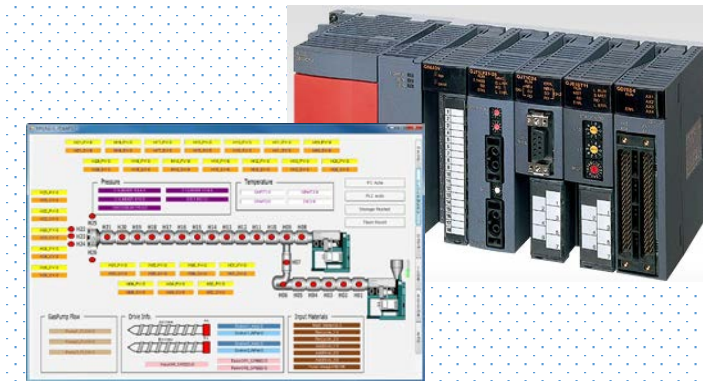
### Purpose

Extracting process data through image processing

### Tools

- Labview, Keyence vision system
- Customized vision system and commercial camera

## Product 7. Plant Automation



### 1. PLC installation

PLC components selection, PLC configuration, IO tables, IO terminal diagram

PLC programming

### 2. HMI installation

HMI(PROMONICON) Installation for plant operation and control

- Communication setting
- GUI (setting, graph, process diagrams for operation)
- Implementing process controllers
- Report generation

### 3. Startup

Startup logic implementation and startup

### Contact us

Su Whan Sung / Professor

Department of Chemical Engineering, KNU, South KOREA

E-mail : suwhansung@knu.ac.kr

Phone : +82-53-950-6838 / C.P : +82-10-8912-6571

Web page : <http://www.tbb-automation.com>