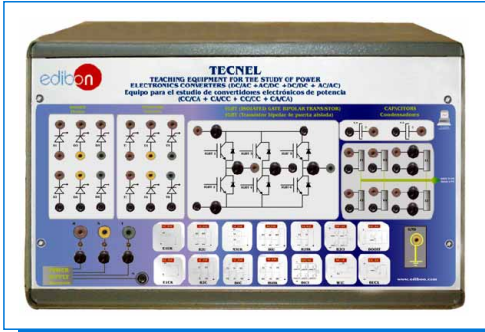


HIGHER EDUCATION ELECTRONICS LABORATORY (2HE)



* Center:
* Country:
* Date:
* Issue:

Quality Certificates:



ISO 9000: Quality Management
(for Design, Manufacturing,
Commercialization and After-sales service)



European Union Certificate
(total safety)



Certificates ISO 14000 and
ECO-Management and Audit Scheme
(environmental management)



Worlddidac Quality Charter
Certificate
(Worlddidac Member)

Higher Education Electronics Laboratory

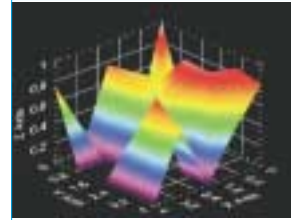
(2HE)

Index

- Project content.
- Technical areas available.
- Economical proposal.
- Classroom and Laboratory Lay Out (Example).
- Main teaching units (included in priority 1)
- Main target.
- Project options covered.
- Project conditions.
- Teaching techniques used.

Project content

Modern design



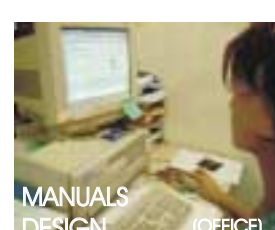
Main blocks



Products



Full units design



Technical areas available

- Physics.
- * **Electronics.**
- Communications.
- Electricity.
- Automation & Systems.
- Mechanics & Materials.
- Process Control.
- Complements, Instruments and Tools.

***Main area directly related with Electronics laboratory labelled in bold letters.**

Note: The complete technical design "is ready" at our premises

Economical Proposal

Teaching Units:

"Priority 1"

0200. Electronics

0213-210/10S: Elementary Electronics (10 CAI + CAL)
0213-211/10S: Elementary Electronics (10 CAI + CAL)
0213-212/10S: Elementary Electronics (10 CAI + CAL)
0213/10A: Elementary Electronics (10 EDAS/VIS)
0230: Transducers and Sensors Module
0231: Sensors Instrumentation
0232: Controllers
0240: Control Electronics Module
0250: Digital Electronics Module
0260: Industrial Electronics Module
0270: Microprocessors Module
0280: General Meters Module
0200/ESN: EDIBON Scada-Net for Electronics

"Priority 2"

0300. Communications

0321-310/10S: Analog Communications (10 CAI + CAL)
0321-320/10S: Digital Communications (10 CAI + CAL)
0321/5B: Analog and Digital Communications (5EBC-100)

"Priority 3"

0400. Electricity

0413-410/10S: Domestic Electric Installations (10 CAI + CAL)
0413-411/10S: Domestic Electric Installations (10 CAI + CAL)
0453-450/10S: Energy Installations (10 CAI + CAL)
0453-451/10S: Energy Installations (10 CAI + CAL)

0500. Energy

0531/10S: Main Advanced Renewable Energies (10 CAI + CAL)
0531/PLC: PLCs Module

0600. Automation & Systems

0610: PLC Trainer
0620: PLC Process Emulators Applications Module
0633/10S: Industrial PLC (Any)
0651: Automation (Regulation and Control) Module

0700. Mechanics and Materials

0710/10S: Mechanics Basic Module (10 CAI + CAL)

1000. Process Control

1010: Process Control Basic Module
1010/PLC: PLC's Module
1000/ESN: EDIBON Scada-Net for Process Control

Complements, Instruments and Tools:

5100. Complements, Instruments and Tools

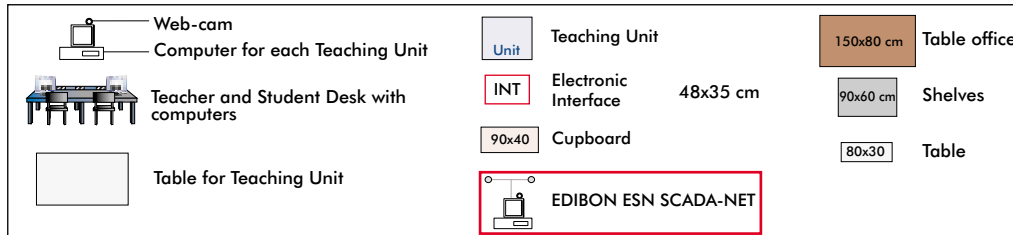
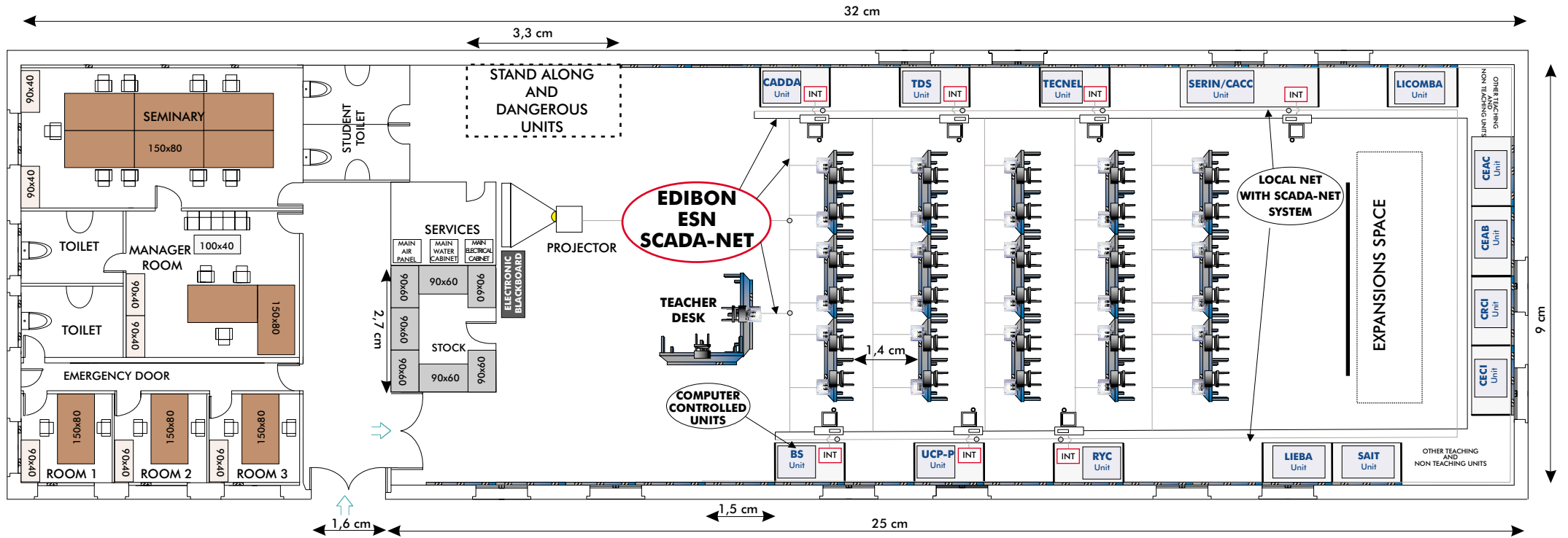
5110-1: Cupboard & Shelves Module (1 unit)
5120-10: Computer Module(10 units)
5122: Teaching Aids Module
5124: Complete Health & Safety
5142-1: Electricity Toolkit Module(1 unit)
5143-20: Electronics Toolkit Module(20 units)

Services:

- * Furnitures:
- * Electrical, Water and Air Installation and others laboratory services
- * Installation of all units supplied, Starting up, Training, Teacher Training and Technology Transfer

Classroom and Laboratory Lay Out

HIGHER EDUCATION ELECTRONICS LABORATORY (Example of Priority 1) (2HE)



E: 1:100

Main Teaching Units (included in priority 1)

Priority 01:

LIEBA	Basic Electrónicos and Electricity Integrated Laboratory.
SAIT	Transducers and Instrumentation Trainer.
BS	Modular System for the Study of Sensors.
UCP-P	<u>Computer Controlled</u> Process Control Unit for the study of Pressure (Air).
CECI	Industrial Controllers Trainer.
CRCI	Industrial Controllers Networking.
CEAB	Trainer for Field Bus Applications.
CEAC	Controller Tuning Trainer.
RYC	<u>Computer Controlled</u> Teaching Unit for the Study of Regulation and Control.
CADDA	<u>Computer Controlled</u> Teaching Unit for the Study of A/D and D/A converters.
TDS	<u>Computer Controlled</u> Teaching Unit for the Study of Digital Signal Processing.
TECNEL	<u>Computer Controlled</u> Teaching Unit for the Study of Power Electronics. (Converters: DC/AC+AC/DC+DC/DC+AC/AC).
SERIN/CACC	<u>Computer Controlled</u> Industrial Servosystems Trainer (for AC and DC Motors).
LICOMBA	Communications Integrated Laboratory

Main target

* To help the students:

- By "quick" understanding.
- By "clear" understanding (clear concepts).
- By "saving" time.
- By "extending" the laboratory to their homes.

* To help the teachers:

- By "easy" teaching.
- By increasing the teaching "efficiency".
- By "reducing" teaching costs (less time consume).
- By "integrating" classroom and laboratory in the same place.

Project options covered

This “*Higher Education Electronics Laboratory*” will cover the following:

- a) To train students at laboratory.
- b) To train trainers.
- c) To be used for training and update educators in current teaching technologies.
- d) To give courses to workers in the industry, as it simulates industrial process.
- e) To be used for carrying out applied research, in several processes and different technical areas.
- f) To be used as research tool for international projects.
- g) To train other countries teachers.

Project conditions

The “Higher Education Electronics Laboratory” includes the following technical and commercial conditions:

a) Technical conditions:

- Laboratories adaptation.
- Installation of all units supplied.
- Starting up for all units.
- Training about the exercises to be done with any unit.
- Teacher training related with the teaching unit and the teaching techniques used.
- Technology transfer.

b) Commercial conditions:

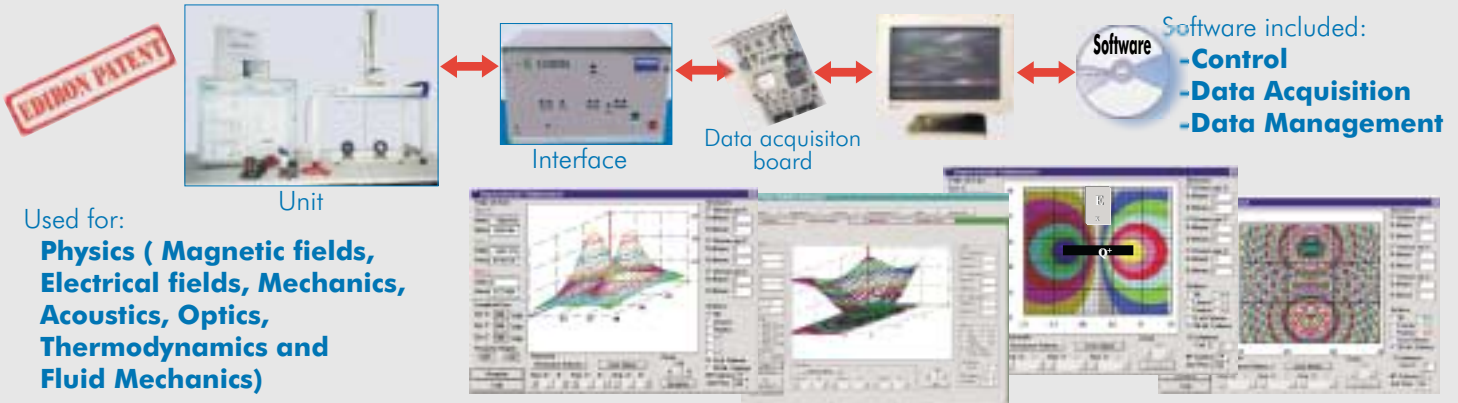
- Packing.
- Financing Charges.
- C.I.F. Charges.

c) Other conditions:

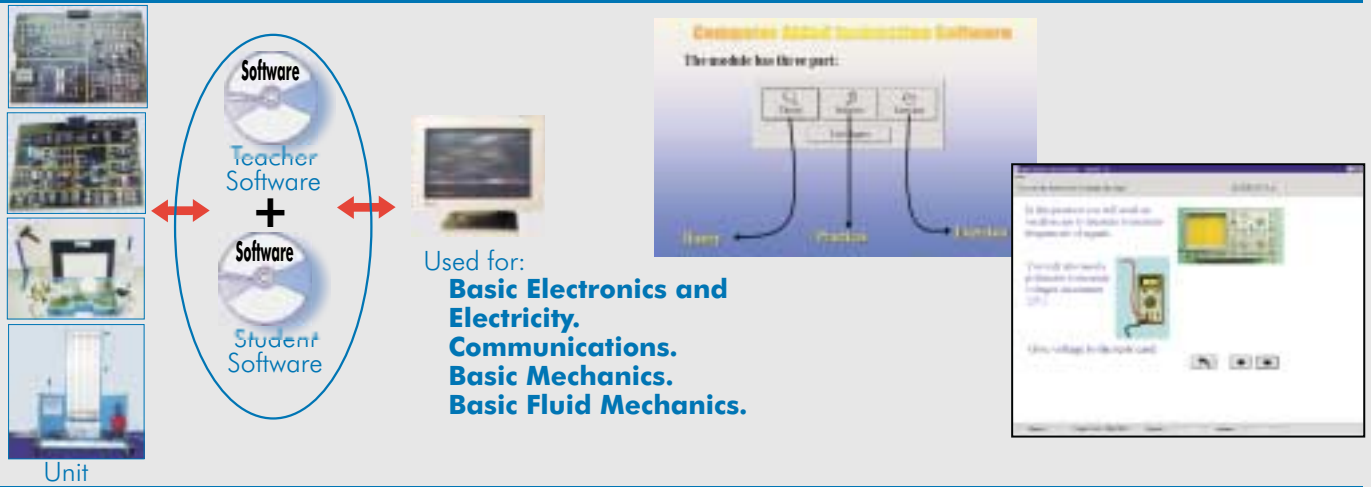
- 8 Manuals for each teaching equipment:
 - . Required services manual.
 - . Assembly and installation manual.
 - . Interface and software/control console manual.
 - . Set in operation manual.
 - . Safety norms manual.
 - . Practices manual.
 - . Maintenance manual.
 - . Calibration manual.

TEACHING TECHNIQUES USED

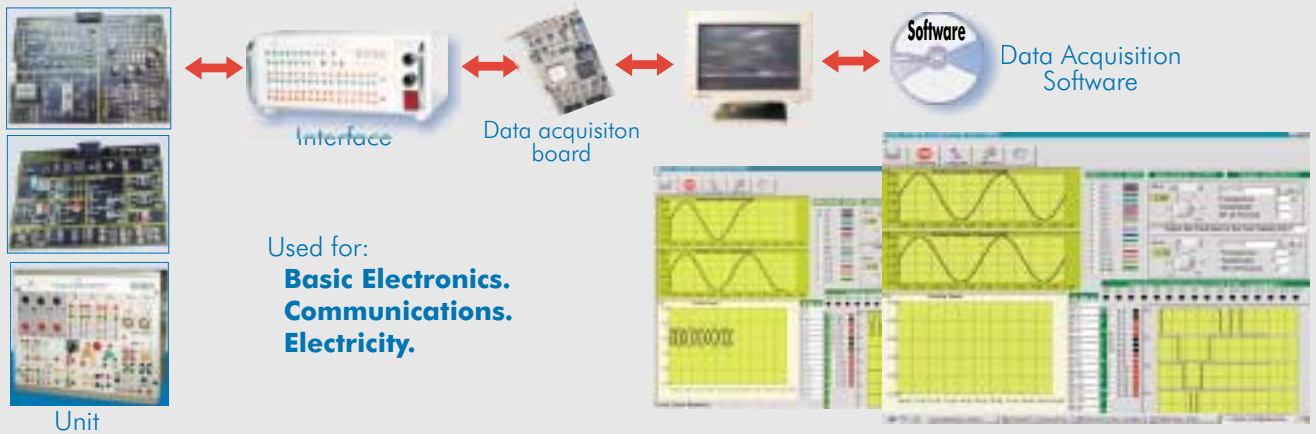
3D. EDIBON THREE DIMENSIONS SYSTEM



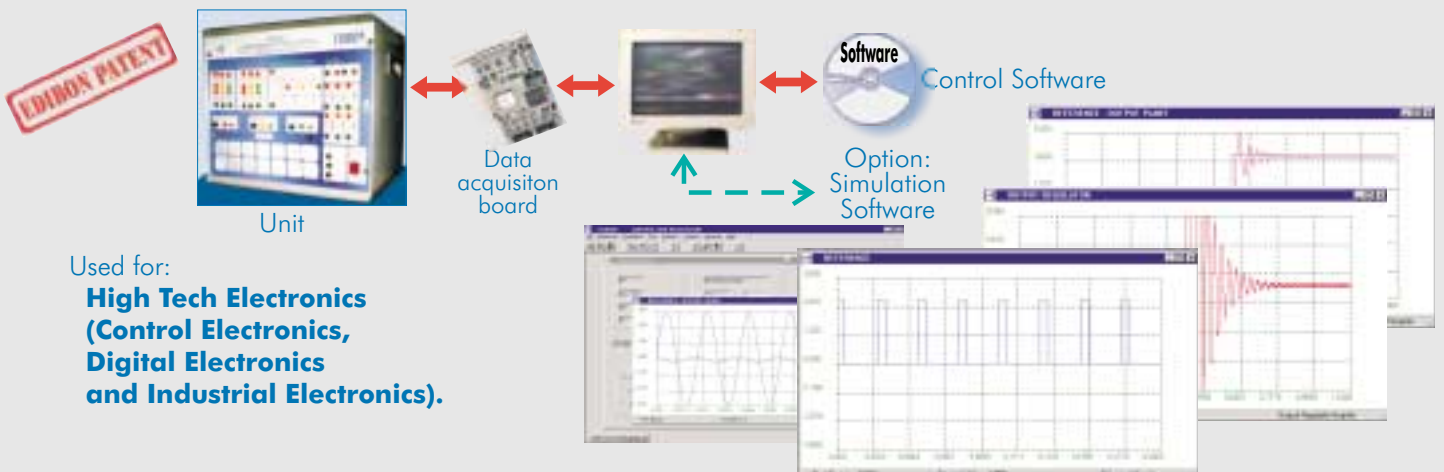
CAI. COMPUTER AIDED INSTRUCTION SYSTEM



EDAS. EDIBON DATA ACQUISITION SYSTEM



RTC. EDIBON SYSTEM FOR HIGH ELECTRONICS (Real time control)



HYBRID. EDIBON TEACHING HYBRID SYSTEM (ENERGY)

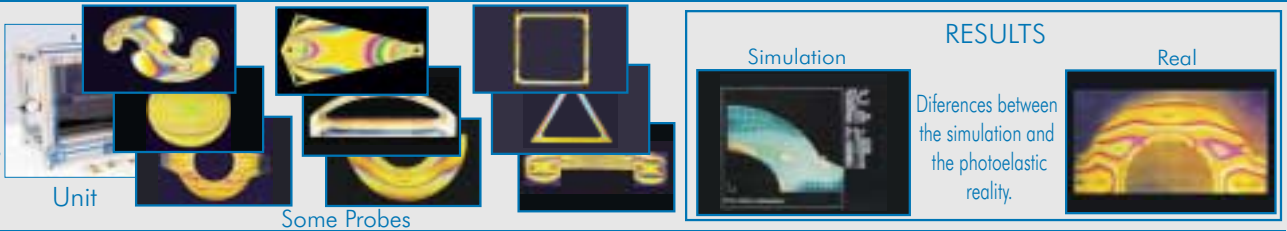
EDIBON PATENT

Used for:
Energy Power Plants.



PHOTOELASTICITY

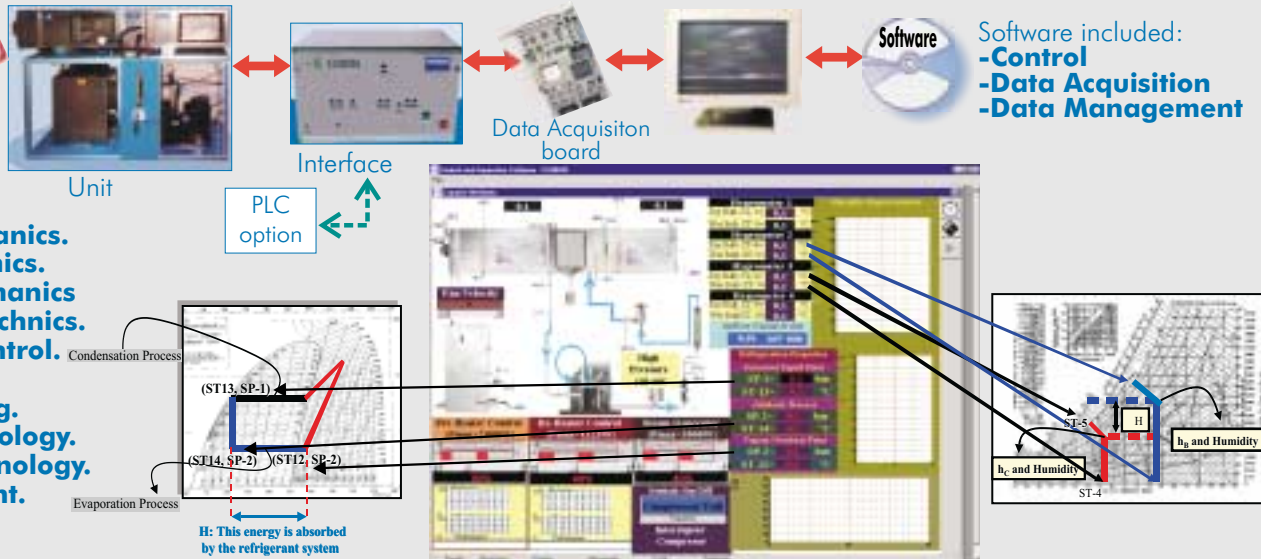
Used for:
Strength of Materials.



SACED. EDIBON COMPUTER CONTROL SYSTEM: Control+Data Acquisition+Data Management

EDIBON PATENT

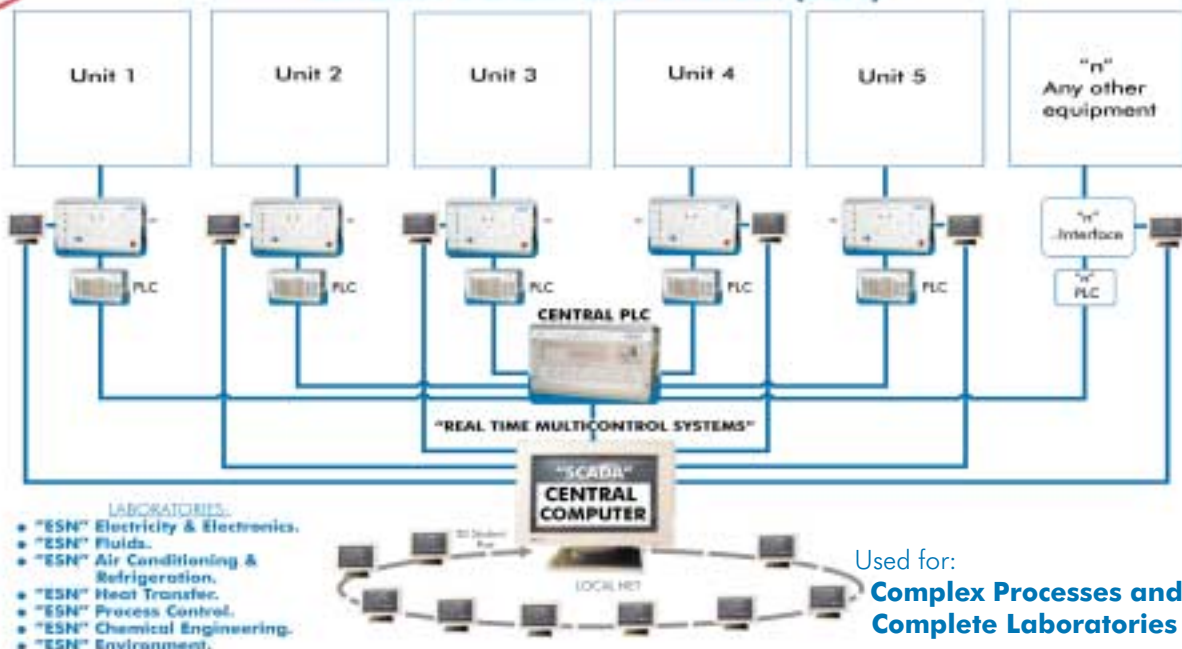
Used for:
**Fluid Mechanics.
Aerodynamics.
Thermodynamics & Thermotechnics.
Process Control.
Chemical Engineering.
Food Technology.
Water Technology.
Environment.**



ESN. EDIBON SCADA-NET SYSTEM

EDIBON PATENT

EDIBON SCADA-NET SYSTEM (ESN)



Used for:
Complex Processes and Complete Laboratories