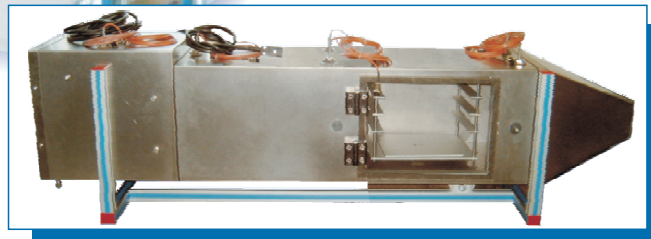


TECHNICAL AND VOCATIONAL EDUCATION FOOD TECHNOLOGY LABORATORY (12TV)



- * 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)

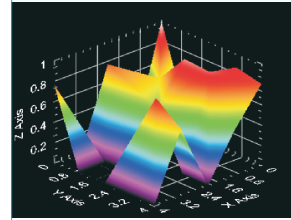
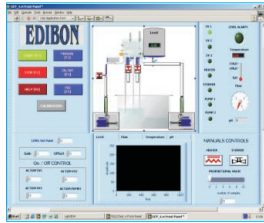
Technical and Vocational Education Food Technology Laboratory (12TV)

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

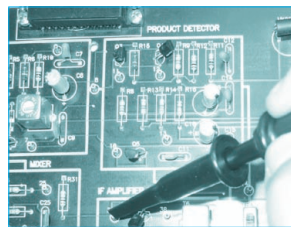
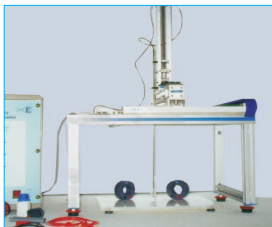
Modern design



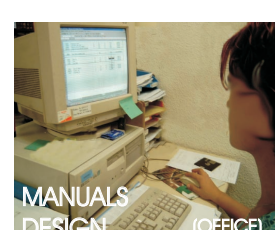
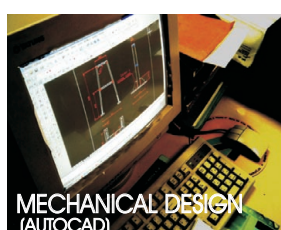
Main blocks



Products



Full units design



Technical areas available

- Thermodynamics & Thermotechnics.
- Process Control.
- Chemical Engineering.
- * **Food and Water Technologies.**
- Environmental.
- Complements, Instruments and Tools.

***Main area directly related with Technical and Vocational Education Food Technology Laboratory labelled in bold letters.**

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

Economical Proposal

Teaching Units:

"Priority 1"

1200. Food and Water Technologies

1210: Elementary Food Technology. Basic Module
1210/PLC: PLC's Module
1211: Elementary Food Technology. Medium Module
1211/PLC: PLC's Module
1212: Elementary Food Technology. Advanced Module
1212/PLC: PLC's Module
1220: Food Technology (Uitillage) Module
1230: Food Technology (Milk). Basic Module
1230/PLC: PLC's Module
1231: Food Technology (Milk). Medium Module
1231/PLC: PLC's Module
1232: Food Technology (Milk). Advanced Module
1232/PLC: PLC's Module
1240: Food Technology (Oil) Module
1240/PLC: PLC's Module
1200/ESN: EDIBON Scada-Net for Food & Water Technologies Units

"Priority 2"

0900. Thermodynamics & Thermotechnics

0910/20S: Refrigeration. Basic Module (20 CAI + CAL)
0910/PLC: PLC's Module
0953/20S: Heat Exchange. Basic Module (20 CAI + CAL).
0953/PLC: PLC's Module .

1000. Process Control

1010: Process Control. Basic Module.
1010/PLC: PLC's Module

1100. Chemical Engineering

1110/20S: Chemical Engineering. Basic Module (20 CAI + CAL).
1110/PLC: PLC's Module
1111/20S: Chemical Engineering. Medium Module (20 CAI + CAL).
1111/PLC: PLC's Module
1100/ESN: EDIBON Scada-Net for Thermodynamics, Process Control and Chemical

"Priority 3"

1200. Food and Water Technologies

Pilot Plants for Food Technology (30 students working simultaneously)

1200-LE00: Process Plant for Dairy Products, with "ESN"
1200-CA00: Process Plant for Meat, with "ESN"
1200-CI00: Process Plant for Citrus Fruit, with "ESN"
1200-FR00: Process Plant for Fruits, with "ESN"
1200-VE00: Process Plant for Vegetables, with "ESN".
1200-AS00: Process Plant for Seeds Oil, with "ESN"
1200-AC00: Process Plant for Olive Oil, with "ESN"
1200-TO00: Process Plant for Tomatoes, with "ESN"
1200-UV00: Process Plant for Grapes, with "ESN"
1200-CE00: Process Plant for Cereals, with "ESN"

1300. Environmental

1321 Clear Water Treatment. Basic Module
1321/PLC: PLC's Module

Complements, Instruments and Tools:

5100. Complements, Instruments and Tools

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

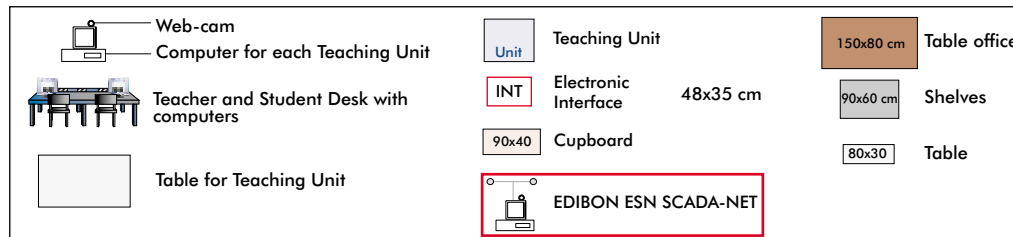
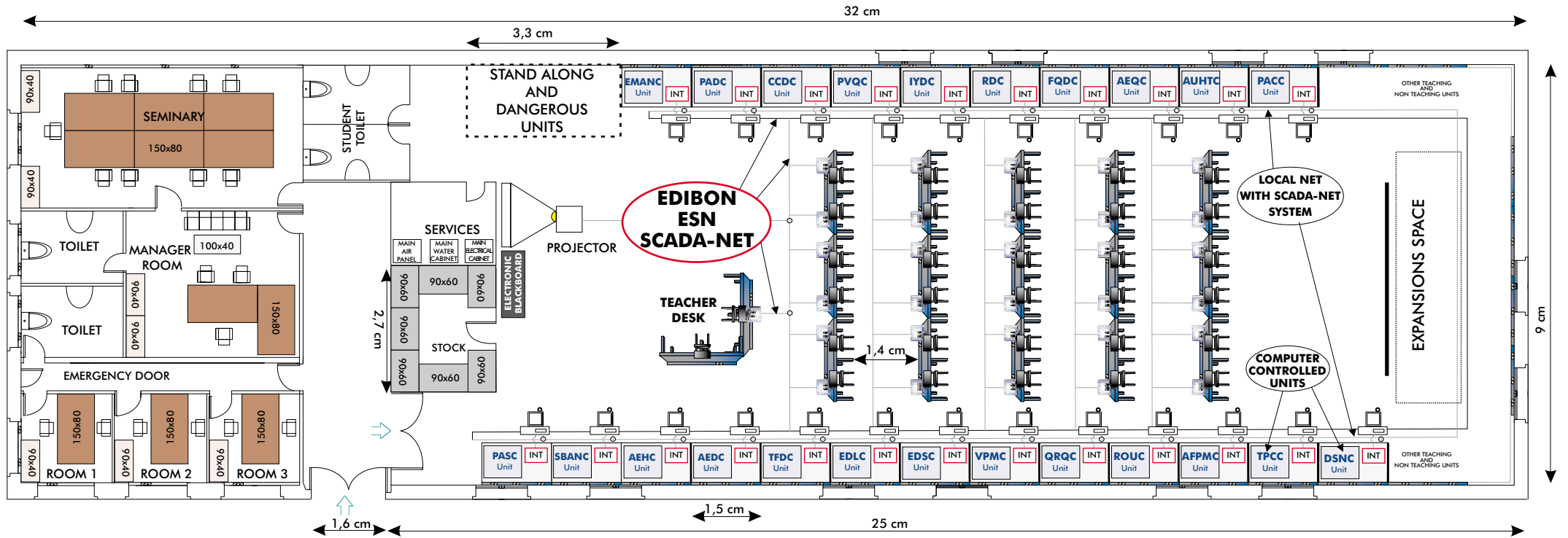
Services:

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

Classroom and Laboratory Lay Out

TECHNICAL AND VOCATIONAL EDUCATION FOOD TECHNOLOGY LABORATORY

(Example of Priority 1)
(12TV)



E: 1:100

Main Teaching Units (included in priority 1)

Priority 01:

PASC	<u>Computer Controlled</u> Laboratory Pasteuriser.
SBANC	<u>Computer Controlled</u> Tray Drier.
AEHC	<u>Computer Controlled</u> Hydrogenation Unit.
AEDC	<u>Computer Controlled</u> Desodorising Unit.
TFDC	<u>Computer Controlled</u> Teaching Frigorific Tank.
EDLC	<u>Computer Controlled</u> Teaching Machine for Putting in Plastic Packing Liquids.
EDSC	<u>Computer Controlled</u> Teaching Machine for Putting into a container Solids.
VPMC	<u>Computer Controlled</u> Multipurpose Processing Vessel.
QRQC	<u>Computer Controlled</u> Chemical Reactors Training System.
ROUC	<u>Computer Controlled</u> Reverse Osmosis/Ultrafiltration Unit.
AFPMC	<u>Computer Controlled</u> Plate and Frame Filter
TPCC	<u>Computer Controlled</u> Contact Plate Freezer.
DSNC	<u>Computer Controlled</u> Teaching Cream Separator.
EMANC	<u>Computer Controlled</u> Butter Maker Teaching Unit.
PADC	<u>Computer Controlled</u> Teaching Autonomous Pasteurization Unit.
CCDC	<u>Computer Controlled</u> Teaching Curdled Tank.
PVQC	<u>Computer Controlled</u> Teaching Cheese Vertical Press.
IYDC	<u>Computer Controlled</u> Teaching Yogurt Incubator.
RDC	<u>Computer Controlled</u> Teaching Cottage Cheese Maker.
FQDC	<u>Computer Controlled</u> Teaching Cheese Melter.
AEQC	<u>Computer Controlled</u> Cheese Vat & Cheese Making accessories
AUHTC	<u>Computer Controlled</u> UHT Unit.
PACC	<u>Computer Controlled</u> Continuous Cycle Oil Production Plant.

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 “*Technical and Vocational Education Food Technology 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 “*Technical and Vocational Education Food Technology 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



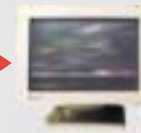
Unit



Interface



Data acquisition board



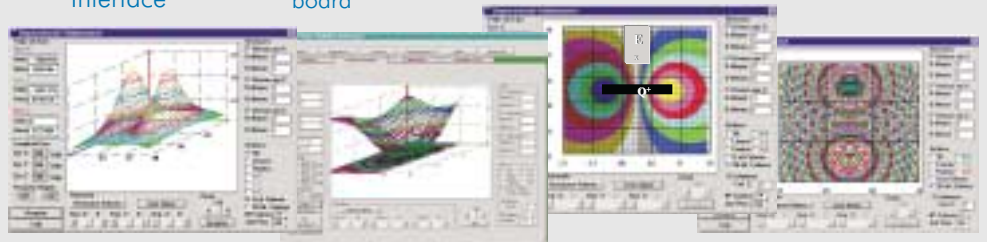
Software

Software included:

- Control
- Data Acquisition
- Data Management

Used for:

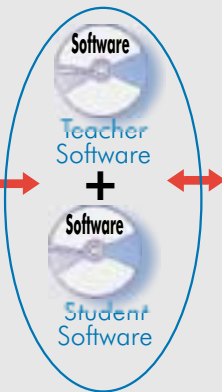
Physics (Magnetic fields, Electrical fields, Mechanics, Acoustics, Optics, Thermodynamics and Fluid Mechanics)



CAI. COMPUTER AIDED INSTRUCTION SYSTEM

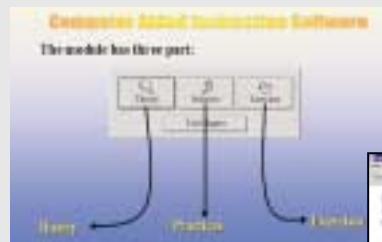


Unit



Used for:

Basic Electronics and Electricity. Communications. Basic Mechanics. Basic Fluid Mechanics.



EDAS. EDIBON DATA ACQUISITION SYSTEM



Unit

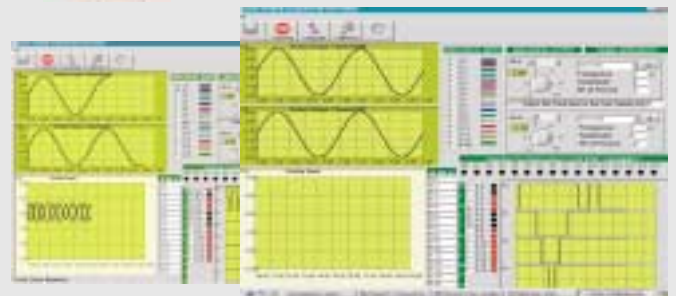


Used for:

Basic Electronics. Communications. Electricity.



Data Acquisition Software



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



Unit



Control Software

Option: Simulation Software

Used for:

High Tech Electronics (Control Electronics, Digital Electronics and Industrial Electronics).



HYBRID. EDIBON TEACHING HYBRID SYSTEM (ENERGY)

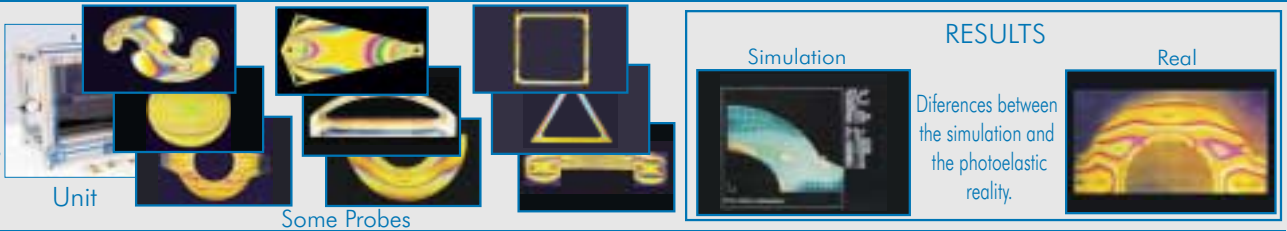
EDIBON PATENT

Used for:
Energy Power Plants.



PHOTOELASTICITY

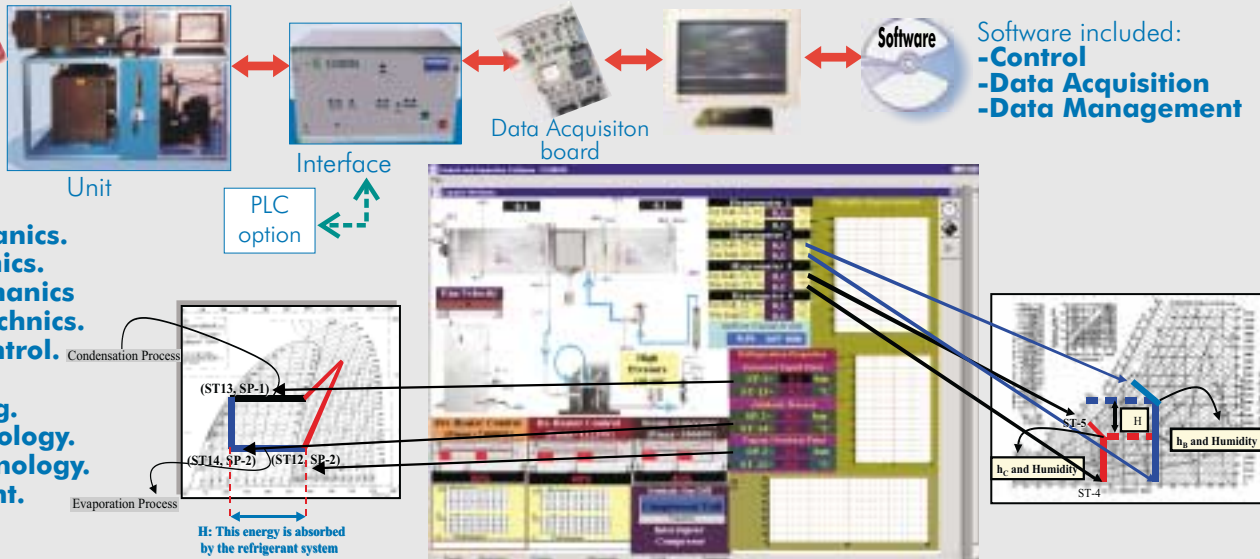
Used for:
Strength of Materials.



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

EDIBON PATENT

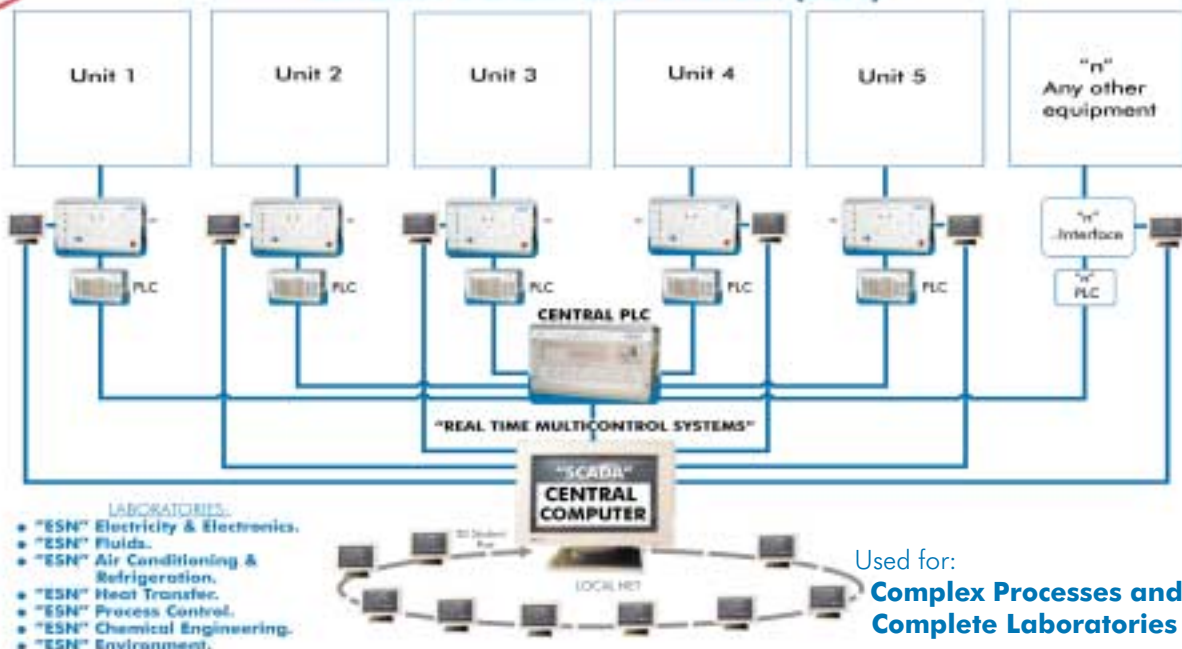
Used for:
**Fluid Mechanics.
Aerodynamics.
Thermodynamics & Thermotechnics.
Process Control.
Chemical Engineering.
Food Technology.
Water Technology.
Environment.**



ESN. EDIBON SCADA-NET SYSTEM

EDIBON PATENT

EDIBON SCADA-NET SYSTEM (ESN)



Used for:
Complex Processes and Complete Laboratories