



*Innovative Engineering for Technical  
Teaching and Research Equipment*



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Erasmus+

Erasmus+ Programme Key Action 2 Cooperation Partnerships  
for Higher Education (KA220-HED)  
**Agreement number 2023-1-RO01-KA220-HED-000155412**  
*European Network for Additive Manufacturing in Industrial Design for Ukrainian Context*



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## ABOUT EDIBON



## ABOUT EDIBON

Design and manufacture **Technical Teaching and Research Equipment** in the field of **Engineering**, with the most Advanced Technology and optimized instructive techniques.

### OUR EQUIPMENT

#### UNIT DESIGN

Due to our 100% Own Design, we are continuously improving and designing new units.

Units Design

Manufacturing

Quality Control

Installation and Training

After-Sales Service



## ABOUT EDIBON

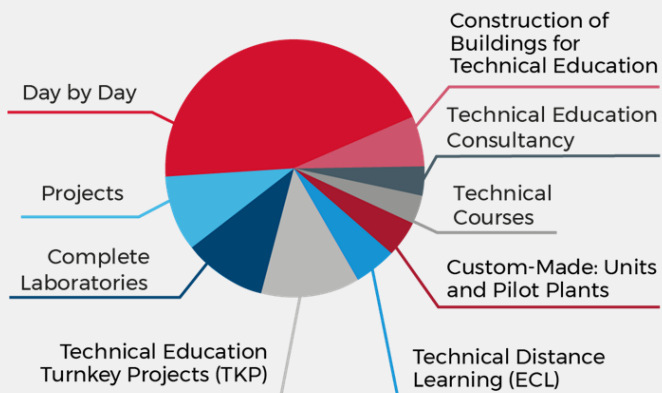
We manufacture more than **16,000 products** to cover **14 technical areas**:

1. PHYSICS
2. ELECTRONICS
3. COMMUNICATIONS
4. ELECTRICITY
5. ENERGY
6. MECHATRONICS, AUTOMATION & COMPUMECHATRONICS
7. MECHANICS
8. FLUID MECHANICS
9. THERMODYNAMICS & THERMOTECHNICS
10. PROCESS CONTROL
11. CHEMICAL ENGINEERING
12. FOOD & WATER TECHNOLOGIES
13. ENVIROMENT
14. BIOMEDICAL ENGINEERING

## ABOUT EDIBON

More about EDIBON

### 9 Lines of Business



### Some of our Customer and Partners



### Quality Certificates

#### Main Certificates



#### Other Certificates







## ABOUT EDIBON: EDIBON Lines of Business.

### Principal

#### Day by Day

Thousands of EDIBON units have been supplied to more than 150 countries.

[Know more](#)

#### Custom-made Units and Pilot Plants

Using EDIBON units for Teachers, Researchers, Workers and Students.

[Know more](#)

#### EDIBON Cloud Learning (ECL)

Technical Distance Learning connecting students and EDIBON units located in different places.

[Know more](#)

#### Technical Education Turnkey Projects (TKP)

Complete solutions with good financing.

[Know more](#)

#### Complete Laboratories

Complete custom-built design of any technical laboratory.

[Know more](#)

#### Projects

We are working with hundreds of Multilateral and Bilateral projects.

[Know more](#)

#### Technical Education Consultancy

Assistance, Assessment and Support for Technical Projects.

[Know more](#)

#### Courses

Using EDIBON units for Teachers, Students and Researchers

[Know more](#)

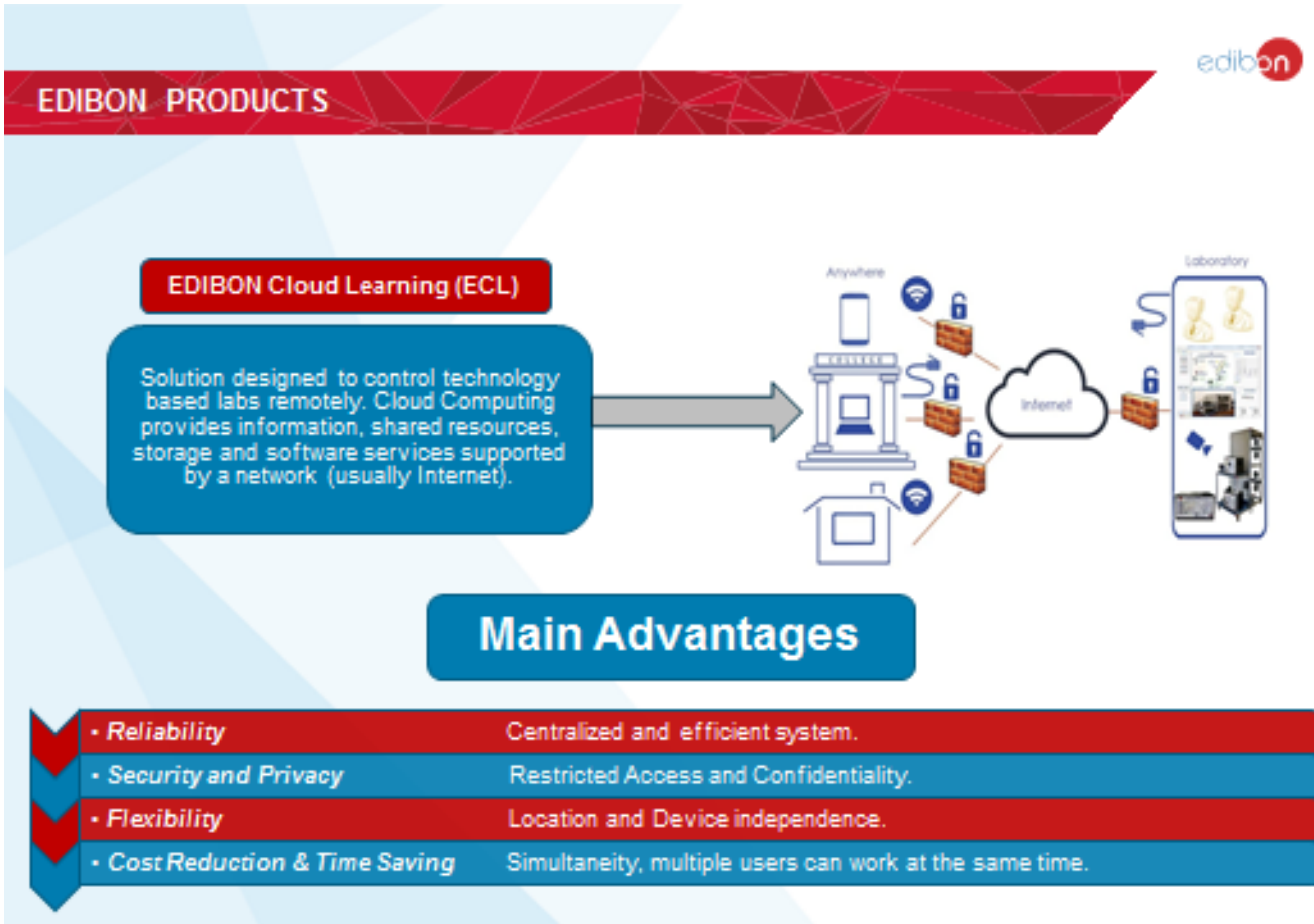
#### Contractor for the construction of Technical Buildings

Design of buildings with LEED certification for engineering companies and Technical/Vocational Centers.

[Know more](#)

### Secondary





**EDIBON SCADA TECHNOLOGY**

The Basis Of EDIBON Technology Is Our "SCADA" System



Supervisory Control and Data Acquisition

EDIBON is pioneer designing «Open SCADA» for most industrial process applications.

The «Open SCADA» allows students to easily understand industrial processes.



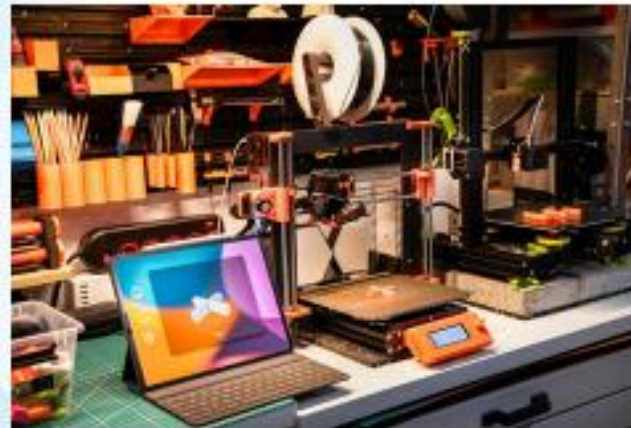
1. Unit
2. Sensors / Actuators
3. Control Interface
4. Software
5. DAB Y PC





### Introduction to Additive Manufacturing

**Definition:** creation of a three-dimensional object by adding material layer by layer, based on digital model data



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## Advantages

- Design Flexibility
- Rapid prototyping
- Cost efficiency for Low-Volume Production
- Material Efficiency
- Supply Chain Simplification




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**PROGRAMMING**

Programming in additive manufacturing involves creating digital models and using specialized software to control 3D printers for precise layer-by-layer construction of objects. It ensures the accurate translation of designs into physical components by managing printing parameters and material usage.

Fan speed setting  
Nozzle travel speed (without extrusion)  
Nozzle printing speed (with extrusion)  
X, Y Coordinates


```
#layer count: 25
#LAYER:0
M107
G0 F3000 X52.235 Y55.800 E0.320
#TYPE:SKIRT
G1 F2340 X56.093 Y55.800 E0.18815
G1 X54.316 Y55.605 E0.20373
G1 X57.289 Y55.078 E0.25684
G1 X58.540 Y54.758 E0.31934
G1 X59.404 Y54.719 E0.36152
G1 X60.320 Y53.688 E0.42878
```

Layer height  
Extrusion length

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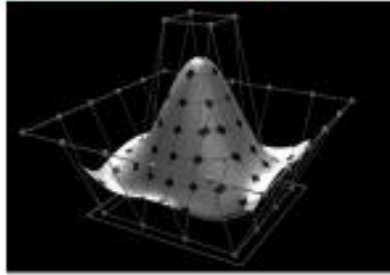

G-Code words			
<b>G0</b>	Rapid Linear Motion	<b>G59.2</b>	Select Coordinate System 8
<b>G1</b>	Linear Motion at Feed Rate	<b>G59.3</b>	Select Coordinate System 9
<b>G2</b>	Arc at Feed Rate	<b>G80</b>	Cancel Modal Motion
<b>G3</b>	Arc at Feed Rate	<b>G81</b>	Canned Cycles – drilling
<b>G4</b>	Dwell	<b>G82</b>	Canned Cycles – drilling with dwell
<b>G10</b>	Set Coordinate System Data	<b>G83</b>	Canned Cycles – peck drilling
<b>G17</b>	X-Y Plane Selection	<b>G85</b>	Canned Cycles – boring, no dwell, feed out
<b>G18</b>	Z-X Plane Selection	<b>G86</b>	Canned Cycles – boring, spindle stop, rapid out
<b>G19</b>	Y-Z Plane Selection	<b>G88</b>	Canned Cycles – boring, spindle stop, manual out
<b>G20</b>	Length Unit inches	<b>G89</b>	Canned Cycles – boring, dwell, feed out
<b>G21</b>	Length Unit millimeters	<b>G90</b>	Set Distance Mode Absolute
<b>G28</b>	Return to Home	<b>G91</b>	Set Distance Mode Incremental
<b>G30</b>	Return to Home	<b>G92</b>	Coordinate System Offsets
<b>G53</b>	Move in Absolute Coordinates	<b>G92.1</b>	Coordinate System Offsets
<b>G54</b>	Select Coordinate System 1	<b>G92.2</b>	Coordinate System Offsets
<b>G55</b>	Select Coordinate System 2	<b>G92.3</b>	Coordinate System Offsets
<b>G56</b>	Select Coordinate System 3	<b>G93</b>	Set Feed Rate Mode units/minutes
<b>G57</b>	Select Coordinate System 4	<b>G94</b>	Set Feed Rate Mode inverse time
<b>G58</b>	Select Coordinate System 5	<b>G98</b>	Set Canned Cycle Return Level
<b>G59</b>	Select Coordinate System 6	<b>G99</b>	Set Canned Cycle Return Level
<b>G59.1</b>	Select Coordinate System 7		




### 3D Modeling

Types of modeling


- Modeling NURBS (Non-Uniform Rational B-Splines)
- Volumetric modeling
- Parametric modeling



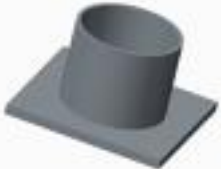





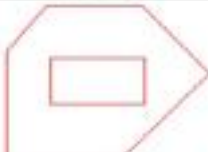
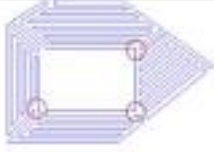



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*Path generation*

Models	2D geometries	Tool-path
		
		
		
		

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**THANKS FOR YOUR ATTENTION**

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