



Boosting the role of HEIs in the industrial transformation towards the Industry 4.0 paradigm in Georgia and Ukraine



Mini-Factory Learning Lab at Donetsk National Technical University



IRYNA SHVETS
Vice-Rector
for International Relations,

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Co-funded by the
Erasmus+ Programme
of the European Union

DonNTU TODAY

Founded in Donetsk in 1921 and located there right up to 2014

Was relocated to Pokrovsk (in October 2014), small city is 60 km away from Donetsk

The oldest technical university in the east of Ukraine

5 faculties:

- Mining Faculty
- Faculty of Mechanical Engineering, Electrical Engineering and Chemical Technology
- Faculty of Computer Information Technology and Automation
- Faculty of Economics and Management
- Institute of Postgraduate Education

Around 2000 students, 18 departments and 17 laboratories

- Master's studies - 32 programs
- Bachelor's studies - 42 programs
- Doctoral studies - 16 programs

52 partners from 32 countries

3 Projects Erasmus+ and 4 projects Tempus (CBHE) were funded from 2014

2 Projects Erasmus+ (CBHE) and 1 Project Erasmus+ (ICM) are currently active

Basic information

Mini- Factory Learning Lab

An official opening ceremony - December 8th, 2021
Presentation of the Lab to students - December 9th,
2021

Location of the Lab - Room 304, 3rd floor, building 3
2, Shybankova square, Pokrovsk
85300 Ukraine



Mini- Factory Learning Lab

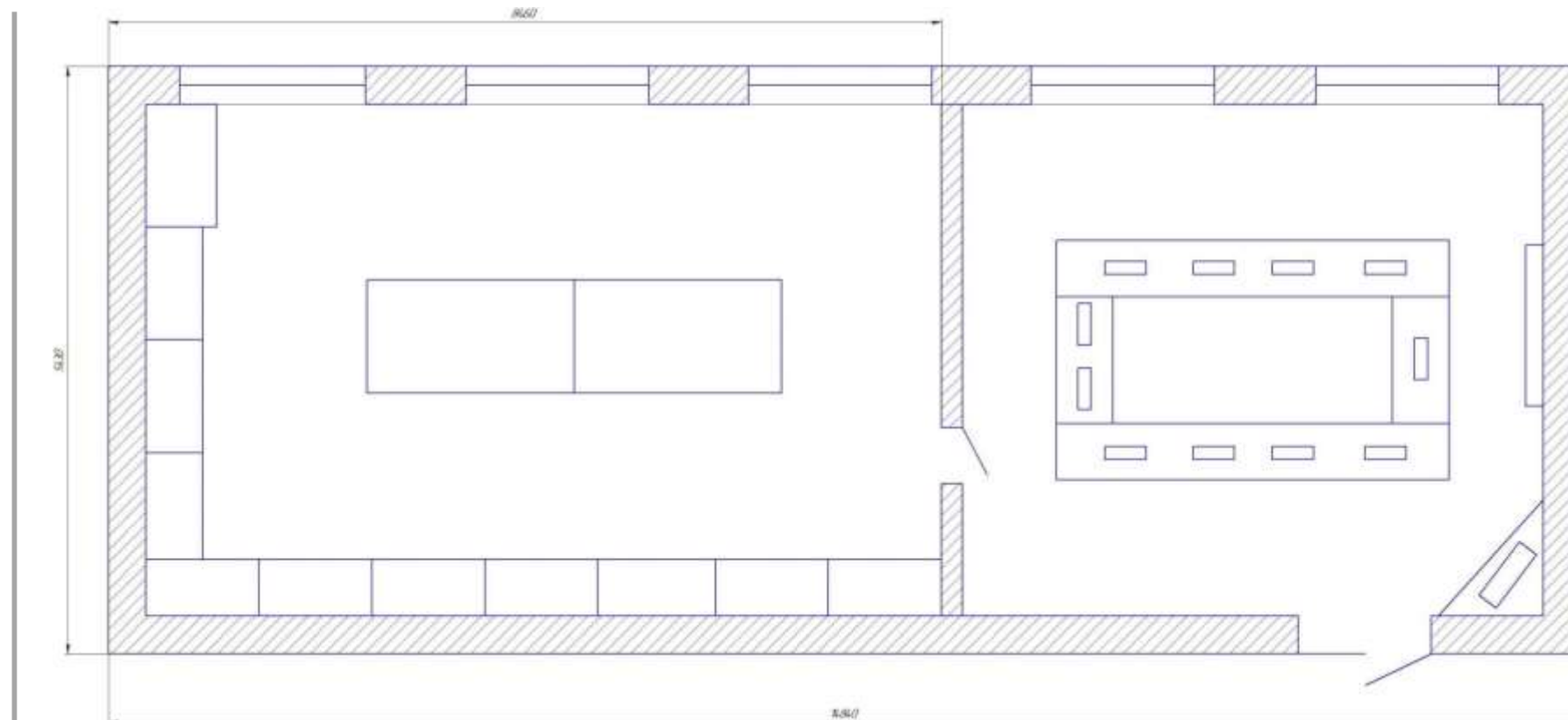
Main objectives

Students and industrial staff can solve a wide range of problems:

- ➡ laboratory simulations and modeling of the main technological processes
- ➡ calculating of design characteristics and geometric dimensions for technological equipment
- ➡ equipment cost estimation using the big data as one of the main component of Industry 4.0

Classroom 1.
The Laboratory of Chemical Technology

Classroom 2.
The Computer Laboratory



**Mini-
Factory
Learning
Lab**

Mini- Factory Learning Lab

before



after



Mini- Factory Learning Lab

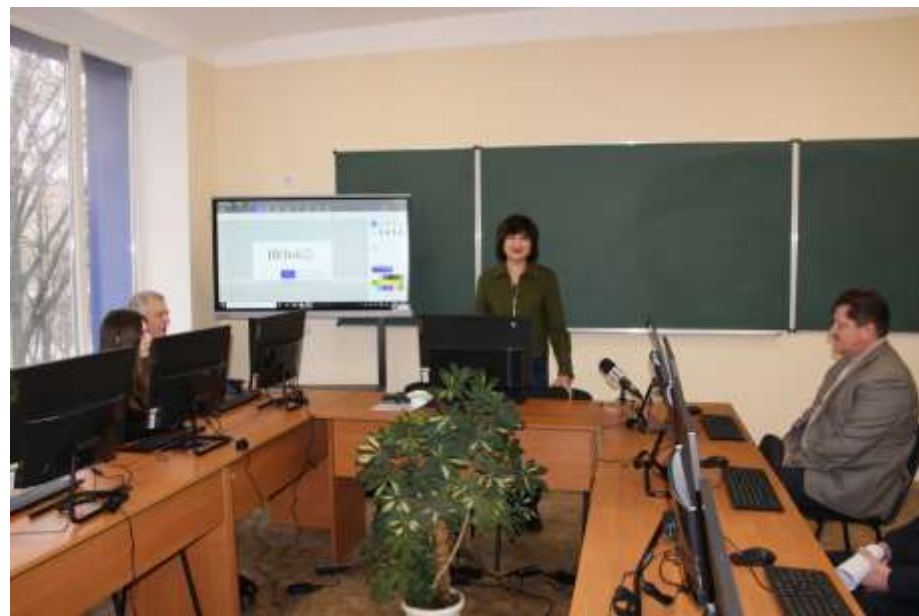


Mini- Factory Learning Lab

Lab equipment

- ➔ Monoblock Lenovo Idea Centre AiO - 11 items
- ➔ Notebook Lenovo Think Book S13 - 5 items
- ➔ Adapter Belkin, USB, HDMI - 4 items
- ➔ Computer Mouse - 4 items
- ➔ Router Mikro Tik Hap ac - 1 items
- ➔ Multifunctional Device Canon I-Sensys Mf443DW - 2 items
- ➔ Interactive panel 55" prestigio L series - 1 items
- ➔ 5 surface Magnetic Chalkboard and marker board - 1 items
- ➔ Projector Acer - 1 items
- ➔ Interactive module, Universal mounting Acer - 1 items
- ➔ Software package - 5 items
- ➔ Microsoft Office 2021 - 11 items
- ➔ Antivirus ESET Internet Security - 18 items

Mini-Factory Learning Lab



Opening ceremony

Presentation of the Lab to students

Mini- Factory Learning Lab



Activities for industry and students

Mini- Factory Learning Lab

Short training course “Industry 4.0 and sustainable development”

Course dates: 14 February – 11 March, 2022

Duration: 14 hours

Target audience: DonNTU teachers

Number of participants: 18

Training module “Modern computer packages for simulation of chemical technological process”

Course dates: 14 March – 06 May, 2022

Duration: 16 hours

Target audience: Master students & Industry partners

Number of participants: 23

Training module “Smart manufacturing and digital ecosystems”

Course dates: 14 March – 06 May, 2022

Duration: 16 hours

Target audience: Master students & Industry partners

Number of participants: 18

Benefits for target groups

Benefits for students:

- the possibility to solve real manufacturing problems using modern equipment and the special professional software;
- to design new products, processes and technologies;
- to solve the problem of employment using the contacts “university-enterprises”

Benefits for industry:

- an exchange of information, knowledge and experience using the Mini-Factory Learning Lab as communication platform;
- the opportunity to participate in the educational process by posing problems for students;
- the opportunity to have consulting services and modern training modules

Benefits for academics:

- to generate new knowledge and obtaining new skills while solving real problems together with students;
- an exchange of information, knowledge and experience using the Mini-Factory Learning Lab as communication platform;
- to take part in real business projects using new knowledge and skills

Mini- Factory Learning Lab

**Thank you very much for
your attention**

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