



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

HEIn4.0

Erasmus+ HEIn4.0 Project Results at Donetsk National Technical University

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HEIn4.0: Project Results at DonNTU

Elective Course – “Industry 4.0: Business Management”

Level - Master, 1st year of 1,5 years’ program

Number of Credits - 4 ECTS

Start Date (ac. year/semester) - 2021-2022, 1st semester

Study Program - 16 Chemical and bioengineering

161 Chemical technology and engineering

Number of participants - 11

Start Date (ac. year/semester) - 2022-2023, 1st semester

Study Program - 16 Chemical and bioengineering

161 Chemical technology and engineering

133 Industrial machinery engineering

Number of participants – 12

Study Program - 16 Chemical and bioengineering

161 Chemical technology and engineering

133 Industrial machinery engineering

Start Date (ac. year/semester) - 2023-2024, 1st semester

Number of participants - 9

“Industry 4.0: Business Management”

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Topic 1 Industry 4.0: an industrial production of the future. Fundamentals of Industry 4.0.

Topic 2 Industry 4.0: a world of connected "smart" enterprises and production ecosystems

Topic 3 Industry 4.0 and sustainable development: modern chemical technologies

Topic 4 Modern computer packages of programs for simulation of chemical technological process

Topic 5 New types of realities in technological processes of smart enterprises and production ecosystems

Topic 6 Introduction and application of Industrial Internet of Things (IIoT) technology

Topic 7 Digital transformation of industries with internet technologies

Topic 8 Management in Industry 4.0. New knowledge and skills for Industry 4.0.

Assessment system on the evaluation results of the course "Industry 4.0: Business Management"

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The assessment requires answers to 15 questions and includes the opportunity to provide comments.

Recommendations that have been considered

- 1/ Development of new lectures and practical classes on the use of Industry 4.0 technologies in industry will be continued, taking into account the recommendations of students.
- 2/ A number of new lecture classes will be created to provide basic knowledge of chemical technology for students who do not have the appropriate basic education.
- 3/ New practical classes on the use of MATHLAB and CHEMCAD software will be developed.

Date of official opening – December 15th, 2021

Place of location – Lutsk, Potebni str, 56 (based in the Campus of LNTU)

Web-page – <https://donntu.edu.ua/en/international-cooperation/international-projects/hein4/mini-factory-learning-lab>

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Lab equipment

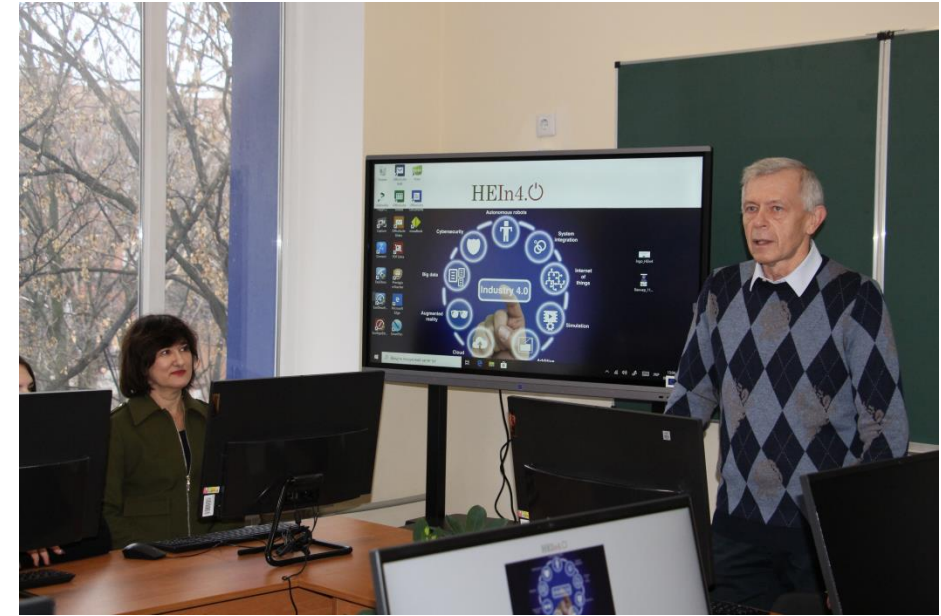
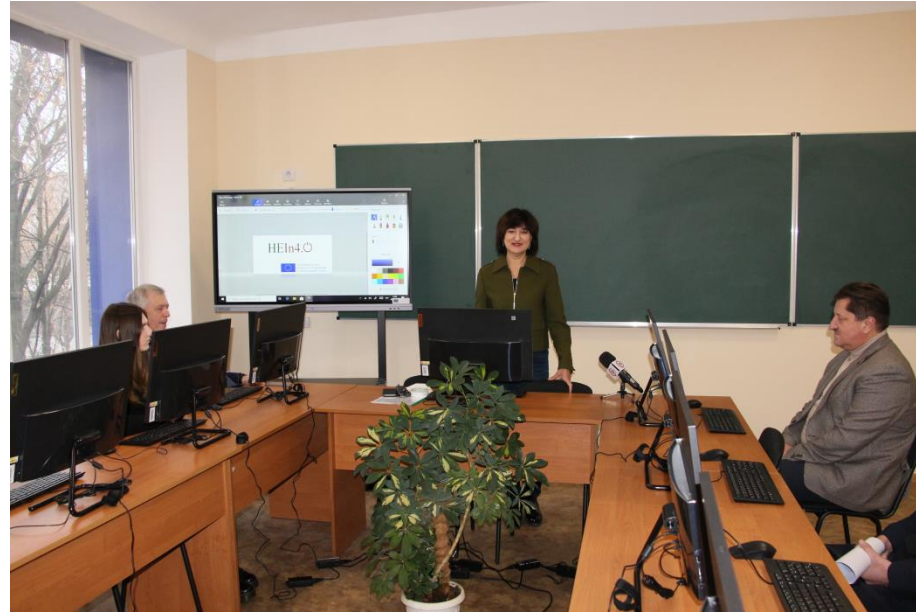
- ➔ Monoblock Lenovo Idea Centre AiO - 11 items
- ➔ Notebook Lenovo Think Book S13 - 5 items
- ➔ Adapter Belkin, USB, HDMI - 4 items
- ➔ Computer Mouse - 4 items
- ➔ Router Mikro Tik Hap ac - 1 items
- ➔ Multifunctional Device Canon I-Sensys Mf443DW - 2 items
- ➔ Interactive panel 55" prestigio L series - 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



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Opening ceremony

Presentation of the Lab to students

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Regular Training Course "Management in Industry 4.0. New knowledge and skills for Industry 4.0"

Course dates: 12 January, 2022

Duration: 6 hours

Target audience: Industry partners

Number of participants: 8

Training module "Modern computer packages of programs for simulation of chemical technological process"

Course dates: 04 – 08 September, 2023

Duration: 16 hours

Target audience: Master students & Industry partners

Number of participants: 15 including 12 industrial participants

Training module "Smart manufacturing and digital ecosystems"

Course dates: 11 – 15 September, 2023

Duration: 16 hours

Target audience: Master students & Industry partners

Number of participants: 11 including 9 industrial participants



Retraining of teaching staff

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Training-seminar/intensive course: "Industry 4.0 on modern enterprises. Basics, key elements and practical application"

Course dates: 12.11.2020-13.11.2020

Duration: 16 hours

Number of participants (teaching staff): 11

Educational training: "Tools for creating digital doubles for programming controllers for Industry 4.0"

Course dates: 05.10.2022-07.10.2022

Duration: 24 hours

Number of participants (teaching staff): 4

Internship at the University of Stuttgart (Germany)

Course dates: 17.07.2023-21.07.2023

Duration: 5 days

Number of participants (teaching staff): 2



Other deliverables

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- Syllabus "Industry 4.0: Business Management" - 2021
- Higher education towards fourth industrial revolution: European and Ukrainian cases. Monograph - 2021
- Dissemination Strategy – 2023
- Sustainability Plan – 2022
- Recommendation updating Engineering Curriculum – 2023
- Dissemination Reports – 2021, 2022, 2023



Other events and activities for industry and students

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Study day: "Industry 4.0: the Future of Production"

Course dates: 03 February, 2022

Duration: 4 hours

Target audience: Master students & Industry partners

Number of participants: 16

Workshop: "Industry 4.0: the Future of Production" within the framework of the Youth Forum: "Young people and Innovations"

Course dates: 10 February, 2022

Duration: 6 hours

Target audience: Master students & Industry partners

Number of participants: 51

Workshop: "New skills and knowledge for smart manufacturing and digital ecosystems"

Course dates: 29 August, 2023

Duration: 4 hours

Target audience: Master students & Industry partners

Number of participants: 7



Other events and activities for industry and students

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Workshop: “Methodology of teaching the discipline Industry 4.0: Business Management”

Course dates: 29 November, 2021

Duration: 3 hours

Target audience: Master students & Industry partners

Number of participants: 7

Workshop: "Digital transformation of industries with internet technologies" within the framework of the Scientific and Practical Forum: “Telecommunications, Automation, Computer Integration and Information Technologies“

Course dates: 01 December, 2021

Duration: 6 hours

Target audience: Master students & Industry partners

Number of participants: 56

Workshop: “What is Industry 4.0 and how does it work”

Course dates: 15 December, 2021

Duration: 4 hours

Target audience: Master students & Industry partners

Number of participants: 19



**Thank you very much for
your attention**

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