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EUROPEAN NETWORK FOR 3D PRINTING OF BIOMIMETIC MECHATRONIC SYSTEMS - EMERALD

Multiplier Event on the Experiencing of e-Learning Platform for Biomechatronics,

hosted by Bizzcom s.r.o. company, in Bucany, Slovakia
13th September 2023

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EMERALD: European network for 3D printing of biomimetic mechatronic systems
EEA & Norway Grant - Contract No. 21-COP-0019

MULTIPLIER EVENT on Experiencing of e-learning platform for bio-mechatronics

organized by BIZZCOM s.r.o. company, Slovakia

– Event agenda- 13th of September 2023

	Session 1 – EMERALD e-learning platform for bio-mechatronics
8:30	Registration of participants to the Multiplier Event
9:00	Opening and Welcome ceremony: Branislav Rabara – Director of BIZZCOM s.r.o. company (Slovakia)
9:15	EMERALD project overall presentation – progress, actions, KPIs, perspectives / details about the event – Associate Prof. Răzvan Păcurar (Technical University of Cluj-Napoca, Romania)
9:30	EMERALD main concept of the EMERALD e-learning platform for bio-mechatronics - Associate Prof. Răzvan Păcurar (Technical University of Cluj-Napoca, Romania)
9:45	EMERALD – e-learning platform for bio-mechatronics – presenting of CAD / CAE virtual laboratory room e-learning facilities - (Associate Prof. Răzvan Păcurar – Technical University of Cluj-Napoca - Romania)
10:15	EMERALD – e-learning platform for bio-mechatronics – presenting of 3D scanning and 3D printing virtual laboratory rooms e-learning facilities - (Associate Prof. Filip Gorski – Poznan University of Technology - Poland)
10:30	EMERALD – e-learning platform for bio-mechatronics – presenting of Testing and Materials characteristics virtual laboratory room e-learning facilities - (Associate Prof. Diana Băilă – University Politehnica Bucharest - Romania)
10:45	EMERALD – e-learning platform for bio-mechatronics – presenting of Sensoring, Programming and Assembling virtual laboratory rooms e-learning facilities - (Prof. Filippo Sanfilippo – University of Agder - Norway)
11:00	EMERALD – e-learning platform for bio-mechatronics – presenting of VR / AR virtual laboratory room e-learning facilities - (Martin Zelenay – BIZZCOM - Slovakia)
11:15	Conclusions about the content and future perspectives on improving the use of the EMERALD – e-learning platform for bio-mechatronics/ realizing of bio-mechatronics systems to support people with special needs (amputated arms) (Technical University of Cluj-Napoca, Romania)
11:30	Coffee break / Press conference

AGENDA

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	Session 2 – Experiencing the – EMERALD e-learning platform for bio-mechatronics / VR / AR / MR experience
12:00	Opening of the session and organizing aspects related to the EMERALD e-learning platform for bio-mechatronics experiencing / dividing in groups (Martin Zelenay – BIZZCOM (Slovakia)
12:15	Experiencing the virtual rooms of the EMERALD e-learning platform for bio-mechatronics (testing on the computer) / Experiencing of VR applications using VR googles / Experiencing AR applications using tablets /collection of feedbacks (all partners + participants to the Multiplier Event)
13:15	Conclusions about the experiencing of the EMERALD e-learning platform for bio-mechatronics and discussions related to feedbacks /aspects that are still necessary to be improved in the e-learning platform / round table discussions (Martin Zelenay – BIZZCOM (Slovakia)
13:45	Comments and discussions on the possibility of joining different projects / consortium / EU Networks - Branislav Rabara – Director of BIZZCOM s.r.o. company (Slovakia)
14:15	Closing words / ending of Multiplier Event
14:30	Lunch break

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EMERALD – e-learning platform for bio-mechatronics – presenting of 3D scanning and 3D printing virtual laboratory rooms e-learning facilities - PUT

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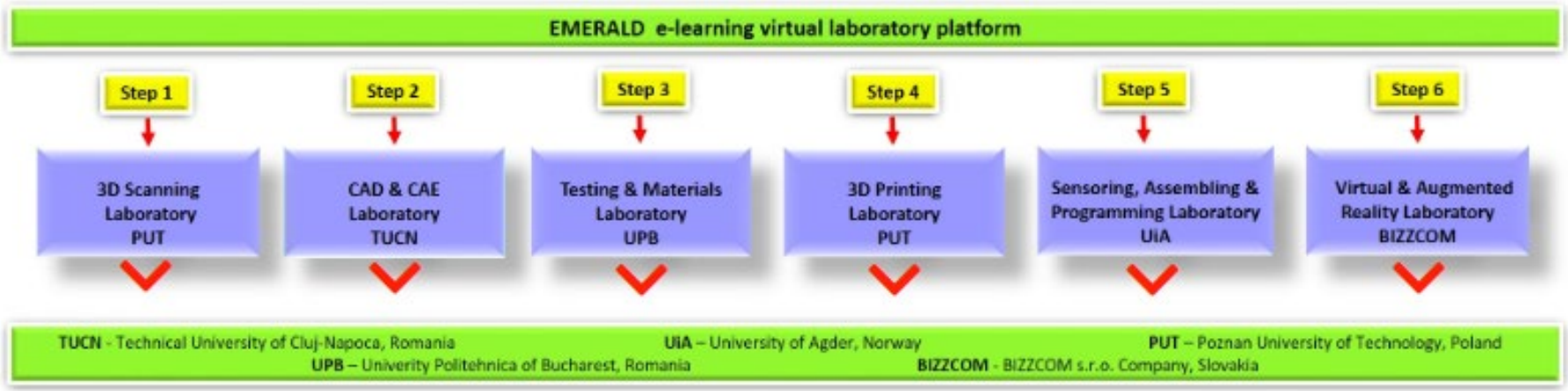
HOME | PROJECT | REPORTS | DISSEMINATION | INTELLECTUAL OUTPUTS | EVENTS | PARTNERS | VIRTUAL LABS | CONTACT

Please click on the tooltips on the diagram bellow to virtually visit our laboratories.

For a better understanding of the EMERALD e-learning virtual laboratory platform, which includes 3D scanning, CAD, CAE, testing and material characterization, 3D printing, sensorizing, assembly, programming, AR & VR, it is advisable to access the virtual laboratories by following the steps that are outlined in the diagram given below. By following the steps in the indicated order, this will lead to a more comprehensive understanding of the logical process involved in conceiving and developing of new biomimetic mechatronic systems to be realized utilizing 3D printing technologies.



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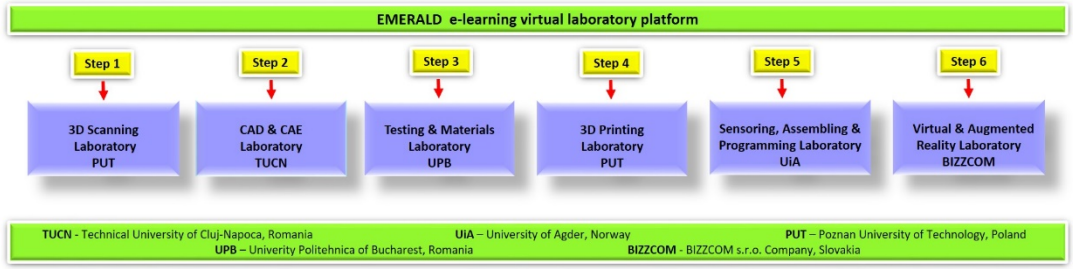
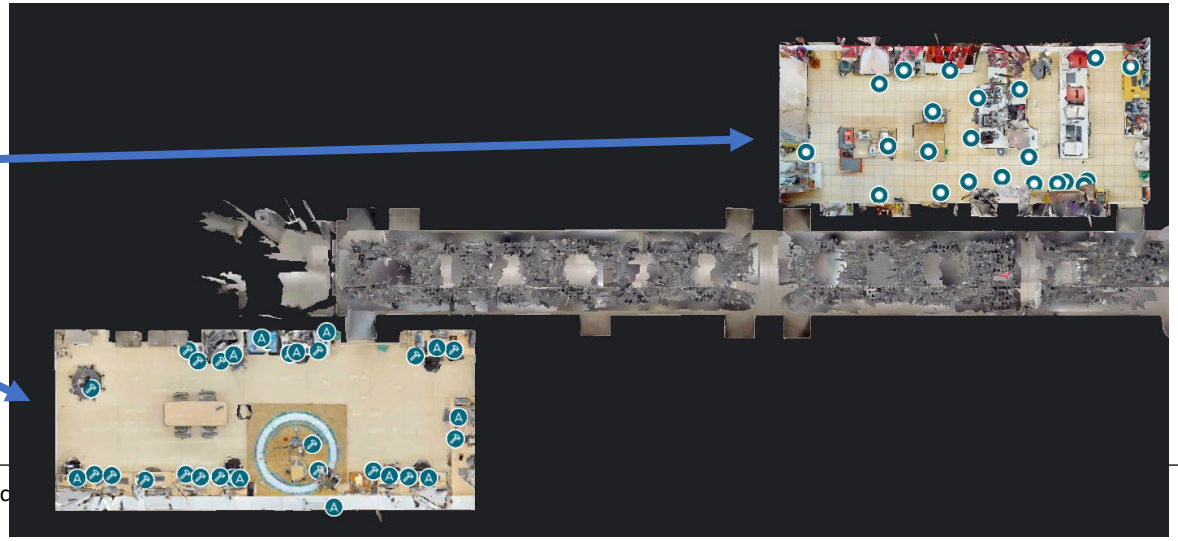
EMERALD VIRTUAL E-LEARNING PLATFORM – POZNAN UNIVERSITY LABORATORIES

3D SCANNING LABORATORY ROOM



- direct link: https://my.matterport.com/show/?m=NXHcatKcdW7
- also through project EMERALD website
- 3D printing laboratory
- 3D scanning and VR laboratory
- contents: VR applications, teaching materials, videos, instructions



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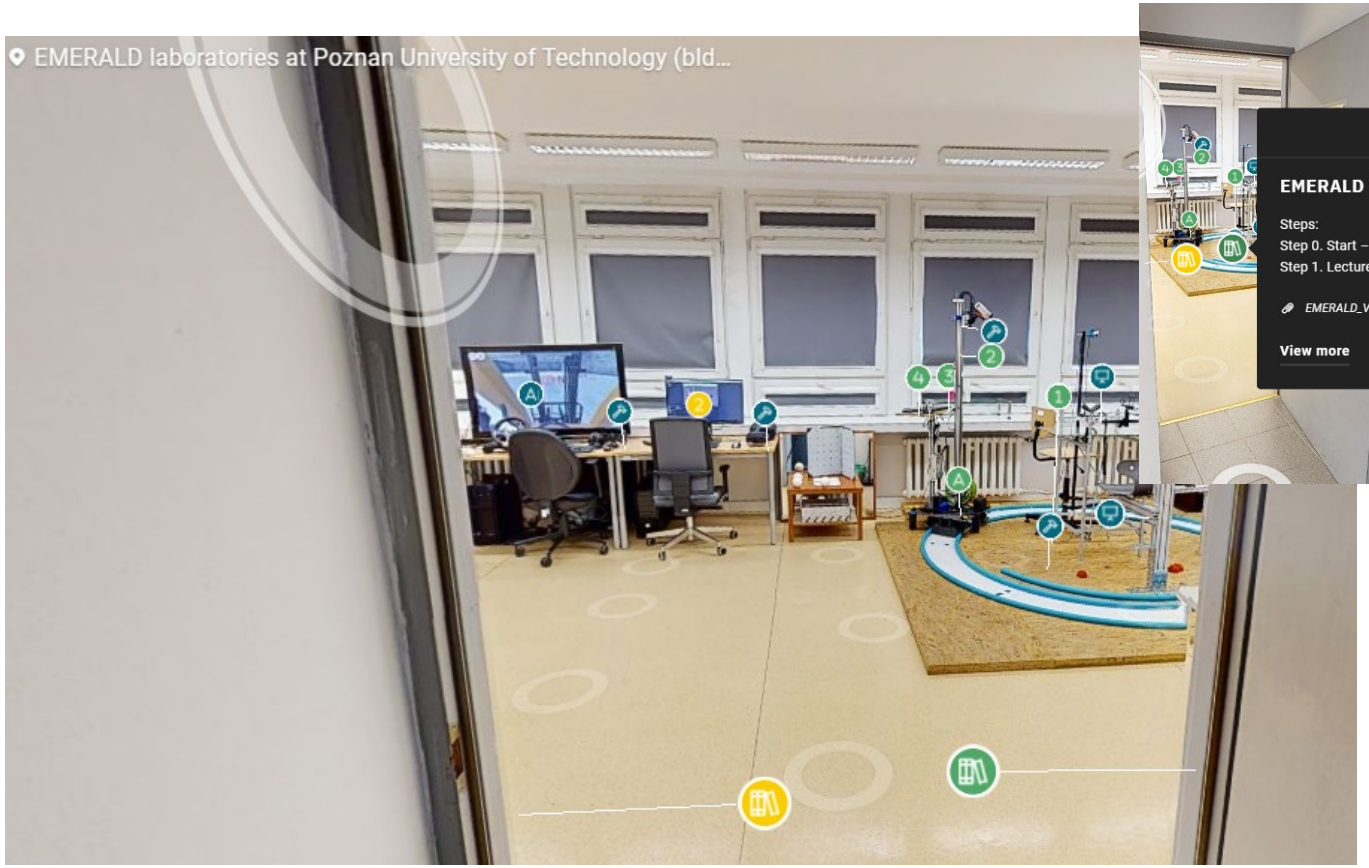

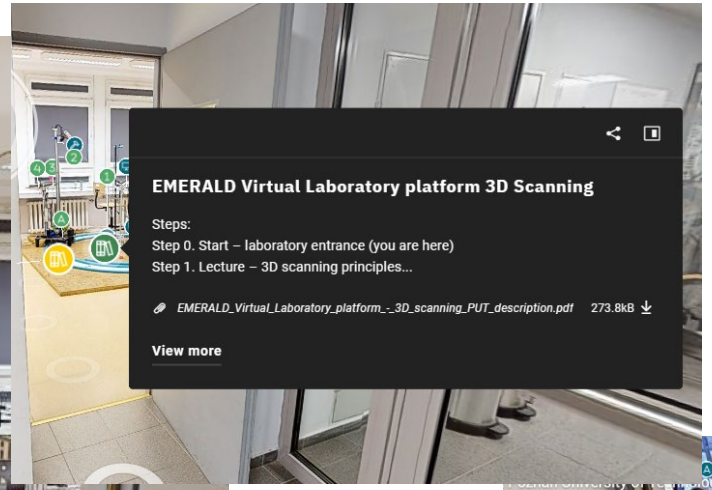

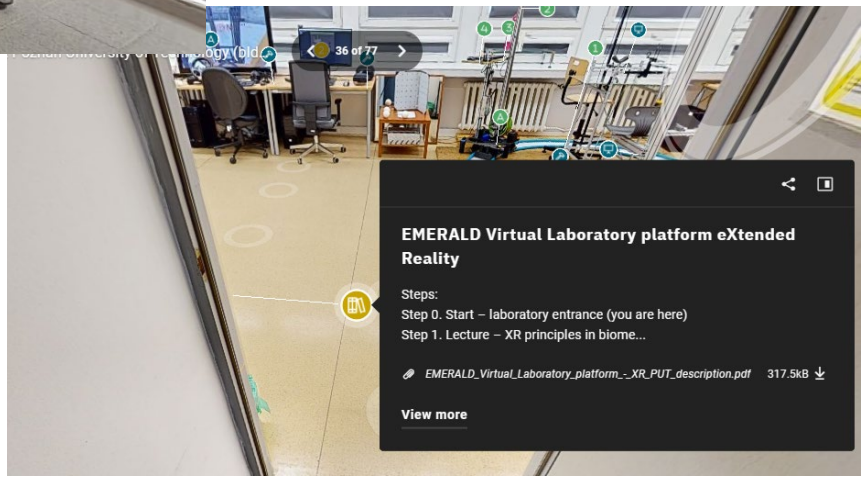

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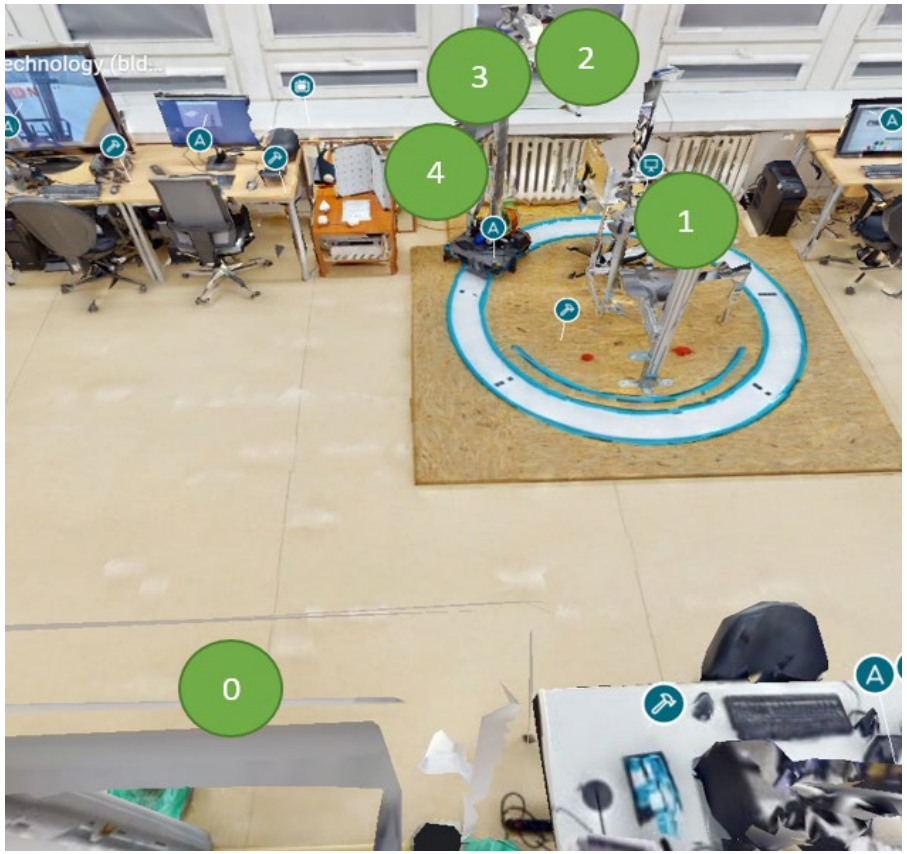
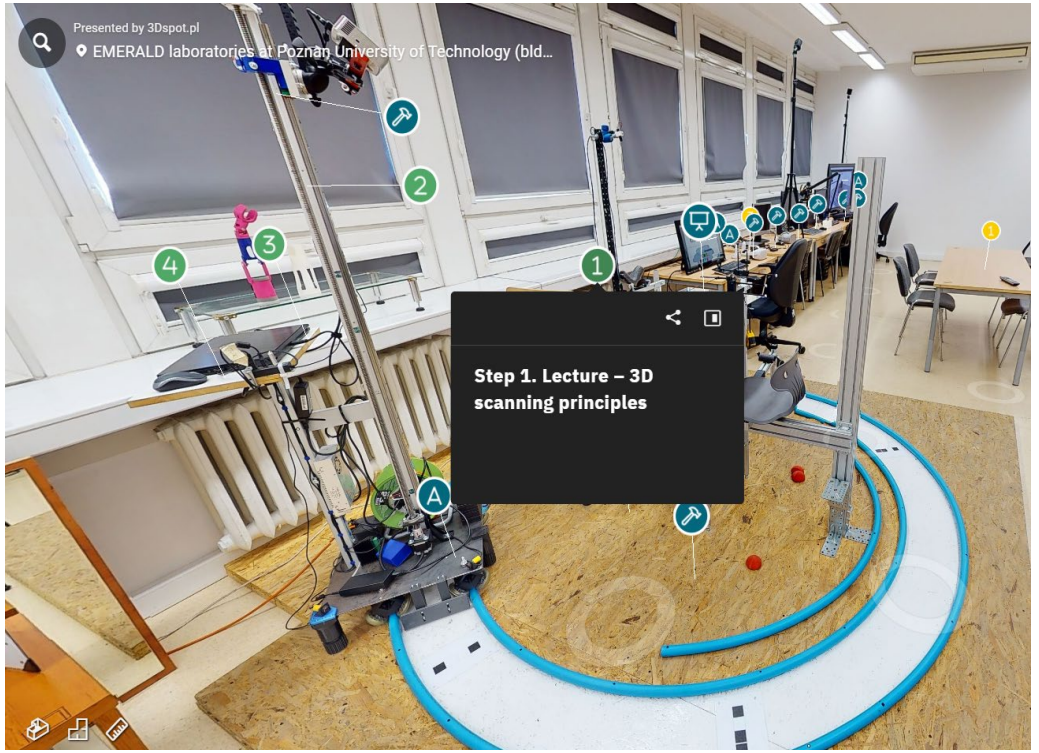


3D scanning – steps of the course



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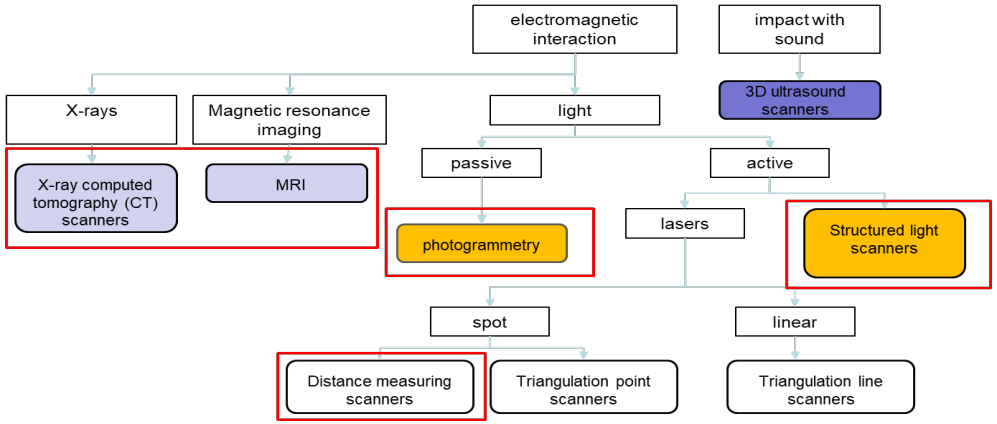
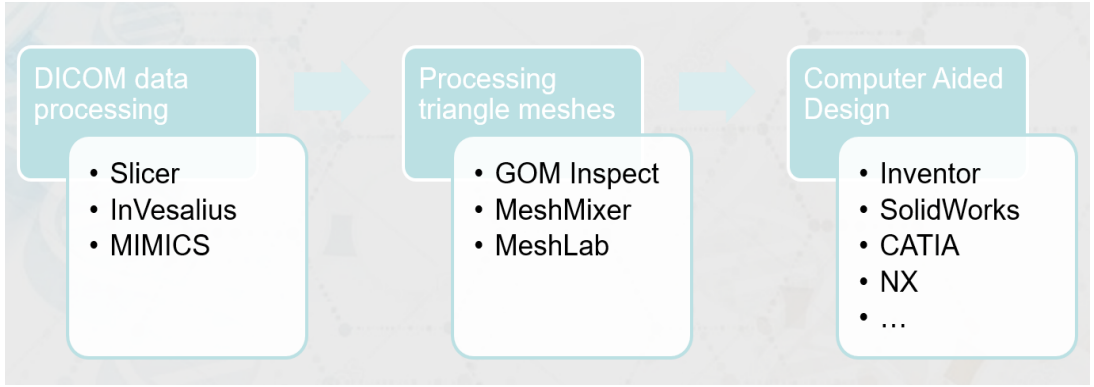
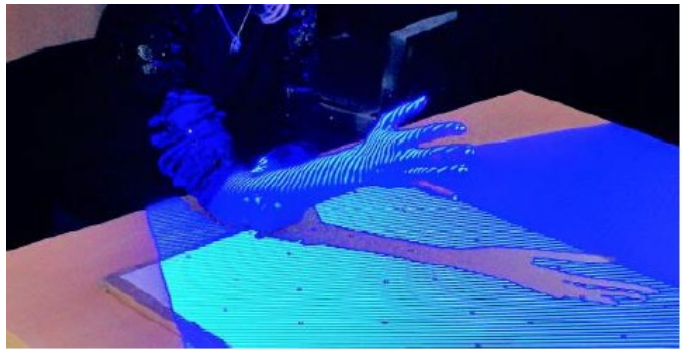
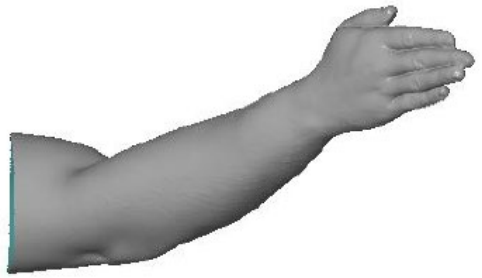


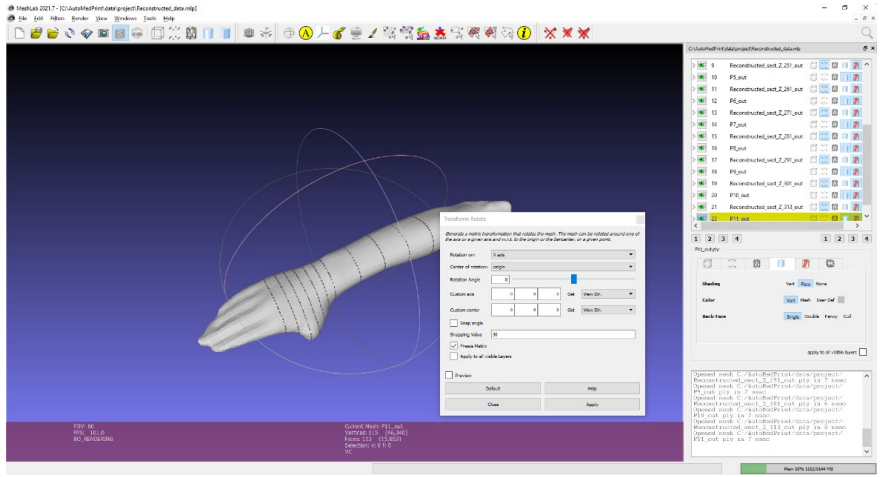


Data processing software overview

3D scanning with optical light – measured person and result of measurement







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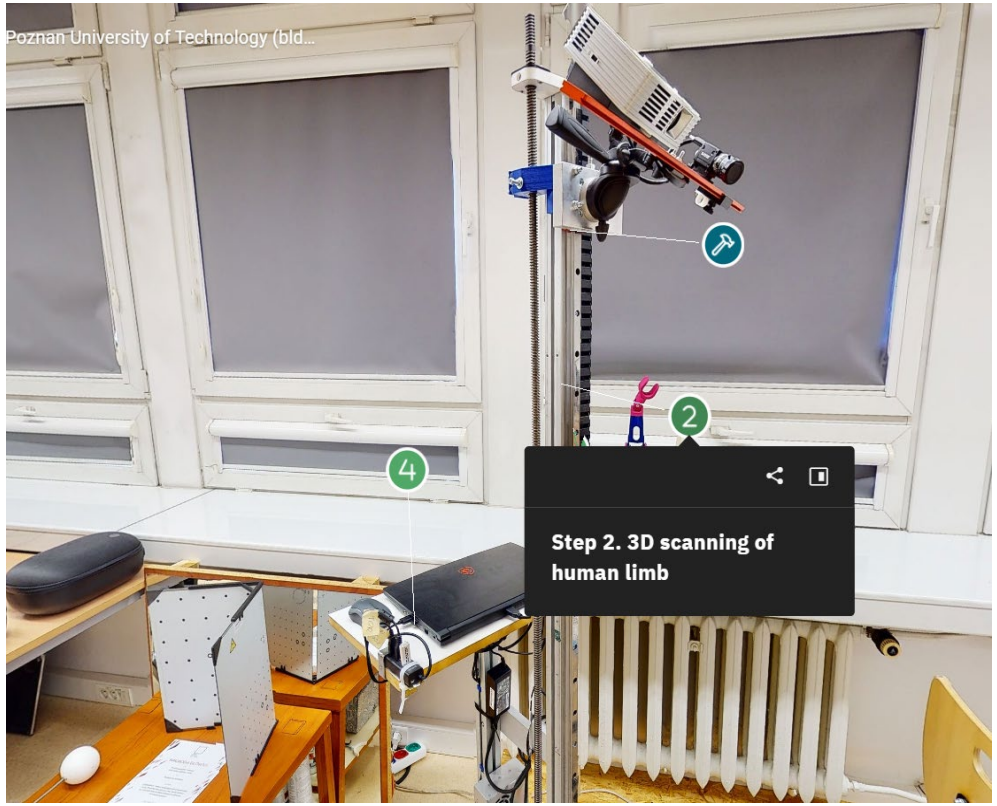
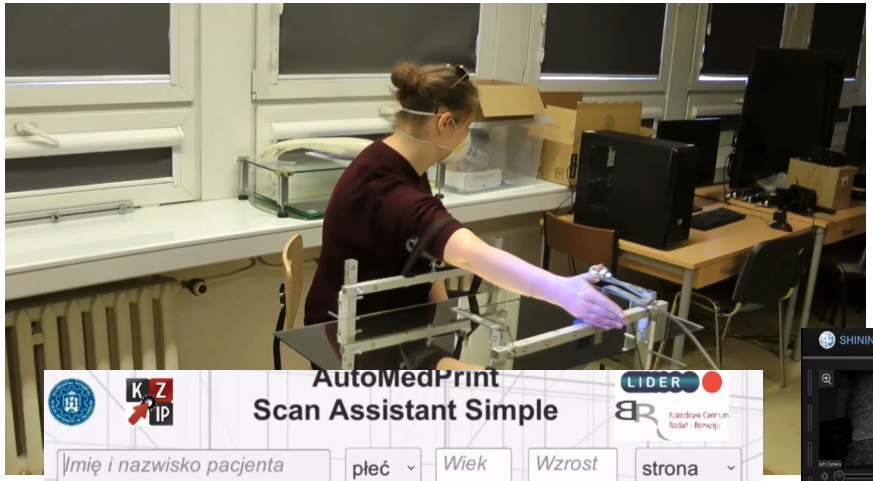
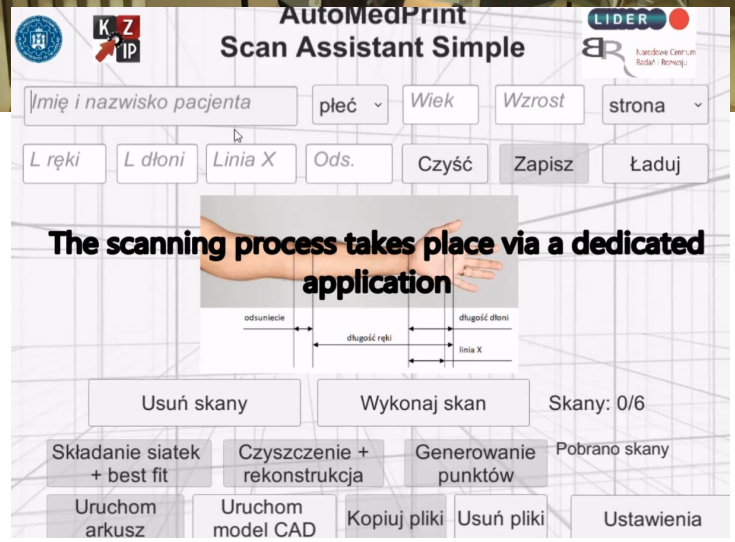
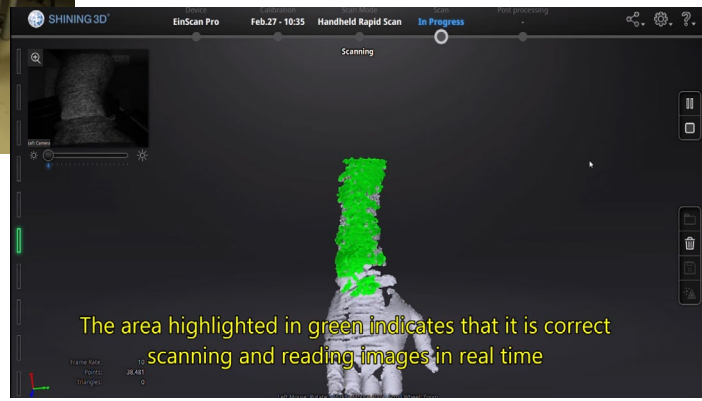
3D scanning – tutorial video accessing









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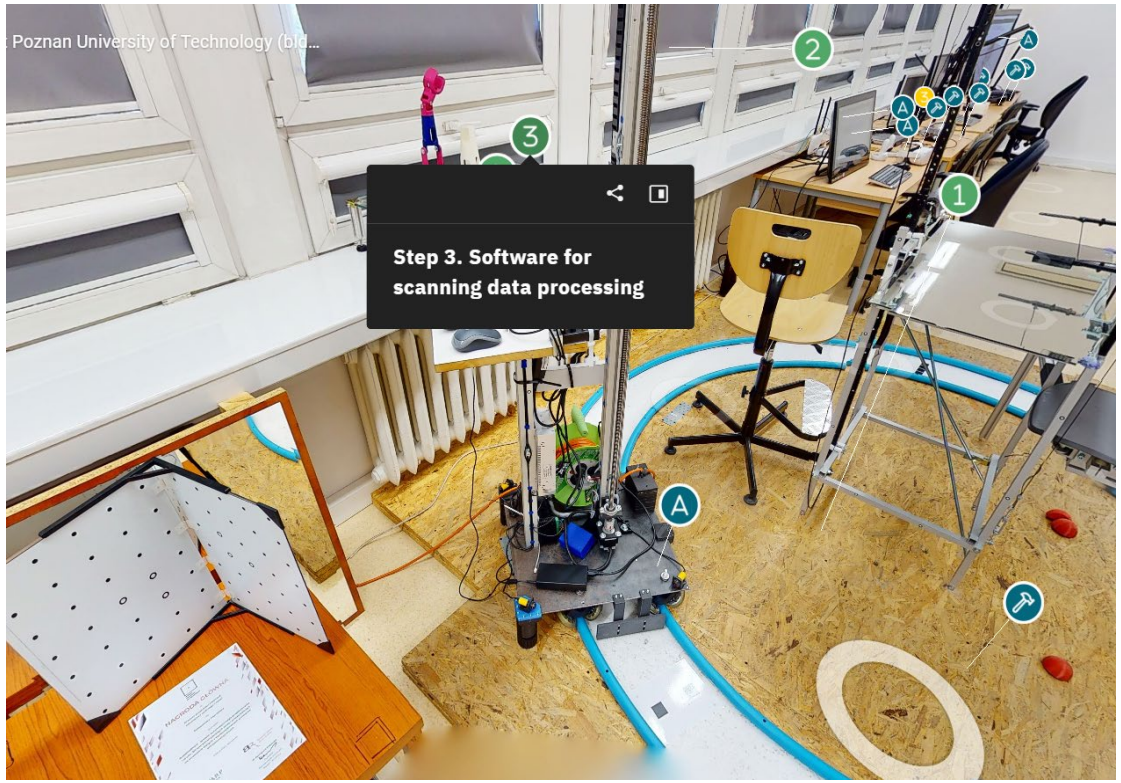

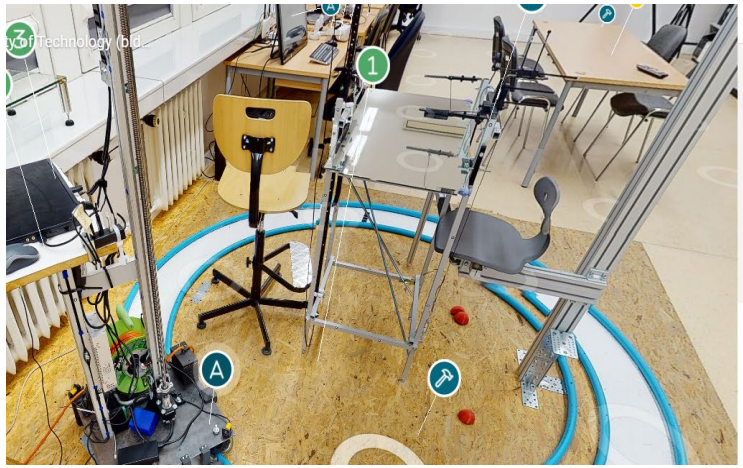

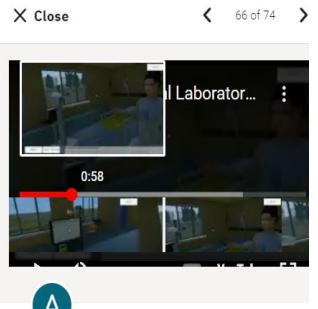

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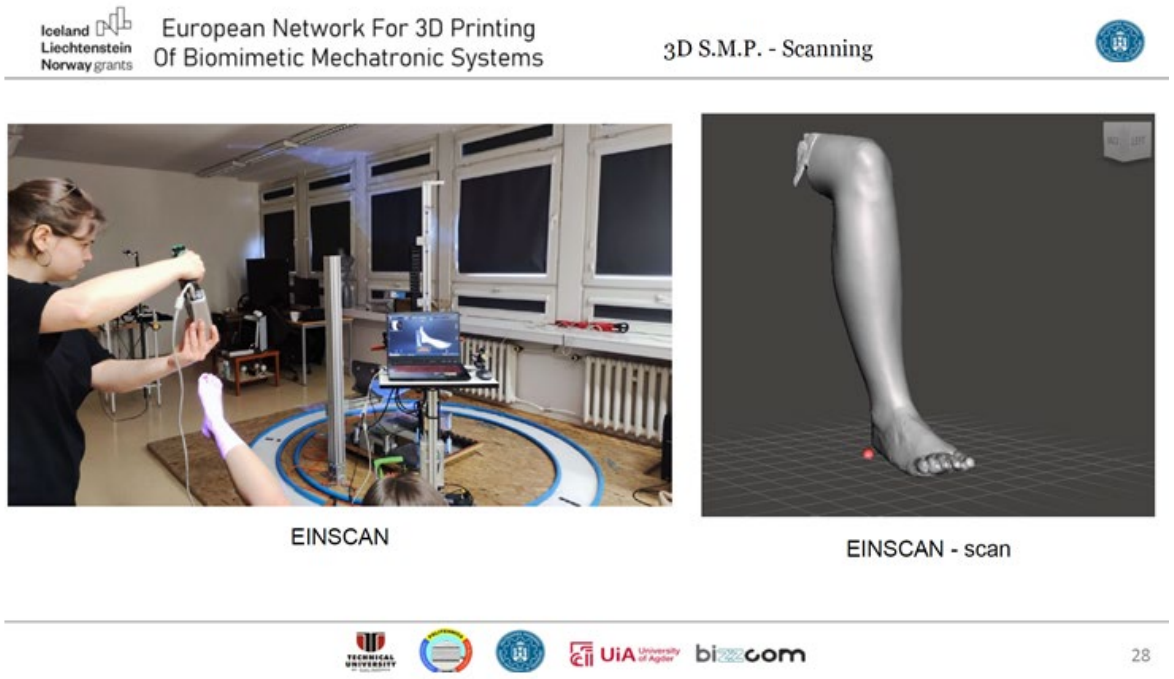
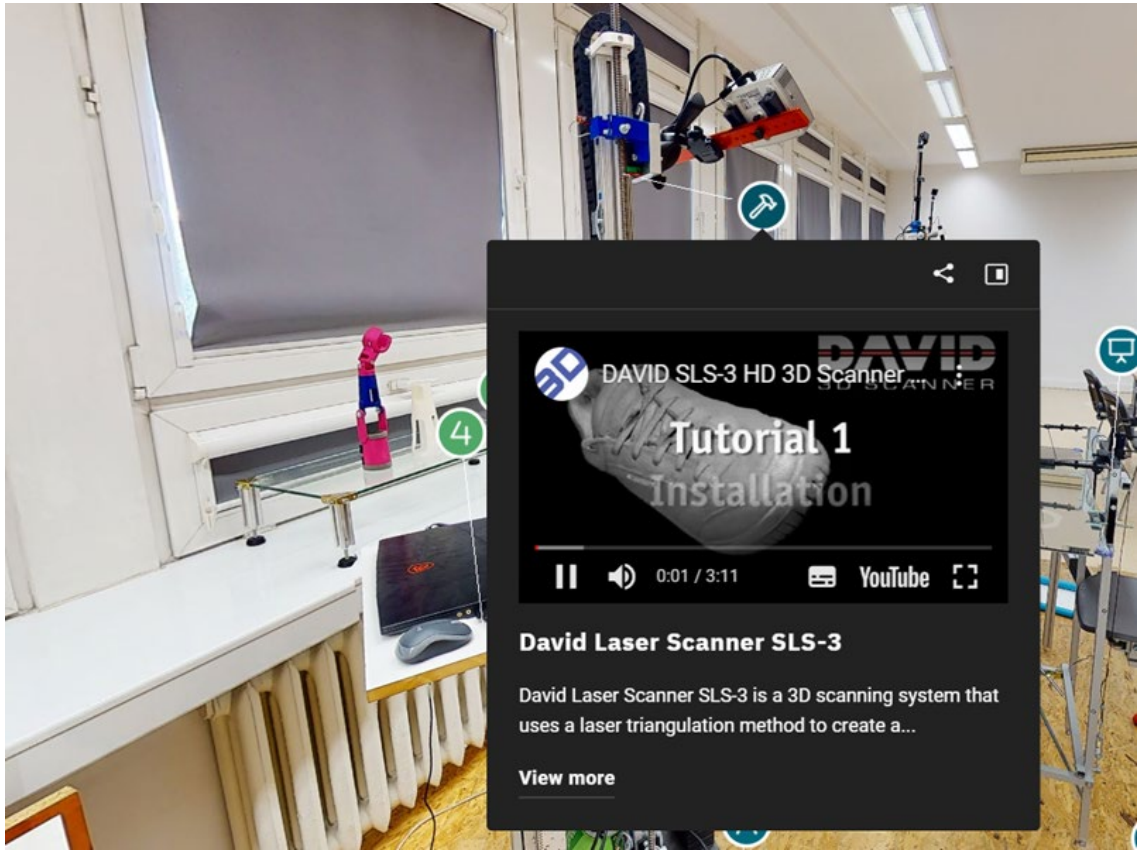


3D Scanning best practices presentation (student work)



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3D SCANNING LABORATORY ROOM

Conclusions

The materials contained in the Virtual Platform regarding 3D scanning present a unique opportunity for any student to get familiarized with the newest possibilities in 3D scanning of human limbs and methods of processing of such scans. The comprehensive, detailed presentations and analyses presented allow the students to get a grip on the technology, its foundations, requirements and use. Great expertise of authors of the materials (coming from Poznan University of Technology, related to multi-award project AutoMedPrint) brings possibilities to learn a great deal about the 3D scanning, both by watching very detailed videos on how to realize the process and by doing work themselves, on a presented set of data of real patients, captured in real working conditions. Such a course is unprecedented and unavailable at any other e-learning platform.

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