

# GERMAN-UKRAINIAN-SPAIN INTERNATIONAL PROJECT WEEK IN VALENCIA, SPAIN

Terrestrial laser scanning:  
from simulation to real  
scanning

2-7 November 2023



VRScan3D

Virtual terrestrial laser scanner simulator

- gaming environment and real scanner interface
- Station and target management
- point cloud export

as a part of the project VRscan3D - Virtual laser scanner simulator for digitalization of teaching environment



Funded by



Deutscher Akademischer Austauschdienst  
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DE VALÈNCIA



# VRScan3D

## Project week included











- ✓ practical work with VRScan3D
- ✓ field work with TLS
- ✓ lectures from German, Ukrainian and Spain professors

The attendants will acquire basic knowledge and practice on the use of terrestrial laser scanners and initial processing of point clouds:

- understanding the main steps and process of laser scanning
- recognize of environment and define right positions of photogrammetric targets
- understanding the scanning of different materials and building constructions
- initial processing of point clouds and identify the errors of survey
- apply point cloud processing for 3D modelling of buildings
- skills of terrestrial laser scanning software



# Schedule

	Wednesday 1. Nov.	Thursday 2. Nov.	Friday 3. Nov.	Saturday 4. Nov.	Sunday 5. Nov.	Monday 6. Nov.	Tuesday 7. Nov.
event		Lectures + Practice	Lectures + Practice	Lectures + Practice		Lectures + Practice	Presentations
<b>Morning</b>							
9:00-13:00		 <b>8:00</b> registration <b>8:30</b> official welcome, intro to project VRscan3D <b>9:00 - 10:30</b> intro laser scanning <i>Dr. Denys Gorkovchuk</i> <b>10:30-11:00</b> coffee break <b>11:00-11:30</b> official welcome at UPV <i>Prof. Martín Furones, Ángel Esteban, Director Departamento Ingeniería Cartográfica, Geodesia y Fotogrametría</i> <b>11:30-14:00</b> simulation of survey planning with software <b>VRscan3D</b> including registration	 <b>8:30 - 10:30</b> continuation of work with software <b>VRscan3D</b> , registration and processing of VR scans <b>10:30-11:00</b> coffee break <b>11:00 - 14:00</b> continuation of work with software <b>VRscan3D</b> , registration and processing of VR scans	 <b>8:30 - 10:30</b> Data download, data processing <b>10:30-11:00</b> coffee break <b>11:00-14:00</b> comparison of VRscan3D results of on-site Survey, evaluation of Testing	free day	 <b>8:30-10:30</b> continuation of work with evaluation of Testing Checking of results: completeness, specifications, etc. <b>10:30-11:00</b> coffee break <b>11:00 - 14:00</b> continuation of work with evaluation of Testing Checking of results: completeness, specifications and preparation of presentation	 <b>10:00-13:00</b> brief presentations and students evaluation of software <b>VRscan3D</b>
location		Computer class	Computer class	Computer class		Computer class	Computer class
<b>Noon</b>							
14:00-15:00		lunch	lunch	lunch		lunch	End of project week
<b>Afternoon</b>							
15:00-18:00		 <b>15:00 - 16:00</b> lecture <i>Dr. Maria Chizhova</i> 16:00-16:30 coffee break (optional) <b>16:30 - 18:00</b> lecture <i>Prof. Thomas Luhmann</i>	 <b>15:00-18:00</b> 3D terrestrial laser scanning of UPV campus 16:45-17:00 coffee break (optional)	 <b>15:00-18:00</b> 3D terrestrial laser scanning of UPV campus 16:45-17:00 coffee break (optional)		 <b>15:00 - 16:00</b> lecture <i>Prof. Luis Angel Ruiz</i> 16:00-16:30 coffee break (optional) <b>16:30-18:00</b> preparation of presentation (optional)	
location		UPV campus	UPV campus	UPV campus		UPV campus	
<b>Evening</b>							
19:00-open end	free evening	<b>18:30</b> Etno museum + dinner	free evening	free evening		free evening	free evening