



XXVII FIG CONGRESS

11-15 SEPTEMBER 2022
Warsaw, Poland

Volunteering
for the future –
Geospatial excellence
for a better living

Mobile Mapping and Navigation Systems – a New Master's Program in the Field of Geomatics Launched in Covid Pandemic Time (11465)

Joanna Pluto-Kossakowska, Kinga Węzka, Dariusz Gotlib and **Krzysztof Bakula** (Poland)



ORGANISED BY



PLATINUM SPONSORS





Mobile Mapping and Navigation Systems

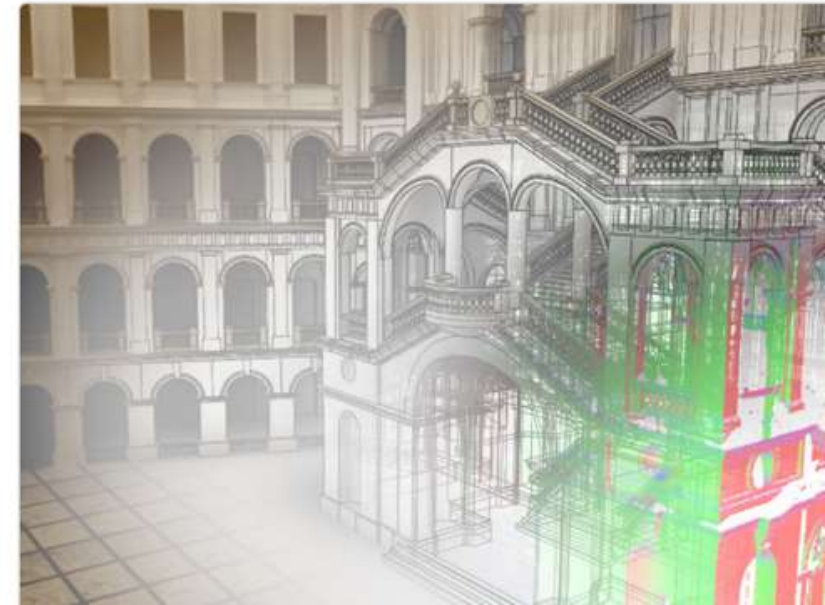
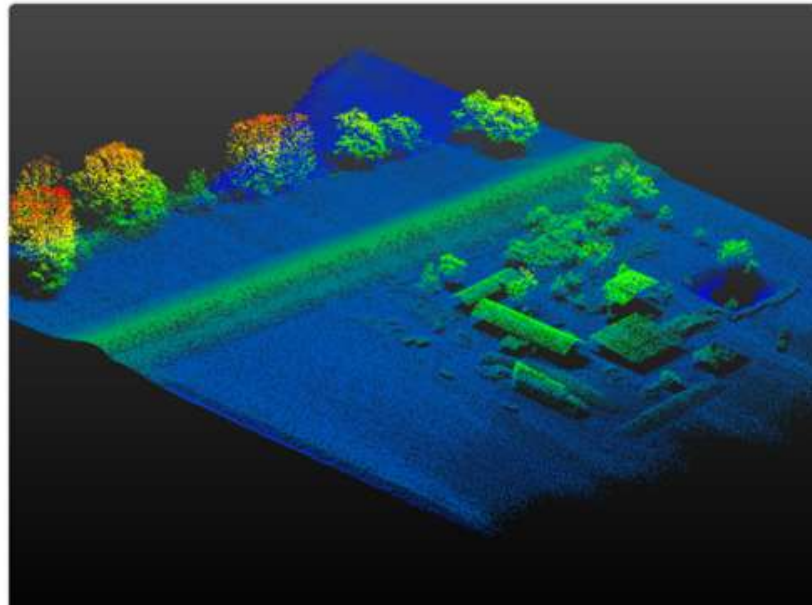
A new English-speaking specialty in the field of Geodesy and Cartography

- UAV
- SLAM
- Laser Scanning
- GNSS / INS
- Geoinformatics
- Spatial Big Data
- Geovisualisation
- Mobile Mapping and Navigation Systems

- ❑ Modern program tailored for technological trends to meet the expectation of the labour market
- ❑ Collaboration with industrial partners:
 - ❑ TomTom
 - ❑ SmartFactor
 - ❑ Hexagon



TOMTOM





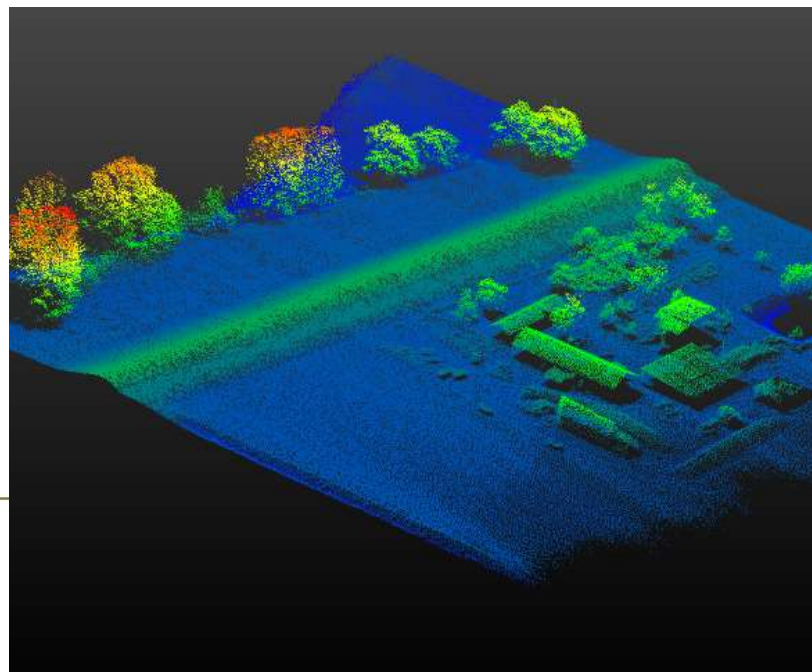
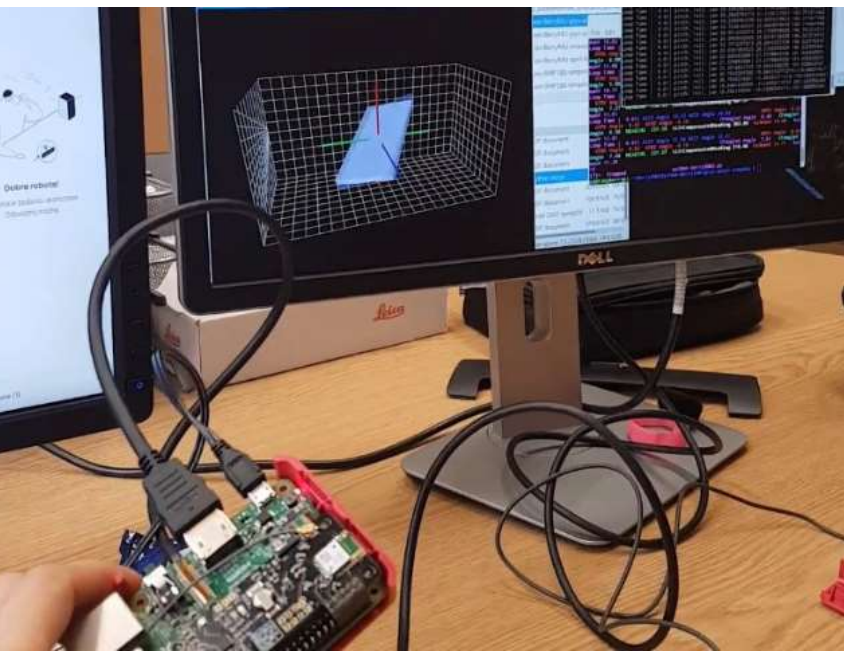
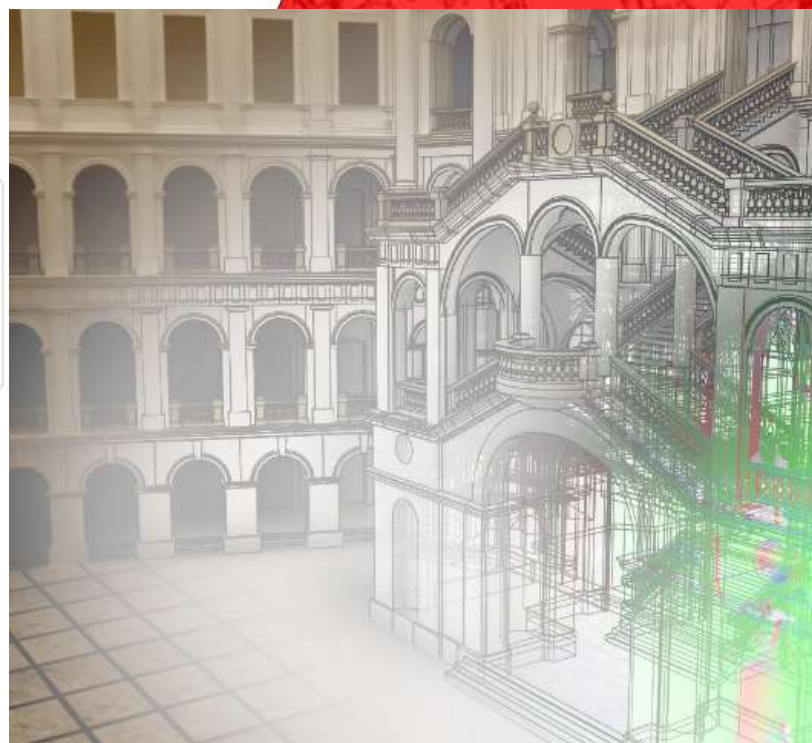
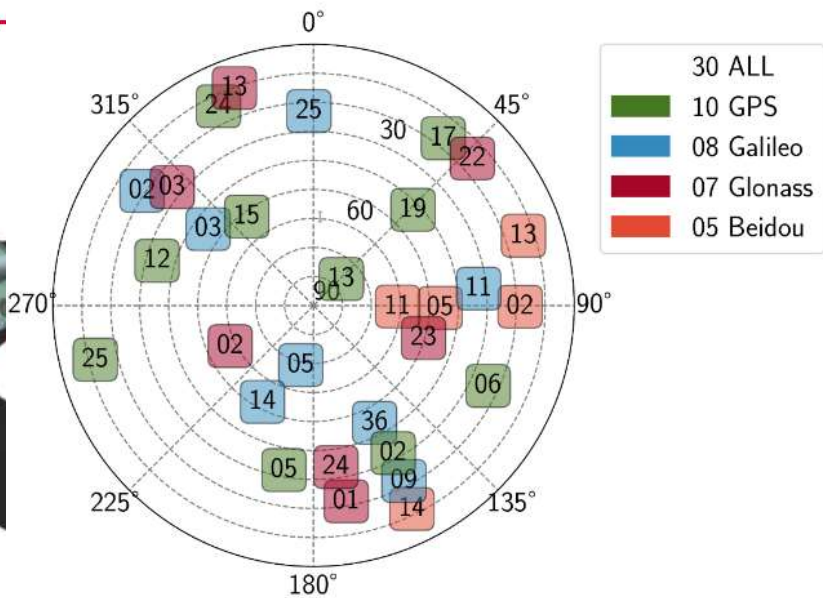
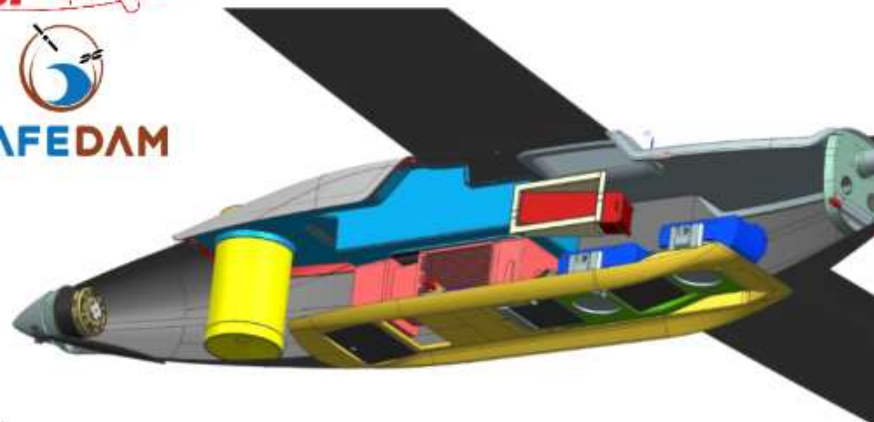
XXVII FIG CONGRESS

11-15.6

MSP



SAFEDAM



Course Content

Visualisation and data modelling

- 3D Modelling
- Augmented Reality
- Computer Vision and 3D Data Processing
- Mobile and Navigational Cartography
- Building Information Modelling

Positioning systems

- Reference Systems for Navigation
- Satellite Navigation Systems
- Indoor and Outdoor Navigation
- Integrated Navigation System

Algorithms and applications

- Programming Language with Numerical Methods
- Algorithms of Navigation Applications
- Image Recognition and Deep Machine Learning
- Intelligent Transportation Systems and Autonomous Cars
- Simultaneous Localization and Mapping (SLAM)
- Spatial Analysis, Spatial Data Mining, Big Data
- Urban Solutions for Autonomous Vehicles

Data acquisition

- Mobile Mapping Technologies
- Modern Photogrammetry
- Geo-data Standards
- Field Practices

Sem. 1

Course title	ECTS	Lectures	Tutorials	Project	Sum
Basics of international economic law and intellectual property law	1	15			15
Modern photogrammetry	3	30		30	60
Programming language with numerical methods	2			30	30
Mobile and Navigational Cartography	3	15		30	45
Standards for geodata	1	15		15	30
Reference systems for navigation	2	15		15	30
Satellite navigation systems	3	15		30	45
Selected sections of physical geodesy and geodynamics	2			15	15
Selected problems of stochastic data analysis	4	15	30		45
Geophysics	2	15	15		30
Mathematics	3		30		30
Image recognition and deep machine learning	4	30	0	30	60
Sum of credit points and hours per semester:	30	165	75	195	435

Sem. 2

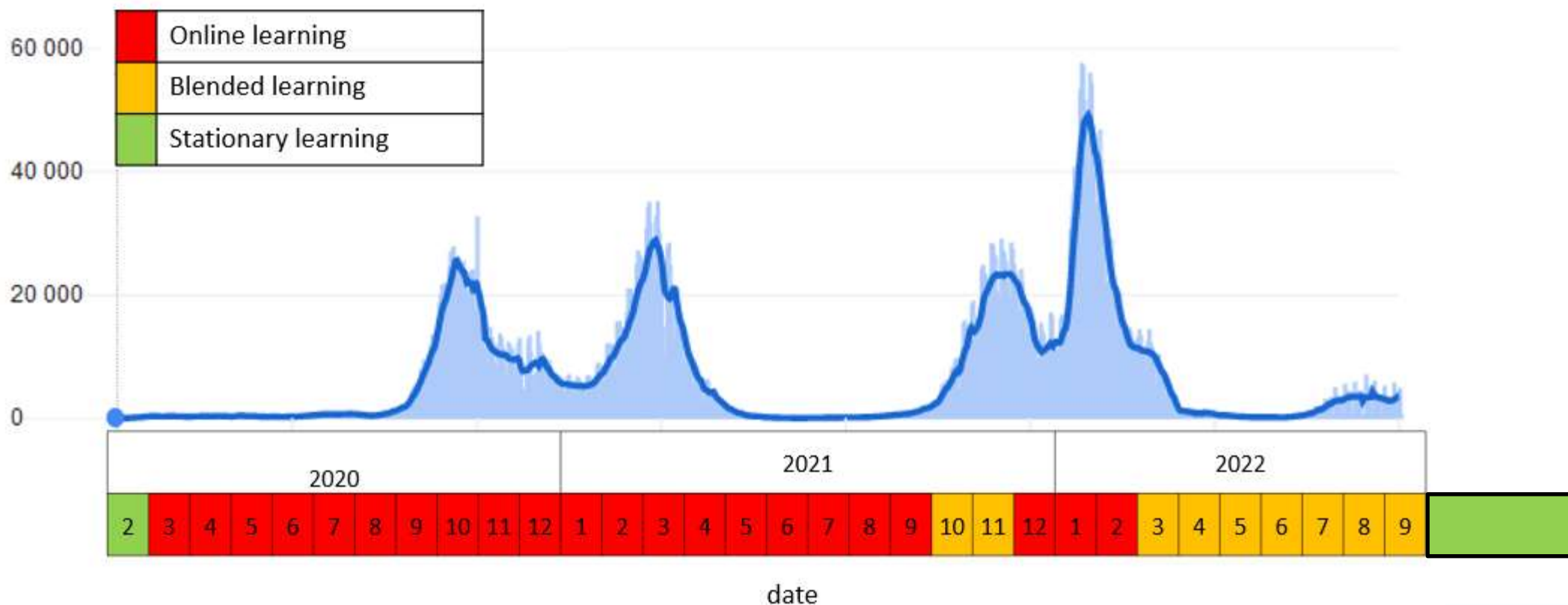
Course title	ECTS	Lectures	Tutorials	Project	Sum
Geodetic and Cartographic Documentation	2	15			15
Principles of transport economics	2	30			30
English for Geomatics	1		30		30
Facultative course 1- Modern Measuring Instruments	2	15		15	30
Facultative course 2 - Application of aerial and satellite photogrammetry	2	30		15	30
Facultative course 1- Building Information Modelling	2	15		15	30
Facultative course 1- Surveying services of investment	2	15		15	30
Facultative course 1 - Robustness of observation systems to gross errors	2	15		15	30
Facultative course 2 - Augmented Reality	2	15		15	30
Facultative course 2 - Indoor navigation	2	15		15	30
Algorithmics of navigation applications	3	15		30	45
Simultaneous localization and mapping (SLAM)	3	15		15	30
Spatial analysis	2			30	30
Mobile mapping technologies	4	15		30	45
3D city modelling	2	15		15	30
Integrated navigation systems	4	15		30	45
Computer Vision and 3D data processing	3	15		15	30
Sum of credit points and hours per semester:	30	255	30	270	540

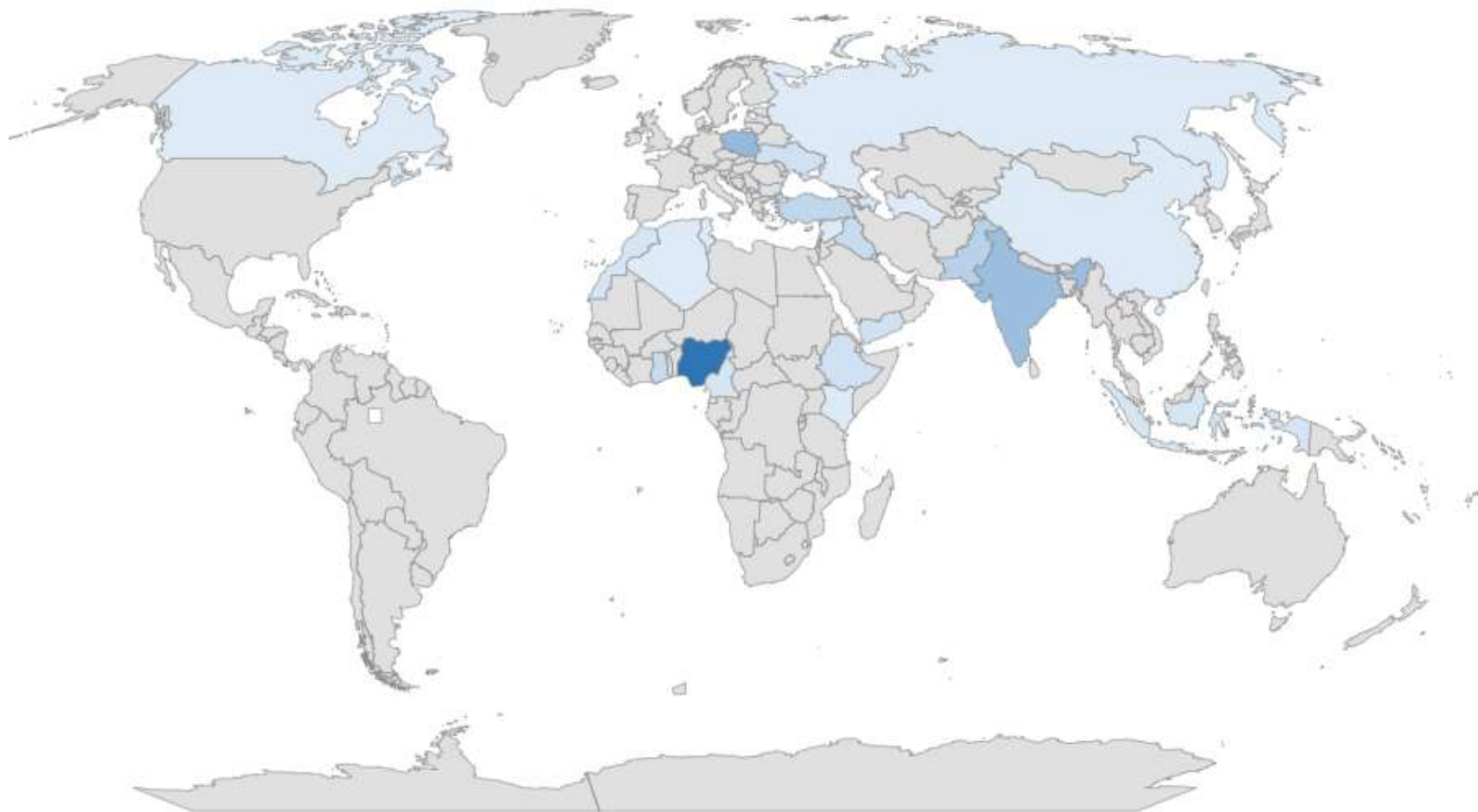
Sem. 3

Course title	ECTS	Lectures	Tutorials	Project	Sum
Facultative course 3 - Selected procedures of land management	2	30			30
Facultative course 3 - Finance of property markets	2	30			30
Facultative course 3 - Principles of property market economics	2	30			30
Facultative course 3 - Contemporary challenges in cities' development plan.	2	30			30
Spatial Data Mining and Big Data	3	15		15	30
Intelligent Transportation Systems and Autonomous Cars	1	15			15
Urban solutions for autonomous vehicles	1	15			15
Practices in fields	2		15		15
Diploma seminar	1		30		30
Diploma thesis	20				
Sum of credit points and hours per semester:	30	165	45	15	225

COVID impact

No of Covid infections daily





-
- Główna
- Przeglądaj
- Powiadomienia
- Wiadomości
- Zakładki
- Listy
- Profil
- Więcej

Tweet

Mobile Mapping and Navigation Systems at FG...
28 Tweetów

MOBILE MAPPING AND NAVIGATION SYSTEMS

GNSS GIS UAV SLAM LIDAR COMPUTER VISION GEOINFORMATICS DEEP LEARNING BIG DATA

Mobile Mapping and Navigation Systems at FGC WUT
@MMNSatWUT · Obserwujcie Cię

MSc Studies provided by the Faculty of Geodesy and Cartography of the Warsaw University of Technology
#geoinformatics #GNSS #GIS #lidar #navigation #mapping

Tłumacz opis

Warsaw zk.gik.pw.edu.pl/mmns Dołączył/a maj 2020

225 Obserwowanych 102 Obserwujących

Obszerwany przez GATHERS, Kinga Węzka i 6 innych użytkowników, których obserwujesz.

Tweety Tweety i odpowiedzi Multimedia Polubienia

Mobile Mapping and Navigation Systems at FGC WUT
@MMNSatWUT · Strona poświęcona edukacji

UAV
SLAM
Laser Scanning
GNSS / INS
Geoinformatics
Spatial Big Data
Geovisualisation
Mobile Mapping and Navigation Systems

Strona główna Filmy Zdjęcia Informacje Więcej

Lubisz to

Wyślij wiadomość

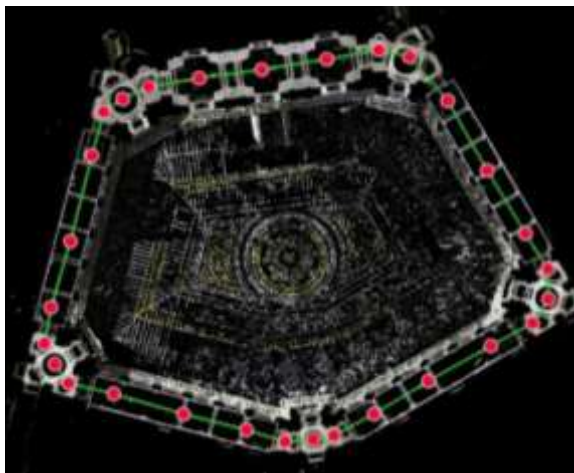


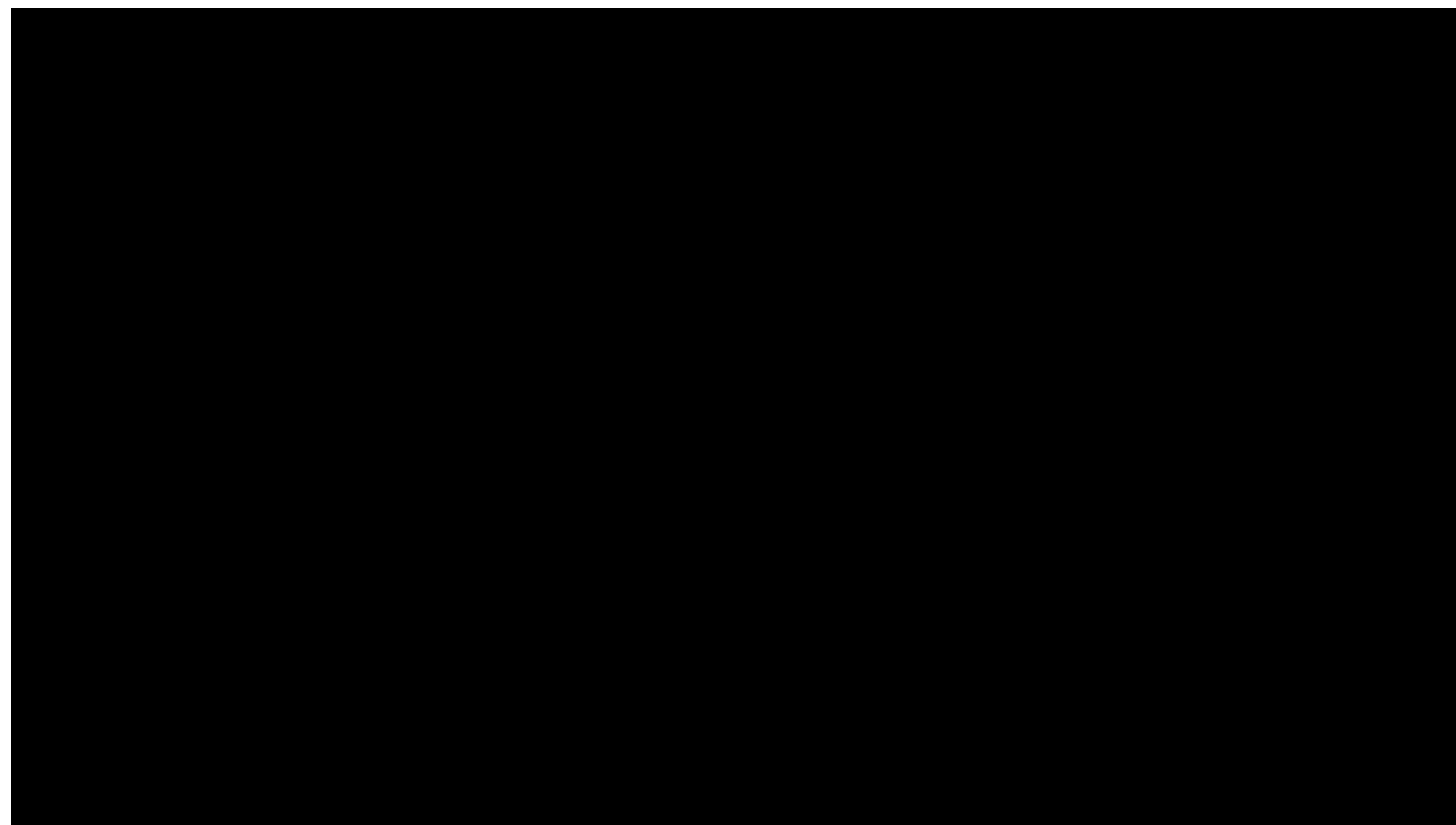
Mobile Mapping Days – meetings with industry





Initial situation





Scholarship opportunities

- Banach Scholarship EN
- Gen. Anders Programme PL
- Visegrad Programme EN

- WUT scholarships
- Students mobility within Erasmus programme
- Double-degree diploma (Universitat Politècnica de València, Lviv Polytechnic National University)



POLISH NATIONAL AGENCY
FOR ACADEMIC EXCHANGE

Thank you for your attention



<https://www.gik.pw.edu.pl/mmns>



<https://www.facebook.com/MMNSatWUT>



<https://www.instagram.com/mmnsatwut/>



<https://twitter.com/mmnsatwut>