

MARINE TECHNOLOGY EDUCATION TODAY AND TOMORROW

Viktor Senčila, Klaipėda University

The panel discussion, Tallinn University of
Technology, SHIPMARTECH

2023-08-25

Viinistu



SELF INTRODUCTION

Viktor Senčila, prof. dr.

- Background - Marine engineer (operational)
- Seagoing experience, holder of Chief engineer certificate of competency
- Research engineer at Riga Diesel Factory
- Experience in MET (Klaipeda Maritime College, Lithuanian Maritime Academy, rector)
- Visiting professor at Riga Technical University
- Dean of KU Faculty of Marine Technologies and Natural Sciences



KLAIPEDA UNIVERSITY STRUCTURE

Faculties

- Faculty of Marine Technologies and Natural Sciences
- Faculty of Health Sciences
- Faculty of Social Sciences and Humanities

Research Institutes

- Baltic Region History and Archaeology Institute
- Marine Research Institute

MARINE RESEARCH INSTITUTE (THE NEWEST BUILT DIVISION, 2018)





KLAIPEDA UNIVERSITY FLEET

- **Research vessel MINTIS (IMO: 9713636)**
a multipurpose research vessel for the complex oceanographic research and applied marine services (since 2014).
- **Sailing vessel BRABANDER**
classical type s/v using for sailing and diving training, scientific and recreational sailing
- **Marine Yacht ODISĖJA**

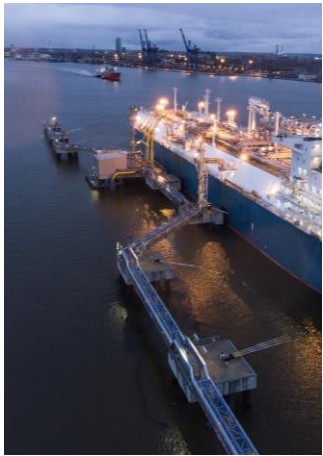


FACULTY OF MARINE TECHNOLOGIES AND NATURAL SCIENCES

Departments:

- Informatics sciences and Statistics
- Engineering
- Marine Engineering

7 BACHELOR STUDY LINES



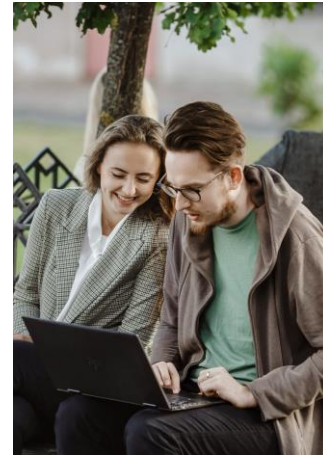
Maritime
Transport
Engineering



Mechanical
Engineering



Electrical
Engineering



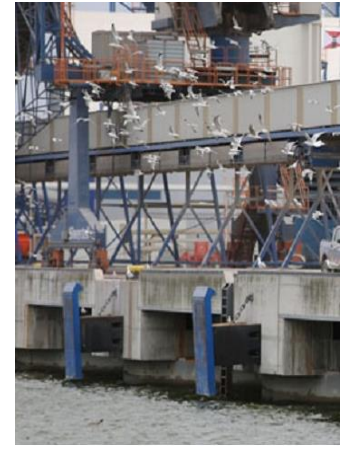
Informatics



Informatics
Engineering



Chemical
Engineering



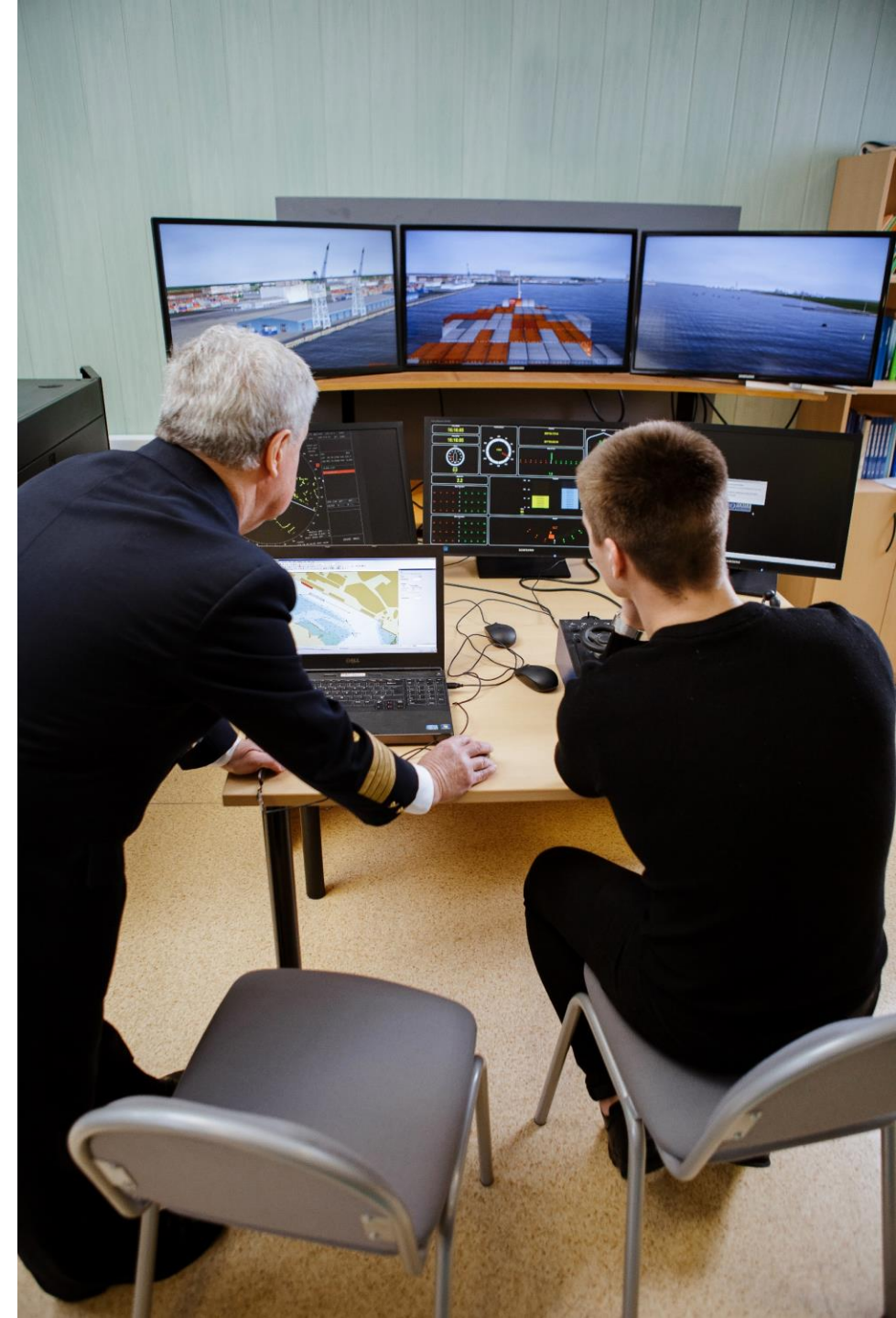
Civil
engineering

- **6 MASTER STUDY LINES**

of them Shipping and Port Engineering
with specializations:

- Port Management
- Naval Architecture and Shipbuilding
- Sustainable Marine Energy Engineering

- **JOINT PHD STUDIES IN
TRANSPORT ENGINEERING**



MAIN RESEARCH DIRECTIONS:

Decarbonization and concerned issues:

- Energy efficiency, Alternative marine fuels, Renewable energy generation
- Cargo handling and Shipping optimization
- New materials, Additive manufacturing, etc

• Digitalization:

- Robotics technology,
- Big data and analytics,
- Advanced monitoring system,
- Artificial intelligence, Smart port operations, Autonomous shipping, etc

COLLABORATION WITH INDUSTRY VIA PROJECTS



Development of an autonomous passenger ferry prototype



Autonomous Green Port of the Future:
Development of a new container handling method and system prototype



KU RESEARCH PARTNERS

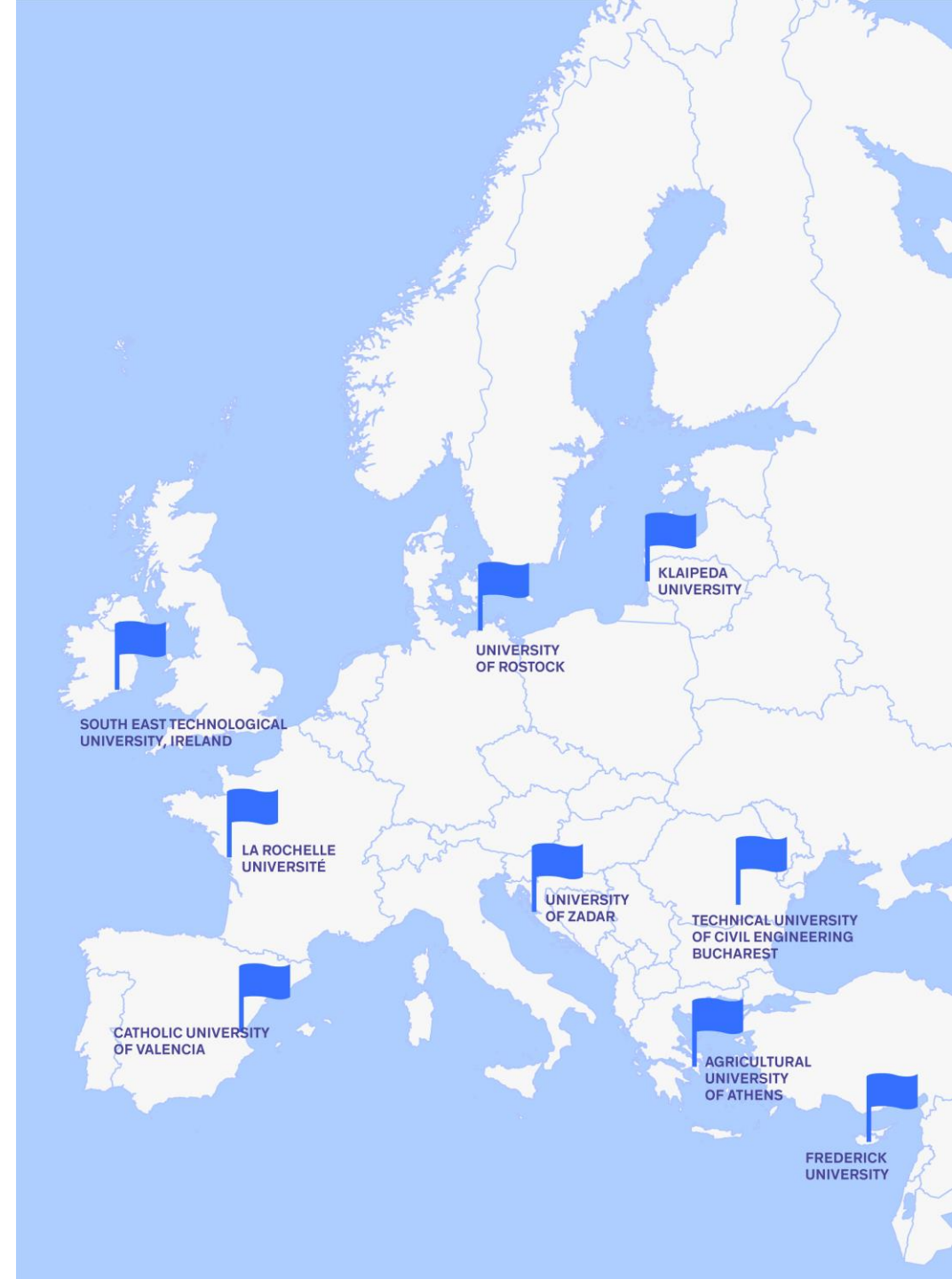


Country	TOP PARTNERS
Estonia	University of Tartu
	Tallinn University of Technology
Finland	Finnish Environment Institute SYKE
	Helsinki University
Poland	Gdansk University
	Institute of Oceanology Polish Academy of Sciences Sopot
Denmark	Maritime Institute in Gdańsk
	Technical University of Denmark DTU
Sweden	Aarhus University
	Swedish Meteorological and Hydrological Institute SMHI
Germany	Chalmers University of Technology
	Lund University
Latvia	Hamburg University
	Leibniz-Institute for Baltic Sea Research
Italy	Latvian Institute of Aquatic Ecology
United Kingdom	CNR-ISMAR
	Parma University
Norway	Hull University
	Plymouth Marine Laboratory
Norway	Institute of Marine Research
	University of Bergen

INTERNATIONAL COLLABORATION



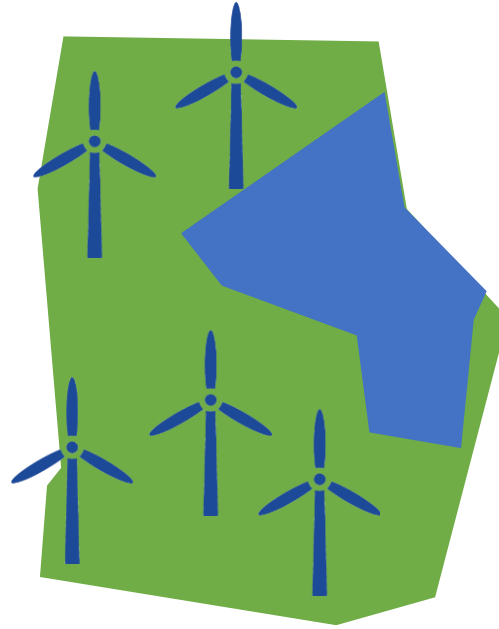
9 Universities together have built
European University for Smart Urban
Coastal Sustainability



NEW CHALLENGE ARE COMING FROM INDUSTRY: OFFSHORE WIND FARM AND HYDROGEN PRODUCTION PROJECTS

TECHNICAL CHARACTERISTICS

Capacity	1,4 GW
Power density	5,4 MW/km²
Area	137,5 km²
Average depth	35-40 m
Average wind speed	9 m/s
Distance to the shore	30 km
Distance to Klaipėda	40 km



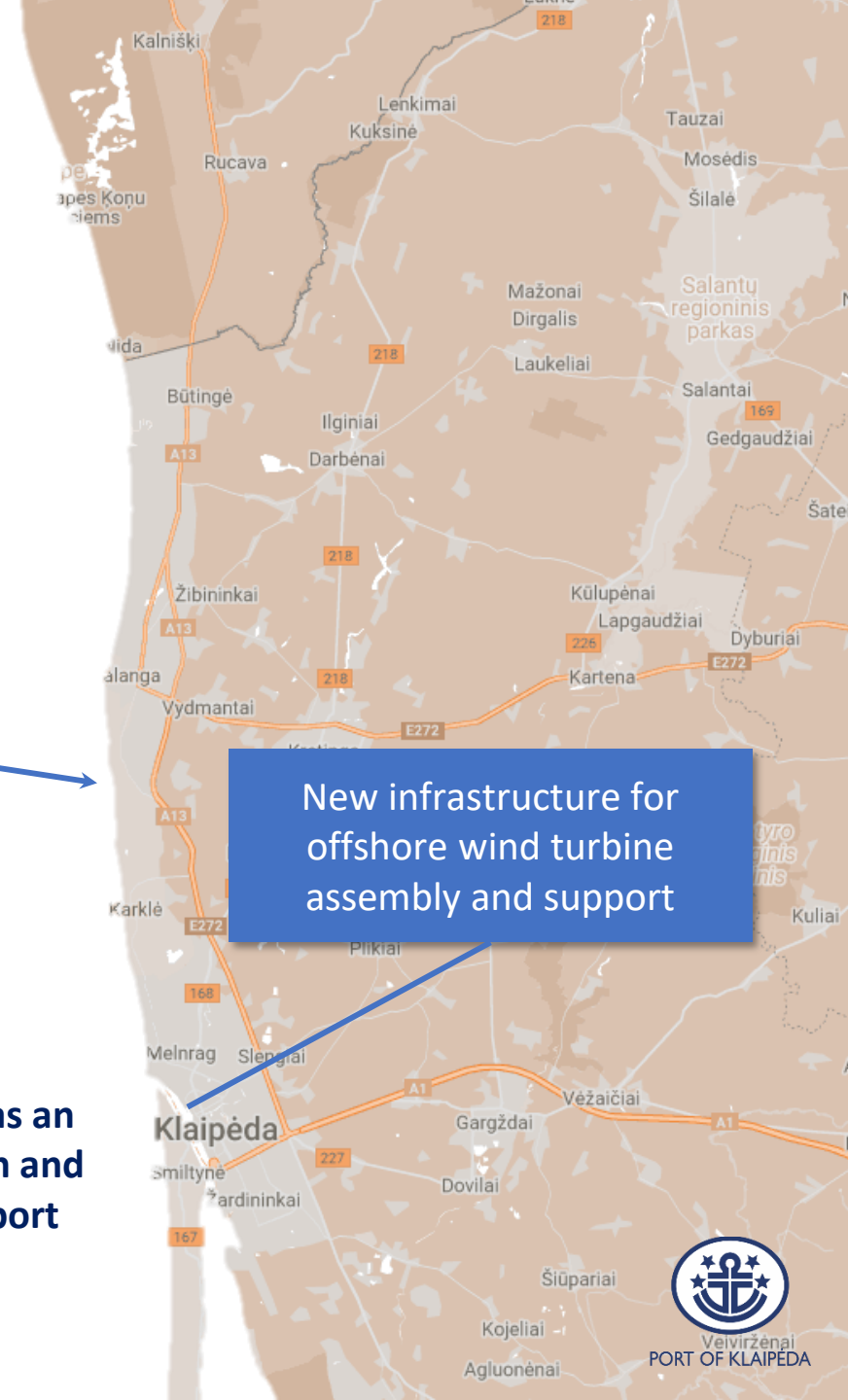
35 km

New infrastructure for offshore wind turbine assembly and support

Klaipėda as an installation and support port



Total potential area for offshore wind
Capacity – 3,3 GW



Veiviržėnai
PORT OF KLAIPĖDA

NOT ONLY MARITIME: GREEN INTELLIGENT TRANSPORT

Dancer bus



- KU is one of the founders of the Wind and Solar Transport Alliance (2012)
- About a third of the manufacturer's staff are graduates of Klaipeda University
- Technological solutions for electric transport

