

9

**INDUSTRY,  
INNOVATION AND  
INFRASTRUCTURE**



## 9. INDUSTRY, INNOVATION & INFRASTRUCTURE



NUMBER OF PUBLICATIONS & THESES

32



NUMBER OF PROJECTS

54



NUMBER OF EVENTS

32



NUMBER OF COURSES OFFERED

185



NUMBER OF COLLABORATION

34



NUMBER OF AWARDS

21

### SDG 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Build resilient infrastructure, promote sustainable industrialization and foster innovation

#### Targets and Indicators

9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

9.2 Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries

9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets

9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending

9.A Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States 18

9.B Support domestic technology development, research and innovation



in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities

9.C Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020

### Courses, Theses, Publications

In line with their content, departments of Architecture, Mathematics, Business Administration, Electrical and Electronics Engineering, Mechanical Engineering offer a variety of courses directly related to develop reliable, sustainable, and resilient infrastructure. As these departments are dedicated to follow the trends in science and technology in their respective fields, Engineering and Architecture departments specifically focus on the development of innovative design and technologies. In addition to these departments, department of Economy and Industrial Engineering offers courses that specifically focus on industry and innovation such as “Financial Markets and Institutions” (ECON 453), Current Topics in Economics (ECON 501), Operations Scheduling (IE 519), and Contemporary Issues in Engineering (ENGR 490).

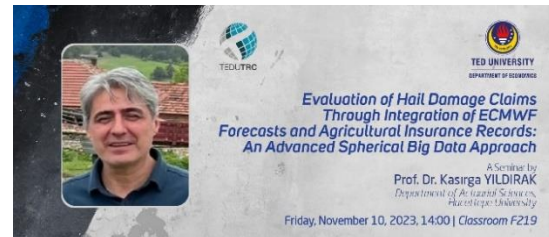
In addition to the courses given, academic publications of academic staff on the measurement of manufacturing and service-sector productivity based on firm-level data aims to disseminate SDG 9 targets.

### Events - Activities



In collaboration with department of economy and TEDU Trade Research Center, Jeffrey Schlegelmilch, director of National Center for

Disaster Preparedness (NCDP) at Columbia Climate School delivered a seminar named, “Incentivizing Resilience: How we can create better ways to promote disaster resilience within, and beyond our organizations”. Jeffrey Schlegelmilch’s seminar promoted strengthening resilience against disasters in organizations, which contributes to building sustainable and resilient infrastructure, as well as fostering innovation in risk management and recovery processes.



In collaboration with department of economy and TEDU Trade Research Center, Kasırga Yıldırak delivered a seminar named, “Evaluation of Hail Damage Claims Through Integration of ECMWF Forecasts and Agricultural Insurance Records: An Advanced Spherical Big Data Approach”. The use of advanced big data analytics and weather forecasts represents an innovative approach in the field of agricultural risk management, promoting technological advancement and infrastructure for better forecasting and resilience.

### The Disaster and Emergency Technologies Initiative Conference



The Disaster and Emergency Technologies Initiative, which was established to increase the contribution that the private sector can provide in the context of disasters and emergencies in Türkiye and to ensure that technological investments in this field become more efficient and effective with public coordination, held a search conference hosted by TED University.



The Disaster and Emergency Technologies Initiative, consisting of valuable representatives of the public, non-governmental organizations, foundation universities, and private sector organizations, came together to establish a continuous communication platform, identify priority themes, plan the infrastructure and facilities accessible to its stakeholders, decide on the form of organization, and shape the incentive mechanisms determined by the public for the initiative.

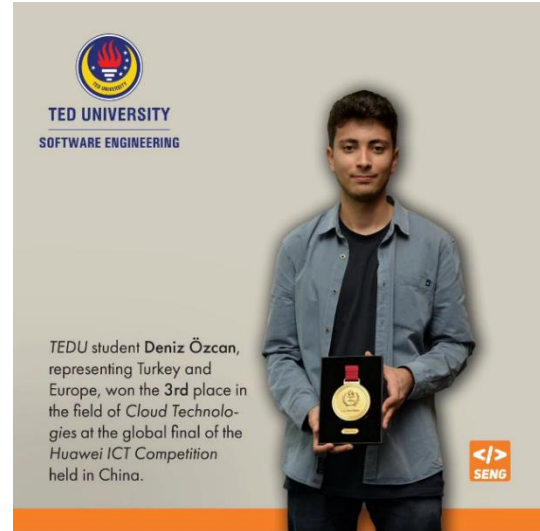
### IEEE Computer Society Türkiye SAC Meeting



Institute of Electrical and Electronics Engineers (IEEE) TED University Student Branch, hosted the Central Anatolia Regional Meeting event organized with the IEEE Computer Society Turkey SAC team. IEEE Turkey Student Branches Computer Society is in coordination with more than 65 universities in Turkey. More than 3,000 People in this community are connecting and communicating with each other.

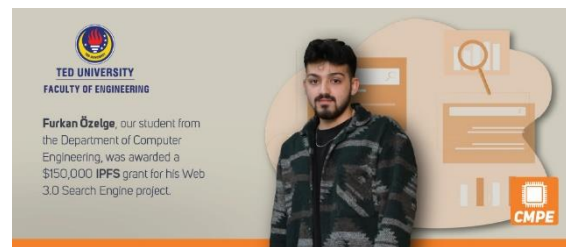
### Collaboration, Projects, Awards

#### Huawei ICT Competition Award



Deniz Özcan, a student from the Faculty of Engineering, Software Engineering Department; came in 1st in Europe after his degree in Turkey in the Huawei ICT competition in which more than 120,000 students and more than 2000 universities participated, together with his team. He represented Turkey and Europe in the field of Cloud Technologies in the global finals of the competition held in Shenzhen, China. Deniz Özcan, whose innovative project contributes to transformation of industry and infrastructure, achieved an outstanding success by coming in 3rd in this final among 146 teams from many different parts of the world competed.

#### Interplanetary File System Grant Award



Our Computer Engineering Department student Furkan Özelge was awarded a \$150,000 Interplanetary File System (IPFS) grant with his Web 3.0 Search Engine project. This project, which fills the gap in the Web 3.0 world with a decentralized structure, offers a high-performance search engine service that outperforms active search engines and provides users with complete freedom, security and privacy.



The same project was also selected as the most successful technology in the Ceramic Grant event and was awarded a \$50,000 grant.

### American Institute of Aeronautics and Astronautics Associate Fellowship



"Selin Aradağ Çelebioğlu selected as one of the 100 Associate Fellows by the AIAA"

AIAA

TEDU Graduate Programs Institute Director and Mechanical Engineering Department Head Prof. Dr. Selin Aradağ Çelebioğlu was among the 100 "Associate Fellows" selected worldwide by the American Institute of Aeronautics and Astronautics (AIAA) for her contributions to the development of the aviation field.

The AIAA is the world's largest aerospace technical society. With nearly 30,000 individual members from 91 countries, and 100 corporate members, AIAA brings together industry, academia, and government to advance engineering and science in aviation, space, and defense.

### Department of Industrial Engineering Graduation Project Fair



The Department of Industrial Engineering Graduation Project Fair was conducted on June 20, 2023, with approximately 70 participants. The Project Fair showcased the project works of students at the graduation stage, carried out with leading companies in Türkiye. The projects aimed to generate effective solutions for complex problems of companies and

organizations in the manufacturing and service sectors. The Project Fair included a total of 7 projects for 7 companies. These projects, completed in collaboration with distinguished organizations in Türkiye, have helped them to be better prepared for real work life and have given these companies the opportunity to know them better during this process.

Within the scope of the fair, projects developed for the following companies were included:

- CCN GROUP
- FNSS Savunma Sistemleri A.Ş.
- ORS - Ortadoğu Rulman Sanayi ve Tic. A.Ş.
- Emek Elektrik Endüstrisi A.Ş.
- Erkunt Traktör Sanayii A.Ş.
- Set Makina
- PROTED

