

STRUCTURE OF LUBAN WORKSHOP

2023

Laboratory 1 “MAINTENANCE, REPAIR AND DIAGNOSTICS OF CARS WITH PETROL ENGINES”

- Training car with gasoline engine (ICE)
- Stand for measuring wheel geometry
- Oil collection unit
- Automatic transmission disassembly and assembly stand
- Balancing stand
- Tire stand
- Scissor lift

Laboratory 2 “SIMULATION-BASED TESTING OF CONVENTIONAL AUTOMOTIVE SYSTEMS”

- Training stand for engine diagnostics
- Training stand for engine disassembly and assembly
- Training stand for lighting system diagnostics
- Training stand for auto comfort system diagnostics
- Car diagnostic device

Laboratory 3 “MAINTENANCE, REPAIR AND DIAGNOSTICS OF ELECTRIC AND HYBRID VEHICLES”

- Electric training vehicle
- Hybrid training vehicle
- Charging stand (slow and fast)
- Training stand for studying the traction motor of an electric vehicle
- Training stand for studying the traction battery of an electric vehicle
- Two post lift (2 pcs.)

Laboratory 4 “SMART VEHICLE TECHNOLOGY”

- Educational platform for learning ADAS technology
- Sand table simulator for studying the movement of miniature cars
- Smart miniature car
- Unmanned mobile robotic platform

2024

Laboratory 5 «SMART DRIVING SYSTEM»

- Smart Connected Vehicles
- Educational Practical Platform for Electric Vehicles (Oil-Electric Hybrid)
- Educational Practical Platform for Electric Vehicles (Electric)
- Special tool vehicle for maintenance and repair of new energy vehicles

KEY DATES



23.11.2022



Start of the Project



18.05.2023



Signing of the Agreement on the creation of the Lu Ban Workshop



31.06-27.08.2023



Training of 15 teaching staff at TVI



Until 25.11.2023



Equipment delivery



Until 30.11.2023



Installation of equipment



03-10.12.2023



Training of teaching staff on equipment operation



09.12.2023



Ritual "Tusau keser"



31.12.2023.



Allocation of additional investment of 3,750 million yuan



07.07-21.07.2024



The second stage of teaching staff on the operation of equipment



09.10.2024



Start of construction of the Smart driving system center



December 2024



Completion of construction

From 1 to 25 August 2023 15 teachers of EKTU trained at the Tianjin Vocational Institute.

LEARNING RESULT:

acquired theoretical and practical skills in working with modern Chinese equipment in the field of road transport

The training consisted of three modules:

- module 1 – Traditional petrol cars
- module 2 – Electric and hybrid vehicles
- module 3 – Intelligent Automotive Systems



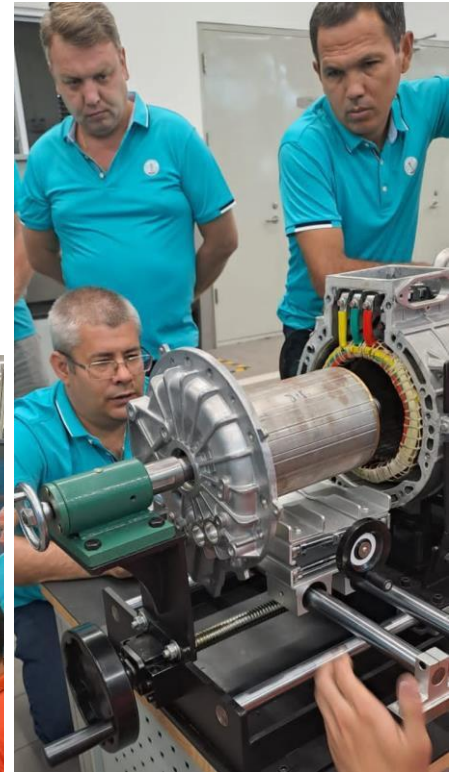
Module 1 – Traditional Gasoline Cars

- maintenance of major systems of traditional vehicles
- repair of main components of traditional cars
- diagnostics of traditional car systems



Module 2 – Electric and Hybrid Vehicles

- Design principles and operating principles of electric and hybrid vehicles
- maintenance, repair and diagnostics of electric vehicles



Module 3 – Intelligent Automotive Systems

- Study of the ADAS system
- studying the operating principles of self-driving cars



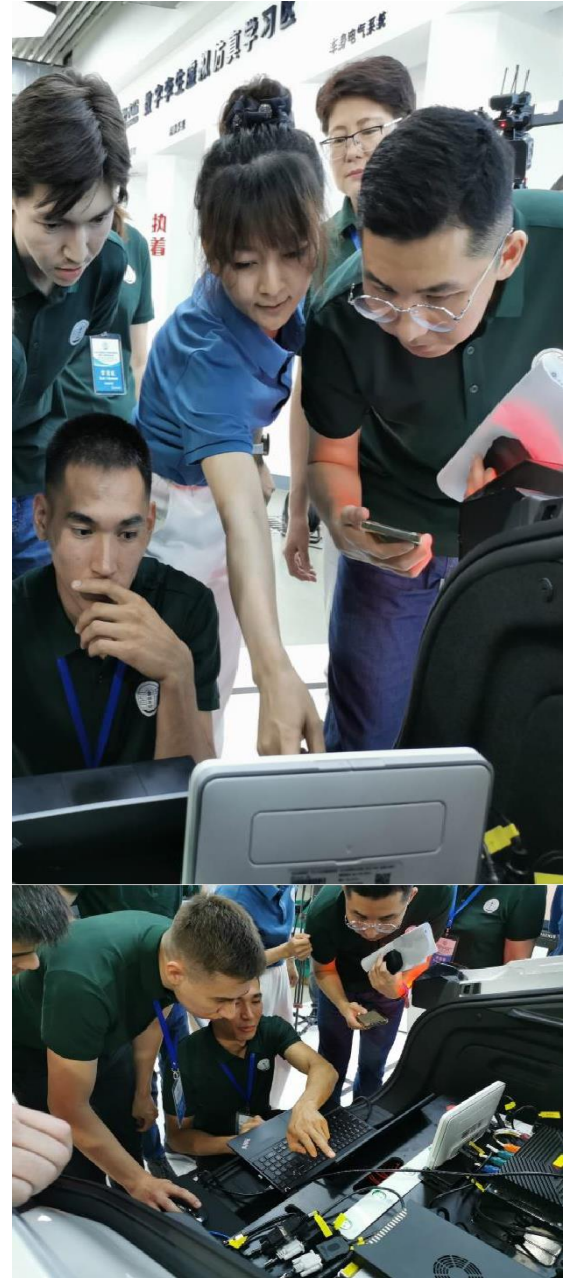
The second stage of the Lu Ban Workshop project

In the period from July 7 to 22, 2024, 15 teachers of D. Serikbayev EKTU passed the second stage of training at the Tianjin Professional Institute.

THE RESULT OF THE TRAINING:
theoretical and practical skills of working with modern Chinese equipment in the field of motor transport have been obtained

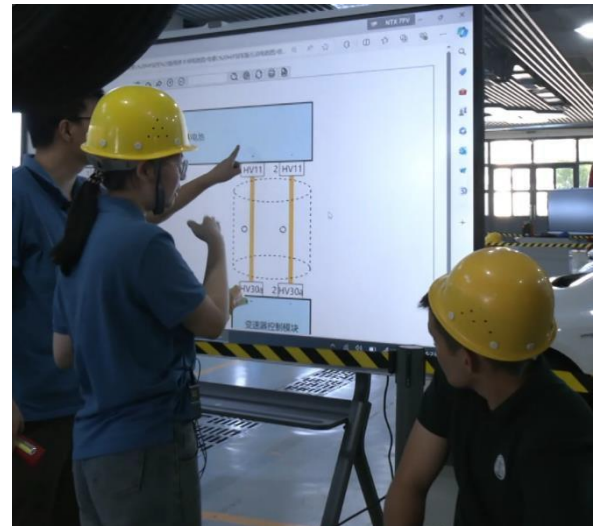
Module 1

1. A learning platform for smart connected vehicles
2. Calibration of sensors
3. Autonomous driving, high-precision maps and lane keeping
4. Testing of intelligent network vehicles
5. Intelligent and Connected Vehicle Simulation Test -AD Chauffeur



Module 2

1. Battery diagnostic technology and training
2. Introduction to electric vehicles and their control technology
3. The structure and principle of operation of a hybrid vehicle
4. Hybrid electric vehicle, complete vehicle fault diagnosis
5. New technology for charging vehicles from electric energy





At D. Serikbayev EKTU, work has begun on the reconstruction of the first academic building and the construction of a building to create an "Engineering Center for the application and improvement of automotive and intelligent technologies."

At the Engineering Center, students will learn how to apply and improve automotive and intelligent technologies on modern Chinese equipment, solving materials science problems for electric vehicle batteries.

