

Recent progress In development of educational programs for Egypt Transportation University



KGID
2026
SEJONG

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History of KNUT

1905

Start of History

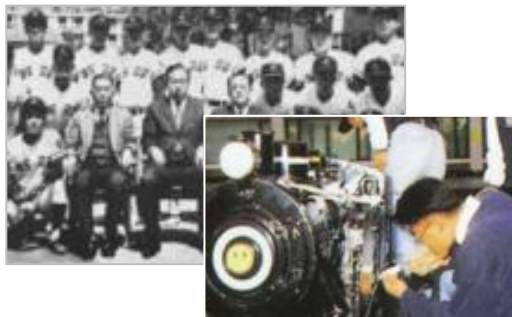


1905.05

Opened Iwon Railroad Training School.

1967

Cradle of the University



1967.03

Changed to Railroad High School.

1999.03

Changed to Korea National Railroad College.

1999

2012

Start of the Integration

2012.03

Integrated Chungju University and Korea National Railroad College.

2012.03

Launched as Korea National University of Transportation.

2020.09

Selected as a university subject to The Leaders in Industry-University Cooperation Project

2023

Together, for a Better Future!



2023.04

Inauguration of the 8th President Yoon Seung-Jo.

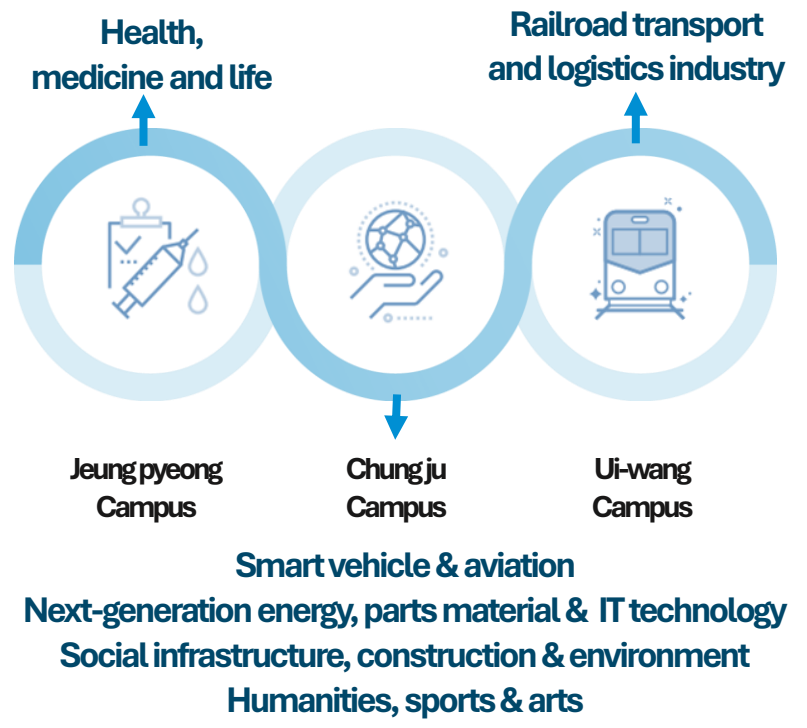
2023.10

Selected for the Glocal University 30 Projects funded by MOE

Academic Architecture



Build-up of a 3 multi-campus,
a specialized cluster by region.



6 Colleges with 56 Departments ●-----●

of Faculty : **290+** # of Student : **12,000+**

The Infrastructure Paradox in Egypt

- **The Hardware-Software Imbalance:**

- Over USD 64 Billion (2 Trillion EGP) invested in roads, High-Speed Rail (HSR), and smart ports over the last decade.
- Critical lack of "Local Software" (skilled experts) to manage, operate, and maintain these high-tech assets.

- **The Cost of Operational Inexperience:**

- Economic Impact: Traffic congestion results in an annual loss of USD 8 Billion (approx. 4% of Egypt's GDP).
- Public Safety: Despite modern infrastructure, 5,260 fatalities and 76,000+ injuries occurred in 2024 due to operational gaps.
- The Structural Education Gap:

- **Egypt produces 760,000 graduates annually, but engineering education is over 94% focused on traditional "Construction".**

- Zero specialized institutions for Intelligent Transport Systems (ITS), advanced signaling (ETCS), or Smart Logistics O&M.

Establishment of Egypt National University of Transportation (ENUT)

ENUT - A Strategic Pillar for Sustainable Transport Infrastructure

Harmonizing Global Strategy with Specialized Technical Education

- A specialized national institution dedicated to translating physical infrastructure investments into sustainable socio-economic progress.
- Establishing a vital "Operational Framework" to manage national transport assets with optimal efficiency, safety, and reliability.

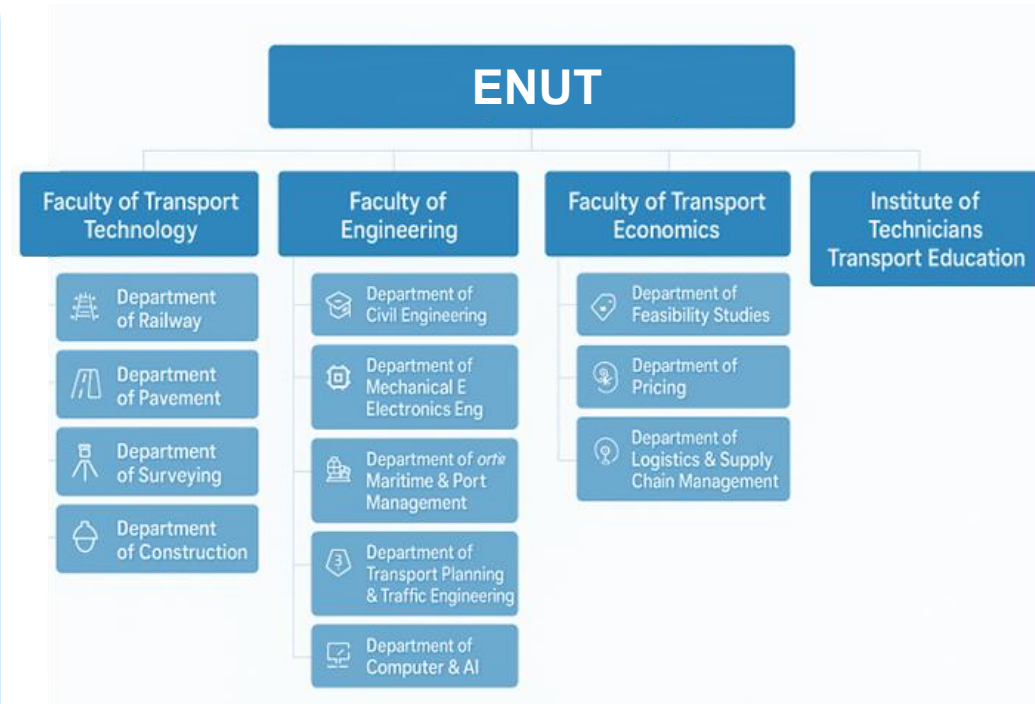
Global Collaboration: Strategy Meets Implementation

- **World Bank (Strategic Direction):** Delivering the macroeconomic roadmap and global credibility to align ENUT with international logistics and sustainability standards.
- **South Korea (Implementation Partner):** Contributing a proven educational model that integrates advanced transport technologies with specialized, industry-aligned training.
- **A Shared Objective:** Bridging the gap between infrastructure expansion and the local human capital required for its sustainable, long-term operation.

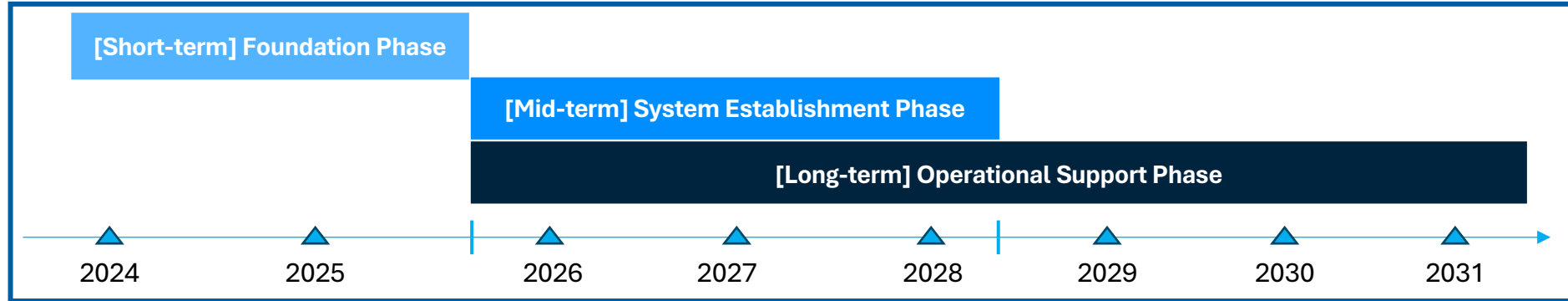
Core Components of ENUT

– Building a Specialized Learning Ecosystem

- **Multi-Tiered Academic Pathways (2-4-5 System):**
 - Developing specialized expertise through integrated 2-year Diplomas (Technicians), 4-year B.Tech (Technologists), and 5-year B.Sc (Engineers) to support all levels of the transport sector.
- **Applied Learning via Advanced Simulation:**
 - Utilizing high-tech laboratories for Railway Signaling (ETCS), ITS, and Smart Port Logistics, supported by faculty capacity-building through structured "Train-the-Trainer" programs.
- **Institutionalized Industry Integration:**
 - Implementing mandatory learning cycles through a formal University-Industry Cooperation Center (UICC) to ensure academic training meets real-world infrastructure requirements.
- **Professional Development & Certification Hub**
 - Establishing a platform for continuous skill enhancement and technical workshops for the current workforce (ENR, SCA, NAT, GARB) to support institutional sustainability.



Roadmap to Establish the Egypt Transportation University



[Short-term] Foundation Phase	[Mid-term] System Establishment Phase	[Long-term] Operational Support Phase
<ul style="list-style-type: none"> ▶ Design the academic structure and education programs (including training for officials, practitioners, and educators in the transport sector) ▶ Conduct Short-term training courses (including school training and related institution tours) ▶ Support the development of the PCP (for ODA project preparation) 	<ul style="list-style-type: none"> ▶ Support the establishment of educational programs and the construction of educational operation systems (faculty, education system, facilities and equipment, etc.). ▶ Implement ODA project after PCP approval (facilities and equipment, and human resource training) ▶ Design joint degree and student exchange programs with Korean universities 	<ul style="list-style-type: none"> ▶ Support the establishment and operation of a specialized transportation university in Egypt ▶ Support the design of necessary personnel and resources according to the roadmap ▶ Ensure sustainable operation through faculty dispatch and performance evaluation

Key Achievements & Milestones

2023

July

KNUT–MOT–WB online seminar launching cooperation for ENUT (KGGTF-facilitated)

October

KGID 2023 Cairo; MoU signed with MOT on ENUT collaboration



2024

January

University Strategy Report submitted (WB-supported)

February

Egyptian delegation hosted in Korea for railway tech tour



September

Visited Egypt's MOT on key ENUT establishment issues



2025

July

Korea Maritime and Ocean University faculty join to design maritime programs

September

Launched a World Bank–supported assignment to develop curriculum options

October

Korea–Egypt Expert Working Group convened

2026

February

Korea–Egypt Expert Working Group Workshop in Cairo



Spreading K-Global Railway Education Model

Necessity

KNUT turns Korea's higher-education changes into global opportunities
—advancing transport capacity, partnership, and multicultural learning.

Adapting to Higher Education Changes



- Korea's demographic shifts drive universities toward global engagement.
- KNUT transforms this change into mutual growth through international education.

Supporting Partner Countries



- Many developing nations need experts to modernize transport systems.
- KNUT shares Korea's transport education model to help build local capacity.

Expanding Korea's Global Role



- Through knowledge sharing and human-resource development, Korean universities foster inclusive and sustainable growth with partner countries.

Fostering Multicultural Learning



- International students create diverse, cross-cultural innovation.
- KNUT envisions a global network campus through joint degrees and exchanges.

Departmental Infrastructure

KNUT's College of Railroad Sciences has departments covering all areas of the railway field.

Railway College

Railway Vehicle, Infrastructure, Electrical & Information, Operation, AI & Data, Logistics

Graduate School of Transportation

Transportation Policy, Transportation Systems, SMART Railway

Introduction to K-Transportation International Education Center by KNUT

Background of the Center's Establishment

- KNUT, Korea's only transportation-specialized university with over 120 years of railway training history, established the K-Transportation International Education Center in May 2024 to boost global cooperation and internationalization
- The center acts as a hub for international exchange, expanding transportation education abroad and supporting joint research initiatives

Main Activities of the Center

- Identifying K-Transportation partner universities to meet diverse global needs
- Developing & managing specialized education modules and certification systems
 - Education modules, certification systems, joint degree programs
 - Student exchange and visiting researcher programs
- Supporting project development by linking with WB, KOICA, NRF, etc. for EDCF/ODA
- Promoting international education and joint research in overseas transport sectors

Development of K-Transportation Higher Education Programs

• Objective

- Turn diverse partner requests into standard, comparable bundles that speed alignment and onboarding.

• Programs

- International Degree Exchange Program
- K-Transportation Faculty Training Program
- K-Transportation Short-term Training Program
 - For Faculty and Staff
 - For MBA students
 - For Outstanding Undergraduates

KNUT K-Transportation Global Education and Training Programs

1. KNUT International Degree Exchange Program [(2+2) and (3+1) Education Modules]

■ Program Objective

- To provide students with advanced academic experiences by integrating foundational and major courses from their home institutions with the higher education system in Korea
- To enhance students' expertise in specialized fields through cutting-edge theoretical and practical coursework at KNUT
- To prepare students for global career opportunities by equipping them with academic and practical competencies

■ Program Overview

- Duration: 2 year or 1 year
- Language of Instruction: English or Korean(Supported by automatic translation system)
- Degree Requirements
 - a) Completion of all required credits and designated core courses
 - b) Satisfactory academic performance in coursework and practical training
 - c) Adherence to KNUT's graduation policies and procedures
- Accommodations: Dormitory of KNUT (Single room per person)
- Venue: Uiwang campus (Gyeonggi Province), KNUT, Republic of Korea
- Implementing Agency: K-Transportation International Education Center (KNUT)

■ Program Contents

1. (2+2) Education Module
 - Students complete 2 years of undergraduate studies at their home institution and transfer to KNUT for the remaining 2 years
 - A total of 72 credits, including 4 designated core courses and major electives, must be completed
 - Graduates receive a bachelor's degree upon fulfilling KNUT's academic requirements
2. (3+1) Education Module
 - Students complete 3 years of undergraduate studies at their home institution and transfer to KNUT for 1 additional year
 - A total of 36 credits, including 6 designated core courses and major electives, must be completed
 - Graduates receive a bachelor's degree upon fulfilling KNUT's academic requirements

■ Target Departments

1. Department of Railway Management and Logistics
 - Core subjects: *Logistics Management, Transportation Economics, Corporate Analysis, and Railroad Freight Transportation.*
2. Department of Railway Infrastructure Engineering
 - Core subjects: *Railroad Environmental Engineering, Advanced Railroad Structure Analysis, and Railroad Geotechnical Engineering.*
3. Department of Railway Operation Systems Engineering
 - Core subjects: *Theory of Train Operations, Railroad Safety Law, and Risk Analysis and Assessment.*
4. Department of Railway Electrical and Information
 - Core subjects: *Electric Train Propulsion Systems, Railroad Communication Systems, and Control Systems Engineering.*
5. Department of Railway Vehicle Systems
 - Core subjects: *Design of Railway Vehicles, Light Material Engineering, and Noise and Vibration of Railway Vehicles.*

■ Expected Outcomes

1. Development of Global Transportation Experts
 - Equip students with advanced expertise in transportation and railway systems, enabling them to drive progress in their home countries' infrastructure.
2. Dissemination of Transportation Technologies
 - Facilitate the adoption of cutting-edge technologies learned in Korea, improving local systems and aligning them with global standards.
3. Strengthened Academic and Practical Integration
 - Provide a seamless connection between existing education and Korea's advanced "K-Transportation Model," fostering deeper academic and professional growth.
4. Catalyst for Economic and Social Development
 - Cultivate professionals who contribute to the modernization of transportation systems, promoting national growth and global competitiveness.

Degree Exchange Program

For Outstanding Undergraduates

For International MBA students

Faculty Training Program

For Faculty & Staff

Other International Projects in Progress

Kazakhstan International Cooperation Program Development

MOU & Strategic Collaboration

- 2023: MOU signed between KNUT and ALT (Academy of Logistics and Transport) for professional training in transportation
- 2024: Ongoing discussions to strengthen global networking and expanding K-Transportation higher education programs

Key Collaborative Programs

- Internship programs at KNUT for ALT master's/PhD students
- Participation in KNUT's MBA/Executive MBA programs
- Academic mobility for undergraduate students
- Study abroad programs for ALT faculty
- Establishment of joint research Institute
- Joint degree programs in railway fields

Extended Cooperation

- Proposal submitted for Kazakhstan-NRF international joint research
- Discussion of 2+2 dual degree program between KNUT and KBTU (Kazakh-British Technical University)

Mongolian International Cooperation Program Development

Cooperation with MUST (Mongolian University of Science and Technology)

- Discussion of various collaboration programs during KNUT's visit to MUST
- Exploring participation in NRF's Leading University for International Cooperation program

Key Collaborative Programs

- Establishment of a railway department (e.g., rolling stock or railway electrical engineering)
- Exploring support strategies for Railway HRD involving DOHWA ENG, Halla University, and MUST
- Planning joint degree programs and attracting Mongolian international students

Vietnam International Cooperation Program Development

Project Overview

- Vietnam plans to train 14,000 railway professionals to support its national high-speed rail initiative
- Formation of a Korean consortium: Ministry of Land, KORAIL, Korea National Railway, etc.

Educational Collaboration

- Export of K-Transportation higher education programs
- Development of degree exchange programs
- Planning joint degree programs and attracting Vietnam international students

Future Actions

- Continued cooperation with UTT
- Launch the ODA project (International Cooperation Leading University Project, NRF)
- Participation in the K-One Team initiative
- Development of training programs aligned with Korean Railway NCS(National Competency Standards)

Thank you!