Postgraduate Diploma
Railroad Operation and New Technologies

tech global university

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Postgraduate Diploma

Railroad Operation and New Technologies

- Modality: **online**
- Duration: **6 months**
- Certificate: **TECH Global University**
- Credits: **24 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/us/engineering/postgraduate-diploma/postgraduate-diploma-railroad-operations-new-technologies**

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01

Introduction

The railroad system has developed important advances in recent years, making it necessary to train professionals with all the technical, procedural and regulatory aspects required in this sector. In this way, aspects such as the economy, the regulation of rail traffic, the allocation of capacity by the infrastructure manager and the planning of the different passenger and freight services play a decisive role when carrying out a project in this area. This makes it essential to have specialized professionals in this area. That's why the program in Railroad Operation and New Technologies is designed so that the student is able to start specializing in the new technologies that have an impact on this growing field.

Learn about the process of digital transformation and technology that has been developed in the railway sector in recent years following a program focused on engineering professionals"

Throughout its history, the railroad has not changed significantly from a conceptual point of view. Thus, for example, the interaction between the wheel and the rail continues to be one of the main technical bases of the system, and although there have been significant advances in this area, they are still based on original principles. Even so, in terms of organizational development over the last few years, it is necessary to analyze it in the current context.

This is in addition to the new trends set in motion by the various players in the sector, which form the basis of the new sector strategies to be followed by the world's railroads. In this way, this Postgraduate Diploma includes an in-depth analysis of the main technical and operational areas of the system, both at the level of the infrastructure, the rail vehicle and the interaction between the two. Its position in relation to other modes of transport is also considered in this module in order to identify its competitive advantages and factors to be improved.

It is also important to address the study of the different activities associated with incident management in railroad operations, which raises the type of measures that need to be implemented in the event of an accident, human failure or any other incident that disrupts rail traffic. This is complemented by a specific study of safety and civil protection in the railroad system as a whole. It is worth mentioning that all the issues associated with energy consumption in the operation of the different services will also be taken into consideration. This has been a very topical issue in the railway sector, particularly with regard to companies' business strategy, since it must be taken into account that the cost of this energy is one of the most important for them.

At the end of the program, the student will be able to address the digital transformation process that is happening in the sector, in the same way that has occurred in other industrial sectors. Traditionally, railroads have been digital in the field of control, command and signaling and rolling stock, but not in other areas, such as energy, infrastructure, freight, etc., which are now the targets of this new transformation.

The experience of the teaching staff in the field of railroads, in different areas and approaches such as administration, industry and the engineering company, has made it possible to develop this practical and complete content oriented to the new challenges and needs of the sector. Unlike other programs in the market, the approach is international and not only oriented to one type of country and/or system.

A 100% online Postgraduate Diploma that provides the student with the ease of being able to study it comfortably, wherever and whenever they want. All you need is a device with internet access to take your career one step further. A modality according to the current times with all the guarantees to position the engineer in a highly demanded sector.

The **Postgraduate Diploma in Railroad Operation and New Technologies** contains the most complete and up-to-date educational program on the market. The most important features of the program include:

- Improve professional skills in the field of railroad systems.
- Update and focus the student's company's strategies in these terms.
- Demand new requirements in the technology acquisition processes.
- Add value to the technical projects to be developed by student's companies and organizations.
- The graphic, schematic, and eminently practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice.
- Practical exercises where self-assessment can be used to improve learning.
- Special emphasis on innovative methodologies.
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments.
- Content that is accessible from any fixed or portable device with an Internet connection.

Become a professional specializing in the field of Railroad Operation and New Technologies by fulfilling the technical competencies demanded in this sector"

Learn about the R&D&I process in a unique and simple way, following practical cases and with the experience of an excellent teaching team.

Analyze the importance of all the issues associated with energy consumption in the operation of the different services.

The program's teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive training programmed to train in real situations.

This program is designed around Problem Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Objectives

The design of this Postgraduate Diploma allows the student to update their knowledge in a highly demanded sector in the field of engineering. In this way, the key aspects have been developed in a curriculum that will boost the career of engineers from a global perspective, analyzing the different digital technologies that apply to this sector and the importance of having cybersecurity in a means of transportation. As a result, students will develop their skills while aiming to achieve this eminently technological objective, gaining up-to-date knowledge of current trends in railroad systems. In view of the above, TECH establishes the following general and specific objectives to guarantee the satisfaction of the future graduate:

Master the application of new digital technologies and the importance of cyber security in rail transport"

General Objectives

- Gain in-depth knowledge of the different technical concepts of the railroad in its different fields
- Know the technological advances that the railroad sector is experiencing mainly due to the new digital revolution, but without forgetting the traditional approaches on which this mode of transport is based
- Understand the changes in the industry that have triggered the demand for new technical requirements
- Implement strategies based on the technological changes that have arisen in the sector
- Gain up-to-date knowledge in all aspects and trends of railroads

Specific Objectives

Module 1. The Railroad and Its Engineering in the Current Context

- Analyze the position of the railroad with respect to other modes of transportation, identifying its main advantages and areas for improvement
- Gain in-depth knowledge of the current structures and organizations on which the railroad sector is based (regulators, railroad managers, industry, institutions, groups, etc.)
- Analyze the different regulations and norms on which the railroad sector is currently based
- Discuss in detail the main technological trends that the sector is currently experiencing
- Gain in-depth knowledge of the characteristics of the different railroad operating systems, the main technical areas in the infrastructure and rolling stock
- Establish the technical interactions between infrastructure and rolling stock, as well as the existing technical criteria and conditions for the design of railroad systems
- Explain different worldwide references in terms of railroad networks, infrastructures and technical projects with high impact on the sector

Module 2. Operation

- Establish the main technical aspects of rail operation activities at the present time
- Specify the main factors affecting rail traffic regulation, including the corresponding capacity analyses
- Analyze the particularities of passenger and freight rail transport
- Address the economic criteria currently governing the management of railroad companies, both in terms of infrastructure management companies and railroad transport companies
- Make the student reflect on the importance of energy consumption in the railroad sector and how energy efficiency measures need to be incorporated into the business strategy, while analyzing each of these measures
- Specify how the different operational incidents in the service should be managed through plans, resources and decision centers
- Analyze the scope of safety and civil protection in the railroad sector, specifying the different plans, resources and decision centers

Module 3. Research, Development and Innovation (R&D&I)

- Make the student reflect on the importance of developing a business strategy based on research, development and innovation in railroad technology, identifying the new technological challenges posed
- Analyze the current situation with respect to research, development and innovation programs, as well as the different policies and strategies to promote and finance them
- We will place special emphasis on the different phases and stages of the research, development and innovation process, including the management of the final results obtained
- Specify, for each technical area analyzed, the particularities in terms of research, development and innovation, highlighting the main lines of work, associated initiatives and existing working groups
- Address the most innovative railway systems, i.e., those that do not use traditional techniques for their operation, such as magnetic levitation systems and those based on the new Hyperloop concept.

Module 4. The Digital Revolution in Railroads

- Reflect on the technological evolution of the railroad, including the new digital revolution it is currently undergoing.
- Analyze the different digital technologies applicable to the railroad sector, specifically detailing the most strategic ones
- Master the application of new digital technologies in different areas of the railroad, identifying the associated improvements: traction energy, passenger stations, railroad logistics, maintenance and traffic management
- Reflect on the importance of cybersecurity in the railroad sector
- Analyze digitization programs and strategies in different world railroads

Develops business strategies based on research and identifies the following technological challenges, fulfilling the objectives proposed for this Postgraduate Diploma"

03

Course Management

In our commitment to offer elite education for all, TECH works with renowned professionals so that the student acquires solid knowledge in the speciality of Railroad Operation and New Technologies. For this reason, this Postgraduate Diploma has a highly qualified team with extensive experience in the sector, who will offer students the best possible resources in the development of their skills during the course. In this way, students have the guarantees they need to specialise at an international level in a booming sector that will catapult them to professional success.

Take the professional step your career needs by following a Postgraduate Diploma with the support of an excellent group of professionals"

Management

Mr. Martínez Acevedo, José Conrado

- Experience in the public railroad sector, occupying various positions in construction, operation and technological development of the Spanish high-speed and conventional railroad networks.
- Head of Research, Development and Innovation projects at Administrador de Infraestructuras Ferroviarias (Adif), a state-owned company attached to the Spanish Ministry of Transport, Mobility and Urban Agenda (MITMA).
- Coordinator of more than 90 technology projects and initiatives in all areas of the railroad
- Industrial Engineer and Master's Degree in Specialization in Railroad Technologies and in Construction and Maintenance of Railroad Infrastructures.
- Professor in the Master's Degree courses on railroads at the Pontificia de Comillas University (ICAI) and the University of Cantabria.
- Member of the IEEE (Institute of Electrical and Electronics Engineers) and member of the Editorial Committee of Electrification Magazine at the same institution (magazine specialized in transportation electrification).
- Member of the AENOR group CTN 166 "Research, Technological Development and Innovation Activities (R&D&I)"
- Adif representative in the MITMA R&D&I and EGNSS (Galileo) working groups.
- Speaker at more than 40 congresses and seminars

Professors

Dr. Martínez Lledó, Mariano

- Experience in the public railroad sector, occupying various positions in construction, operation and technological development of the Spanish high-speed and conventional railroad networks.
- Head of Research, Development and Innovation projects at Administrador de Infraestructuras Ferroviarias (Adif), a state-owned company attached to the Spanish Ministry of Transport, Mobility and Urban Agenda (MITMA).
- PhD in Spanish Philology, specialized in applied linguistics (Doctoral thesis: The specialized language of railroads) and a Master's Degree Degree in International Strategic Management. Several specialization courses in technological surveillance and competitive intelligence
- Internal trainer in the area of railroad R&D&I (Integral Training Program for Technicians)
- International trainer in the area of operation, traffic control and railroad innovation (Morocco, Mexico, France)
- Professor in the Master's Degree in International Strategic Management offered by Adif, Indra and the Polytechnic University of Madrid.
- Speaker at several congresses and seminars with papers on terminology and linguistics applied to railroads.

04

Structure and Content

The following syllabus meets the indispensable requirements in the area of Railroad Operation and New Technologies. In addition, it has the support of an experienced teaching team, resulting in a curriculum with all the necessary information to provide a broad overview of this area in engineering. For the student, this translates into an excellent opportunity to catapult their career to an international level, incorporating all the fields of work involved in the engineer's professional development in this type of work environment. From module 1, students will see their knowledge broadened, which will enable them to develop professionally, knowing that they can count on the support of a team of experts.

Reflect, analyze and master the applications of new digital technologies in the field of railroads by following this program"

Module 1. The Railroad and Its Engineering in the Current Context

1.1. The Railroad in Transport
- 1.1.1. Its Position and Competency With Other Modes of Transport
- 1.1.2. Sectorial Analysis
- 1.1.3. Financing
- 1.1.4. Specialty Railroad Language and Terminology.

1.2. Organization
- 1.2.1. Regulatory Organizations and Supervisors
- 1.2.2. Industry
- 1.2.3. Administrators of Infrastructure
- 1.2.4. Railroad Transport Companies
- 1.2.5. Institutions and Associations

1.3. Regulation, Legislation and Guidelines
- 1.3.1. Legal Framework and Regulation
- 1.3.2. The Liberalization of Rail Transport
- 1.3.3. Technical Regulations

1.4. New Trends and Strategies
- 1.4.1. Interoperability of Different Technological Systems
- 1.4.2. Towards Digitalization: Railroad 4.0
- 1.4.3. A New Service Model for Society

1.5. Description of Railroad Services
- 1.5.1. Urban Services
- 1.5.2. Mid- and Long-Distance Services
- 1.5.3. High-Speed Services
- 1.5.4. Freight Services

1.6. Classification and Main Infrastructure Systems
- 1.6.1. Electric Traction Energy
- 1.6.2. Control, Command and Signaling
- 1.6.3. Telecommunications
- 1.6.4. Civil Infrastructure

1.7. Classification and Main Rolling Stock Systems
- 1.7.1. Main Types
- 1.7.2. Traction
- 1.7.3. Braking
- 1.7.4. Control, Command and Signaling
- 1.7.5. Rolling

1.8. Interaction Between Vehicle and Infrastructure
- 1.8.1. Different Interactions
- 1.8.2. Technical Compatibility of the Vehicle With the Infrastructure
- 1.8.3. The Problem of the Width of the Track and Its Main Solutions

1.9. Criteris and Technical Conditions of the Railroad
- 1.9.1. Maximum Speed
- 1.9.2. Typology of the Rolling Stock
- 1.9.3. The Capacity of the Transport
- 1.9.4. Interrelation Between the Different Subsystems

1.10. Cases of Global References
- 1.10.1. Rail Networks and Services
- 1.10.2. Infrastructures in Construction and in Service
- 1.10.3. Technological Projects

Module 2. Operation

2.1. Railroad Operation
- 2.1.1. Functions Considered in the Field of Railroad Operation
- 2.1.2. Demand for Passenger Transport
- 2.1.3. Demand for Freight Transport

2.2. Traffic Regulation
- 2.2.1. Principles of Railroad Traffic Regulation
- 2.2.2. Circulation Regulations
- 2.2.3. Gear Calculation
- 2.2.4. The Traffic Control Center

2.3. Capacity
- 2.3.1. Analysis of Line Capacity
- 2.3.2. Capacity Assigning
- 2.3.3. The Network Statement

2.4. Passenger Services
- 2.4.1. Planning Services
- 2.4.2. Identification of Restrictions and Limitations in the Operation
- 2.4.3. Passenger Stations

2.5. Freight Services
- 2.5.1. Planning Services
- 2.5.2. Identification of Restrictions and Limitations in the Operation
- 2.5.3. Freight Terminal
- 2.5.4. Particularity of Freight Operations in High Speed Lines

2.6. Economy of Railroad Systems
- 2.6.1. The Economy of Railroads in the Current Context
- 2.6.2. Economy of Infrastructure Management
- 2.6.3. Economy of Services Operation

2.7. Railroad Operations From the Point of View of Energy Consumption
- 2.7.1. Energy Consumption and Emissions Associated With Railroad Travel
- 2.7.2. Energy Management in Railroad Companies
- 2.7.3. Energy Consumption in High Speed Lines

2.8. Energetic Efficiency
- 2.8.1. Strategies to Reduce the Consumption of Electric Traction Energy
- 2.8.2. Efficient Infrastructure Design
- 2.8.3. Making the Most of the Electrical Energy Regenerated in the Traction
- 2.8.4. Efficient Driving

2.9. Incident Management
- 2.9.1. Contingency Plan
- 2.9.2. The Incident Control Center
- 2.9.3. Specific Analysis of Meteorological Phemomena

2.10. Civil Protection and Safety
- 2.10.1. Self-Protection Plans
- 2.10.2. Specific Installations in this Field
- 2.10.3. The Safety Control Center

Module 3. Research, Development and Innovation (R&D&I)

3.1. Current Context of R&D&I in Railroad Systems
- 3.1.1. Financing and Taxation of Innovation
- 3.1.2. European Impulse
- 3.1.3. Shift2Rail and ERJU European Research Programs
- 3.1.4. Situation and Perspectives in Other Countries and Regions of the World

3.2. The Phases of the R&D&I Process
- 3.2.1. Innovation Models
- 3.2.2. The R&D&I Project
- 3.2.3. Technological Intelligence
- 3.2.4. The R&D&I Strategy
- 3.2.5. Trial Installations

3.3. Technological Challenges of the Railroad Systems
- 3.3.1. Traditional and Future Challenges
- 3.3.2. Railroad Interoperability in Terms of R&D&I
- 3.3.3. The Digital Revolution in Railroad Sector

3.4. R&D&I in the Field of Electric Traction Energy
- 3.4.1. Current and Predicted Lines of R&D&I
- 3.4.2. Technological Initiatives to Highlight
- 3.4.3. Main Research Groups in this Subject

3.5. R&D&I in the Field of CCS
- 3.5.1. Current and Predicted Lines of R&D&I
- 3.5.2. Technological Initiatives to Highlight
- 3.5.3. Main Research Groups in this Subject

3.6. R&D&I in the Field of Telecommunications
- 3.6.1. Current and Predicted Lines of R&D&I
- 3.6.2. Technological Initiatives to Highlight
- 3.6.3. Main Research Groups in this Subject

3.7. R&D&I in the Field of Infrastructure
- 3.7.1. Current and Predicted Lines of R&D&I
- 3.7.2. Technological Initiatives to Highlight
- 3.7.3. Main Research Groups in this Subject

3.8. R&D&I in the Field of Rolling Stock
- 3.8.1. Current and Predicted Lines of R&D&I
- 3.8.2. Technological Initiatives to Highlight
- 3.8.3. Main Research Groups in this Subject

3.9. Results of the R&D&I Process
- 3.9.1. Results Protection
- 3.9.2. Transfer of Technology
- 3.9.3. Implementation in the Service

3.10. New Railroad Systems
- 3.10.1. Situation and Outlook
- 3.10.2. Magnetic Levitation Technology
- 3.10.3. The New Concept of Hyperloop

Module 4. The New Digital Revolution in Railroads

4.1. The Fourth Railroad Revolution
- 4.1.1. Technological Evolution
- 4.1.2. Digital Technologies Applied to Railroads
- 4.1.3. Fields of Application in the Current Context

4.2. Key Technology Analysis
- 4.2.1. Big Data
- 4.2.2. *Cloud Computing*
- 4.2.3. Artificial Intelligence
- 4.2.4. IoT and New Sensorization
- 4.2.5. DAS

4.3. Application of Electric Railroad Network
- 4.3.1. Objective
- 4.3.2. Functionality
- 4.3.3. Implementation

4.4. Application in Maintenance
- 4.4.1. Objective
- 4.4.2. Functionality
- 4.4.3. Implementation

4.5. Application in Passenger Stations
- 4.5.1. Objective
- 4.5.2. Functionality
- 4.5.3. Implementation

4.6. Application in Railroad Logistics Management
- 4.6.1. Objective
- 4.6.2. Functionality
- 4.6.3. Implementation

4.7. Application in Railroad Traffic Management
- 4.7.1. Objective
- 4.7.2. Functionality
- 4.7.3. Implementation

4.8. Cybersecurity in the Railroad
- 4.8.1. Objective
- 4.8.2. Functionality
- 4.8.3. Implementation

4.9. User Experience
- 4.9.1. Objective
- 4.9.2. Functionality
- 4.9.3. Implementation

4.10. Digitalization Strategies in Various Railroads
- 4.10.1. German Railroads
- 4.10.2. French Railroads
- 4.10.3. Japanese Railroads
- 4.10.4. Other Railroads

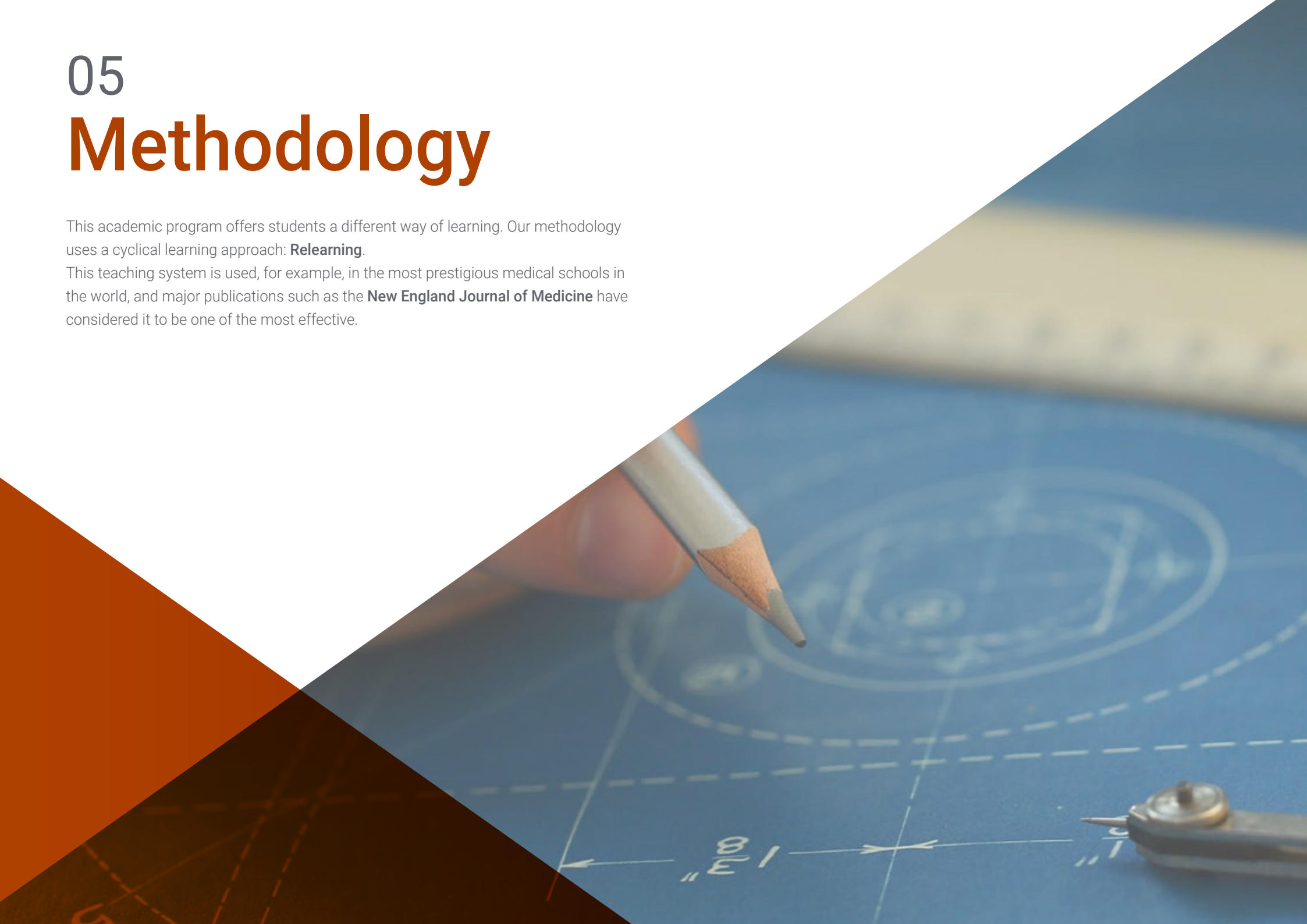
Learn about the technological evolution and new experiments of the digital era for the complete modernization of the railway sector"

05

Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.



Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"

At TECH we use the Case Method

Our program offers a revolutionary method of skills and knowledge development. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.

At TECH, you will experience a way of learning that is shaking the foundations of traditional universities around the world"

We are the first online university to combine Harvard Business School case studies with a 100% online learning system based on repetition.

The student will learn, through collaborative activities and real cases, how to solve complex situations in real business environments.

A learning method that is different and innovative

This intensive Engineering program at TECH Global University prepares you to face all the challenges in this field, both nationally and internationally. We are committed to promoting your personal and professional growth, the best way to strive for success, that is why at TECH Global University you will use Harvard *case studies*, with which we have a strategic agreement that allows us, to offer you material from the best university in the world.

> *Our program prepares you to face new challenges in uncertain environments and achieve success in your career"*

The case method is the most widely used learning system by the best faculties in the world. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question that you are presented with in the case method, an action-oriented learning method. Throughout the program, the studies will be presented with multiple real cases. They will have to combine all their knowledge and research, and argue and defend their ideas and decisions.

Relearning Methodology

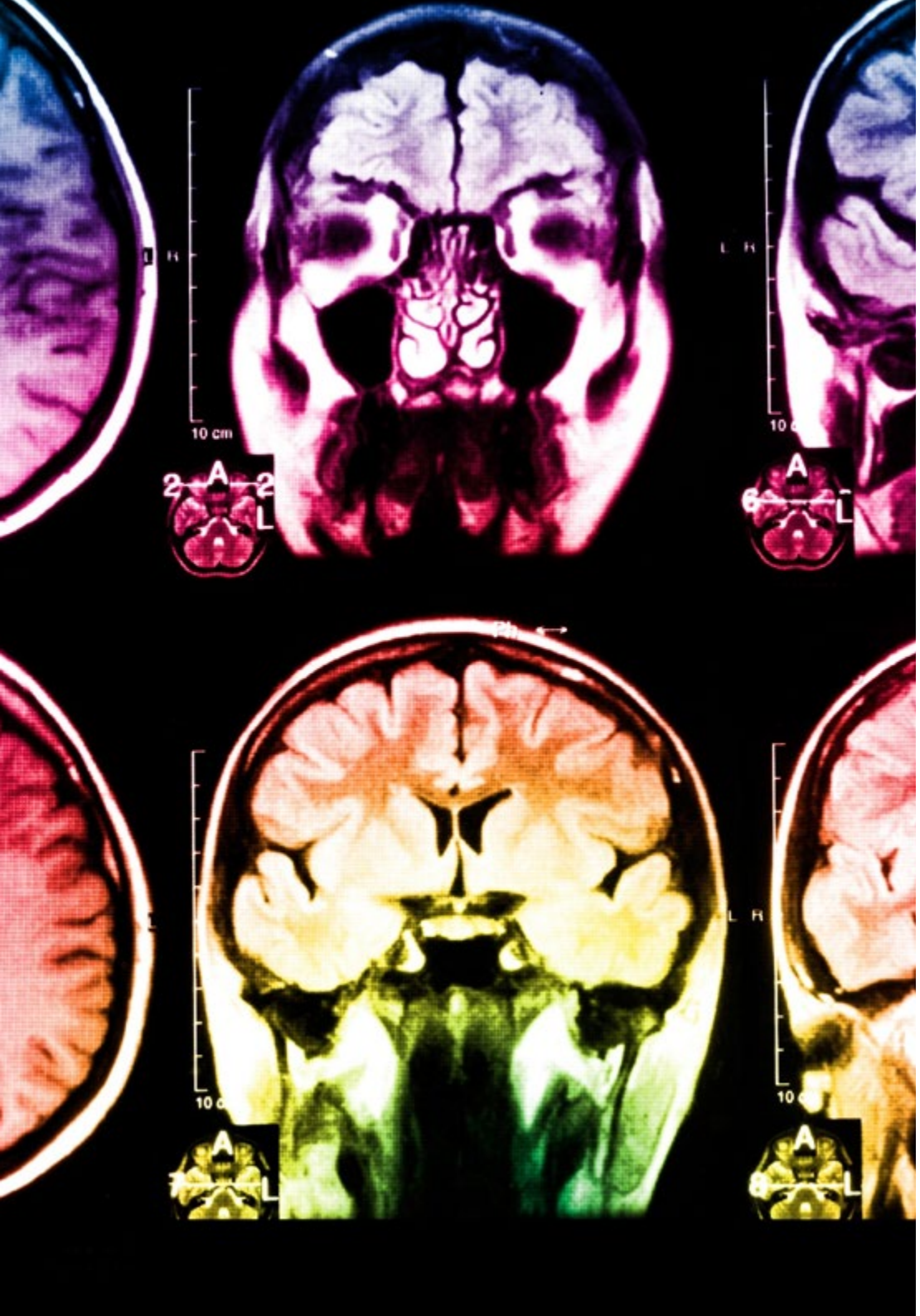
TECH is the first university in the world to combine Harvard University *case studies*with a 100% online learning system based on repetition, which combines 8 different didactic elements in each lesson.

We enhance Harvard *case studies* with the best 100% online teaching method: Re-learning.

In 2019, we obtained the best learning results of all online universities in the world.

At TECH, you will learn using a cutting-edge methodology designed to train the executives of the future. This method, at the forefront of international teaching, is called Re-learning.

Our university is the only university in the world authorized to employ this successful method. In 2019, we managed to improve our students' overall satisfaction levels (teaching quality, quality of materials, course structure, objectives...) based on the best online university indicators.



In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically. This methodology has trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, and financial markets and instruments. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

Re-learning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.

From the latest scientific evidence in the field of neuroscience, not only do we know how to organize information, ideas, images and memories, but we know that the place and context where we have learned something is fundamental for us to be able to remember it and store it in the hippocampus, to retain it in our long-term memory.

In this way, and in what is called neurocognitive context-dependent e-learning, the different elements in our program are connected to the context where the individual carries out their professional activity.

This program offers the best educational material, prepared with professionals in mind:

Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.

Classes

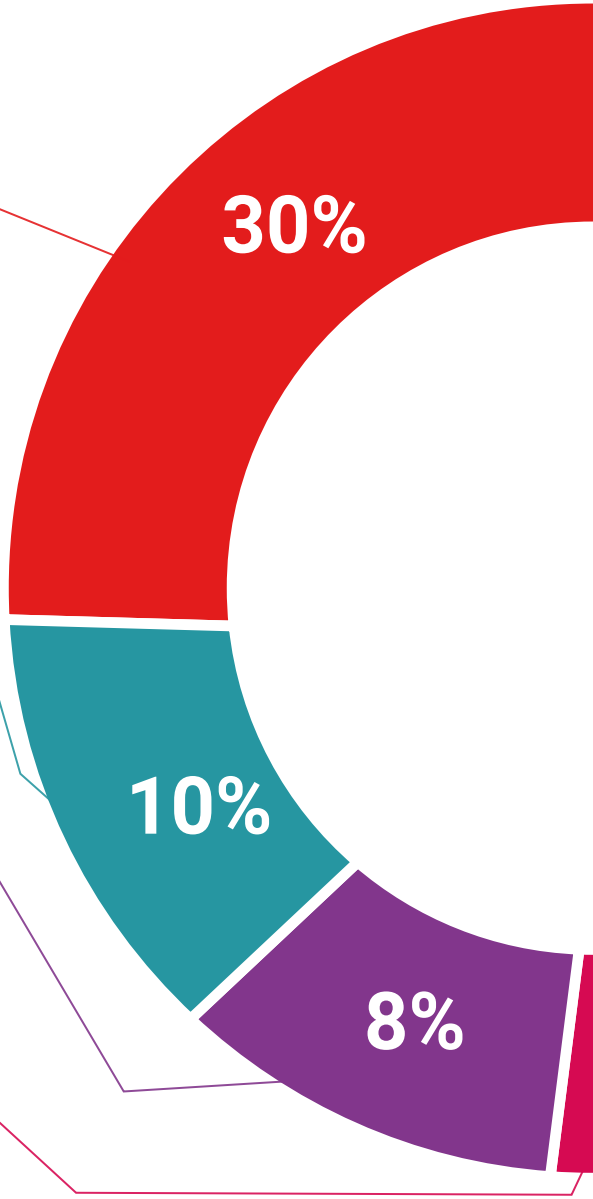
There is scientific evidence suggesting that observing third-party experts can be useful. Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

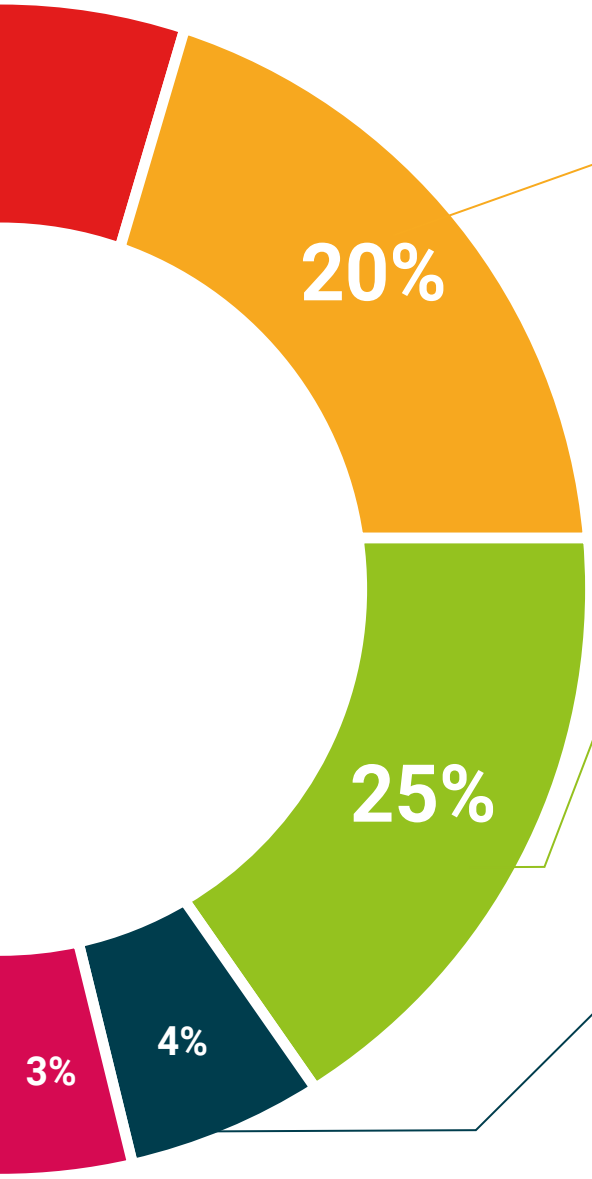
Practising Skills and Abilities

They will carry out activities to develop specific competencies and skills in each thematic area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization we live in.

Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





Case Studies

They will complete a selection of the best case studies in the field used at Harvard. Cases that are presented, analyzed, and supervised by the best senior management specialists in the world.

Interactive Summaries

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive multimedia content presentation training Exclusive system was awarded by Microsoft as a "European Success Story".

Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises: so that they can see how they are achieving your goals.

06

Certificate

The Postgraduate Diploma in Railroad Operation and New Technologies guarantees you, in addition to the most rigorous and up-to-date training, access to a Postgraduate Diploma issued by TECH Global University.

Successfully complete this training program and receive your university certificate without travel or laborious paperwork"

This program will allow you to obtain your **Postgraduate Diploma in Railroad Operation and New Technologies** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra (***official bulletin***). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Diploma in Railroad Operation and New Technologies**

Modality: **online**

Duration: **6 months**

Accreditation: **24 ECTS**


tech global university

Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Postgraduate Diploma in Railroad Operation and New Technologies

This is a program of 600 hours of duration equivalent to 24 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Rector

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates

*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.

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Postgraduate Diploma

Railroad Operation and New Technologies

- Modality: **online**
- Duration: **6 months**
- Certificate: **TECH Global University**
- Credits: **24 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Postgraduate Diploma
Railroad Operation and New Technologies

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