

# Professional Master's Degree Port Management and Intermodal Transportation

M T E T I





## Professional Master's Degree Port Management and Intermodal Transportation

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Technological University
- » Schedule: at your own pace
- » Exams: online
- » Aimed at: University graduates and postgraduates who have previously completed any of the degrees in the field of Business Sciences, Civil or N130aval Engineering.

Website: [www.techtitute.com/us/school-of-business/professional-master-degree/master-port-management-intermodal-transportation](http://www.techtitute.com/us/school-of-business/professional-master-degree/master-port-management-intermodal-transportation)

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# 01 Welcome

Global trade has increased in recent decades, giving relevance to the optimization of logistics in the port sector. A key maritime area for the functioning of the world economy and that marks the present and future course of much of the planet. In this scenario, the profile of the leader, capable of directing and managing its operations, as well as the human resources involved are essential. In this sense, this 100% online program offers a specialization oriented to the increase of managerial skills, to the assumption of responsibilities in the activities of national and international port companies. All this, in addition, with a content prepared by professionals with extensive experience and numerous didactic materials at the forefront of academia.



Professional Master's Degree in Port Management and Intermodal Transportation  
TECH Technological University



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*Thanks to this Professional Master's Degree  
100% online you will increase your leadership  
capacity in port management"*

02

# Why Study at TECH?

TECH is the world's largest 100% online business school. It is an elite business school, with a model based on the highest academic standards. A world-class center for intensive managerial skills education.



“

*TECH is a university at the forefront of technology, and puts all its resources at the student's disposal to help them achieve entrepreneurial success"*

## At TECH Technological University



### Innovation

The university offers an online learning model that balances the latest educational technology with the most rigorous teaching methods. A unique method with the highest international recognition that will provide students with the keys to develop in a rapidly-evolving world, where innovation must be every entrepreneur's focus.

"*Microsoft Europe Success Story*", for integrating the innovative, interactive multi-video system.



### The Highest Standards

Admissions criteria at TECH are not economic. Students don't need to make a large investment to study at this university. However, in order to obtain a qualification from TECH, the student's intelligence and ability will be tested to their limits. The institution's academic standards are exceptionally high...

**95%** | of TECH students successfully complete their studies



### Networking

Professionals from countries all over the world attend TECH, allowing students to establish a large network of contacts that may prove useful to them in the future.

**+100000**

executives prepared each year

**+200**

different nationalities



### Empowerment

Students will grow hand in hand with the best companies and highly regarded and influential professionals. TECH has developed strategic partnerships and a valuable network of contacts with major economic players in 7 continents.

**+500**

collaborative agreements with leading companies



### Talent

This program is a unique initiative to allow students to showcase their talent in the business world. An opportunity that will allow them to voice their concerns and share their business vision.

After completing this program, TECH helps students show the world their talent.



### Multicultural Context

While studying at TECH, students will enjoy a unique experience. Study in a multicultural context. In a program with a global vision, through which students can learn about the operating methods in different parts of the world, and gather the latest information that best adapts to their business idea.

TECH students represent more than 200 different nationalities.



TECH strives for excellence and, to this end, boasts a series of characteristics that make this university unique:



### Analysis

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TECH explores the student's critical side, their ability to question things, their problem-solving skills, as well as their interpersonal skills.



### Academic Excellence

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TECH offers students the best online learning methodology. The university combines the Relearning method (postgraduate learning methodology with the best international valuation) with the Case Study. Tradition and vanguard in a difficult balance, and in the context of the most demanding educational itinerary.



### Economy of Scale

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TECH is the world's largest online university. It currently boasts a portfolio of more than 10,000 university postgraduate programs. And in today's new economy, **volume + technology = a ground-breaking price**. This way, TECH ensures that studying is not as expensive for students as it would be at another university.



### Learn with the best

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In the classroom, TECH's teaching staff discuss how they have achieved success in their companies, working in a real, lively, and dynamic context. Teachers who are fully committed to offering a quality specialization that will allow students to advance in their career and stand out in the business world.

Teachers representing 20 different nationalities.



*At TECH, you will have access to the most rigorous and up-to-date case analyses in academia"*

03

# Why Our Program?

Studying this TECH program means increasing the chances of achieving professional success in senior business management.

It is a challenge that demands effort and dedication, but it opens the door to a promising future. Students will learn from the best teaching staff and with the most flexible and innovative educational methodology.



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*We have highly qualified teachers and the most complete syllabus on the market, which allows us to offer you education of the highest academic level”*

This program will provide you with a multitude of professional and personal advantages, among which we highlight the following:

**01**

### A Strong Boost to Your Career

By studying at TECH, students will be able to take control of their future and develop their full potential. By completing this program, students will acquire the skills required to make a positive change in their career in a short period of time.

*70% of students achieve positive career development in less than 2 years.*

**02**

### Develop a strategic and global vision of the company

TECH offers an in-depth overview of general management to understand how each decision affects each of the company's different functional fields.

*Our global vision of companies will improve your strategic vision.*

**03**

### Consolidate the student's senior management skills

Studying at TECH means opening the doors to a wide range of professional opportunities for students to position themselves as senior executives, with a broad vision of the international environment.

*You will work on more than 100 real senior management cases.*

**04**

### You will take on new responsibilities

The program will cover the latest trends, advances and strategies, so that students can carry out their professional work in a changing environment.

*45% of graduates are promoted internally.*

05

### Access to a powerful network of contacts

TECH connects its students to maximize opportunities. Students with the same concerns and desire to grow. Therefore, partnerships, customers or suppliers can be shared.

*You will find a network of contacts that will be instrumental for professional development.*

06

### Thoroughly develop business projects

Students will acquire a deep strategic vision that will help them develop their own project, taking into account the different fields in companies.

*20% of our students develop their own business idea.*

07

### Improve soft skills and management skills

TECH helps students apply and develop the knowledge they have acquired, while improving their interpersonal skills in order to become leaders who make a difference.

*Improve your communication and leadership skills and enhance your career.*

08

### You will be part of an exclusive community

Students will be part of a community of elite executives, large companies, renowned institutions, and qualified teachers from the most prestigious universities in the world: the TECH Technological University community.

*We give you the opportunity to study with a team of world-renowned teachers.*

# 04 Objectives

This program has been designed to offer over 12 months, the most current and advanced information on the maritime sector, port governance models, strategic planning or infrastructure development and environmental sustainability. All this, from a theoretical-practical perspective and the great experience of the teaching professionals who teach this university program, created by the largest digital university in the world.



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*You have at your disposal the best multimedia teaching materials, accessible 24 hours a day, 7 days a week”*

**TECH makes the goals of their students their own goals too  
Working together to achieve them**

The **Professional Master's Degree in Port Management and Intermodal Transportation** qualifies students to:

01

Conceptualizing logistics and placing it in today's economic environment

02

Conceptually define the processes that compose it and give rise to the different types of logistics

03

Understand what each of these processes consists of and the purpose for which they were conceived

04

Analyze the general composition of today's intermodal chains

05

Update the student's knowledge in the field of multimodal transport





06

Substantiate the importance of maritime transport in globalization

08

Examine the main maritime traffics and transport vessels



09

Examine the main maritime traffics in more detail

07

Analyze what multimodality is and its role within the logistics chain

10

Specify the international legislation in maritime transport

11

Delve into the traditional characteristics and functions of ports and their historical evolution

12

Delve into the evolution of the logistic function in the ports and to give rise to the different typologies of logistics

13

Examine the alternative of specialization of port infrastructures as a way of adapting to the demands of logistics chains

14

Analyze the latest trends in innovation

15

Define the different models of port governance of ports



16

Examine the evolution of port governance in relation to the level of in connection with the degree of development of countries

18

Define a port model for the future in a context of profound and global transformation



19

Analyze with maximum objectivity these aspirations, from a technical point of view

17

Provide a context for the governance structure of a typical port

20

Identify the importance of consensus, communication and transparency in the process of formulating the strategy of a port system that has important repercussions on society as a whole, both economically and socially

# 05

# Competencies

This academic proposal offers the professional oriented to the maritime sector a global and current vision of port management. This will allow students to increase their skills to take on management roles, solve and adapt to complex and changing situations, as well as to be able to coordinate effectively with other companies and agents in the sector. To do this, it has case study simulations and numerous teaching resources that present a practical perspective.





“

*Increase your ability to successfully  
resolve complex situations  
in the port sector”*

01

Generate a strategy for a port system that responds to the aspirations of society as a whole, i.e. the general interest of citizens

02

Develop the capacity to respond to crises and emergencies in the port environment, designing effective action plans, coordinating communication with stakeholders and conducting drills to ensure an efficient response in adverse situations

03

Develop in detail the operation of each of the port services with public service obligations in the ports, as well as the main commercial activities of the vessel

04

Analyze the specific threats and vulnerabilities of port environments, identifying possible risk scenarios and assessing their potential impact on port operations





XX  
XXXXXXXXXX

05

Planning and coordinating human resources in a port entity

06

Establish comprehensive port security strategies, including physical, technological and managerial measures, in order to mitigate risks and ensure the protection of port infrastructure and activities

07

Apply international regulations and standards related to port security, ensuring compliance with current regulations and promoting world-class security practices

08

Realize the strategy through a port's business plan based on the strategic model of a port system

06

# Structure and Content

The Professional Master's Degree in Port Management and Intermodal Transportation is a program that explores the fundamental knowledge to master maritime-port logistics, multimodal transportation, strategic planning and the operation of ports and terminals in today's world. All this, from a theoretical-practical approach and based on the mastery and experience of the teaching team on this sector.





“

*Obtain the most effective strategies to carry out a correct port strategic planning"*

## Syllabus

This program consists of 1,500 teaching hours that will prepare students to face the new challenges of Port Management and Intermodal Transportation. This is why this program covers the techniques, leadership skills and competencies necessary to master port governance models, infrastructure development and environmental sustainability, among other aspects.

To achieve this goal successfully, the teaching team has developed a syllabus consisting of 10 modules, where students will delve into Logistics Operators, Multimodal transportation, Intermodality and Logistics Platforms, the business plan, Human Resources management or port services.

A comprehensive content that becomes even more attractive and dynamic thanks to the multimedia didactic resources, specialized readings or simulations of case studies. In addition, the Relearning system, used by TECH, will allow the graduates to reduce the long hours of study and achieve effective learning in less time.

Undoubtedly, an excellent opportunity for professional growth through an advanced qualification and a teaching methodology that adapts to the students' agenda and professional motivations. All you need is an electronic device (cell phone, tablet, computer) with Internet connection to view the content of this academic option at any time of the day.

This Professional Master's Degree is developed over 12 months and is divided into 10 modules.

<b>Module 1</b>	Logistics and Logistics Operators
<b>Module 2</b>	Multimodal Transport, Intermodality and Logistics Platforms
<b>Module 3</b>	Maritime Transport
<b>Module 4</b>	Ports and Port Terminals
<b>Module 5</b>	Port Governance Models
<b>Module 6</b>	Strategic Port Planning
<b>Module 7</b>	Port Business Plan and HR Management
<b>Module 8</b>	Maritime-port Logistics and Port Services
<b>Module 9</b>	Planning and Development of Infrastructure and Environmental Sustainability
<b>Module 10</b>	Port Security and Security



### Where, When and How is it Taught?

TECH offers the possibility of developing this Professional Master's Degree in Port Management and Intermodal Transportation in a totally online way. Throughout the 12 months of the educational program, you will be able to access all the contents of this program at any time, allowing you to self-manage your study time.

*A unique, key, and decisive educational experience to boost your professional development and make the definitive leap.*

**Module 1. Logistics and Logistics Operators**

**1.1. Logistics**

- 1.1.1. Logistics, Role in the current economic flow
- 1.1.2. Logistics and supply chain. Differences
- 1.1.3. Logistics in the company. Importance

**1.2. Logistic areas and typologies**

- 1.2.1. Logistics areas
- 1.2.2. Internal logistics vs. external logistics
- 1.2.3. Logistics key elements

**1.3. Logistics operations**

- 1.3.1. Operations of logistics companies
- 1.3.2. The logistics process and its elements
- 1.3.3. Stages of the logistics chain
- 1.3.4. Problems that arise in logistics environments

**1.4. Logistics adapted to current market needs**

- 1.4.1. Logistics in e-commerce. Distribution Logistics
- 1.4.2. Reverse Logistics
- 1.4.3. Logistics Indicators
- 1.4.4. Current logistics

**1.5. New Technologies Applied to Logistics**

- 1.5.1. Robotics and automated warehouses
- 1.5.2. Process Automation
- 1.5.3. Information systems applied to logistics
- 1.5.4. Blockchain and Machine Learning

**1.6. Logistics of the future**

- 1.6.1. Challenges facing logistics
- 1.6.2. Green Logistics
- 1.6.3. New trends in logistics

**1.7. Logistics Operators**

- 1.7.1. Global Logistics
- 1.7.2. Figure of the logistics operator
- 1.7.3. Evolution of logistics operators up to the present day
- 1.7.4. The Logistics Operator. Requirements

**1.8. Logistics Operators and the Outsourcing Contract**

- 1.8.1. The Outsourcing Contract. Clauses, SLA's
- 1.8.2. Services provided by logistics operators
- 1.8.3. Advantages offered by logistics operators

**1.9. Logistics Operators Functions and typology**

- 1.9.1. Functions of logistics operators
- 1.9.2. *Party Logistics* (PL). Uses
- 1.9.3. Types of logistics operators. Services and infrastructures
- 1.9.4. The future of PL From 6 PL to 10PL

**1.10. Freight forwarder Vs Logistics operator**

- 1.10.1. Freight Forwarder vs Logistics Operator. Differences and similarities
- 1.10.2. Evolution of the Freight Forwarder towards the figure Logistics Operator
- 1.10.3. The freight forwarder and the LSP system Bringing services together

**Module 2. Multimodal Transport, Intermodality and Logistics Platforms****2.1. The Warehouse**

- 2.1.1. Phases of the logistics activity. Role of the warehouse in the supply chain
- 2.1.2. Warehouse activities
- 2.1.3. Types of warehouses
- 2.1.4. Storage alternatives

**2.2. Logistics platforms**

- 2.2.1. Warehouse Vs Logistics platform. Differentiating Elements
- 2.2.2. Types of logistics platforms
- 2.2.3. Operation of a logistics platform. Infrastructures, space organization and human and mechanical resources

**2.3. Logistics platforms as an integrating element of the intermodal chain**

- 2.3.1. Types of logistics platforms
- 2.3.2. Location as a differentiating element of logistics platforms. HUB warehouses
- 2.3.3. Micro logistics platforms. Urban SLPs

**2.4. Land transport of goods by road**

- 2.4.1. International land transport of goods. Primary infrastructures and international legal framework
- 2.4.2. Types of freight transport by road
- 2.4.3. Key elements for the management of road transport companies
- 2.4.4. Digital transformation of road transport companies. Management Systems

**2.5. Rail freight transport**

- 2.5.1. Rail transport. Situation of international rail freight networks
- 2.5.2. Railway operators
- 2.5.3. Types of rail transport

**2.6. Maritime transport of goods**

- 2.6.1. International regulatory bodies
- 2.6.2. Relevant legislation
- 2.6.3. Long distance maritime transportation
- 2.6.4. Short sea shipping and highways of the sea
- 2.6.5. Transport of goods by inland waterways
- 2.6.6. Maritime Transport Key Aspects

**2.7. Air transport of goods**

- 2.7.1. International regulatory bodies
- 2.7.2. International legal framework
- 2.7.3. Essential infrastructures
- 2.7.4. Aircraft. Typology
- 2.7.5. Air transport Key Aspects

**2.8. Capillary distribution of goods**

- 2.8.1. Capillary distribution, the last link in the logistics chain
- 2.8.2. Capillary distribution operation
- 2.8.3. Last mile logistics. Operation

**2.9. Multimodal and combined transport**

- 2.9.1. Multimodal and combined transport
- 2.9.2. Multimodality Vs Intermodality
- 2.9.3. Role of Multimodal Transport Operators (MTOs)

**2.10. Intermodal transport**

- 2.10.1. Intermodal transport
- 2.10.2. Types of intermodality
- 2.10.3. Role of the warehouse in intermodality  
Cross-docking
- 2.10.4. The intermodal transport operator
- 2.10.5. Intermodal transport systems
- 2.10.6. Intermodal transport. Advantages, Problems and Challenges

## Module 3. Maritime Transport

### 3.1. Maritime Transport and International Trade

- 3.1.1. Maritime Transport
- 3.1.2. International Trade
- 3.1.3. Maritime traffic
- 3.1.4. TRAMP traffic and regular lines

### 3.2. Types of Vessels in Maritime Transport

- 3.2.2. Types of Vessels in Maritime Transport according to their cargo
- 3.2.2. Evolution of the maritime transport ships
- 3.2.3. The Container
  - 3.2.3.1. Types of maritime containers

### 3.3. Maritime Transportation Market

- 3.3.1. Maritime Transportation Market
- 3.3.2. World fleet
- 3.3.3. World Shipping Requirement

### 3.4. Maritime Transportation Costs

- 3.4.1. Cost distribution
- 3.4.2. Fixed Costs
- 3.4.3. Variable Costs
- 3.4.4. Loading/unloading costs
- 3.4.5. Factors influencing cost

### 3.5. Maritime Traffic

- 3.5.1. Oil traffic
- 3.5.2. Bulk solids traffic
- 3.5.3. General cargo

### 3.6. Maritime Law

- 3.6.1. Maritime privileges
- 3.6.2. Ship mortgage
- 3.6.3. International Maritime Transport Regulations and Conventions

### 3.7. Contracts for the Operation of the Vessel

- 3.7.1. Economic operation of the vessel
- 3.7.2. Bareboat Lease
- 3.7.3. Chartering
- 3.7.4. Passenger contract

### 3.8. Freight Market

- 3.8.1. Freight Market Evolution
- 3.8.2. Periods
- 3.8.3. Supply/Demand

### 3.9. Marine Accident and Marine Insurance

- 3.9.1. Accidents in navigation
- 3.9.2. Types of damage
- 3.9.3. Marine insurance

### 3.10. Emissions. International regulation

- 3.10.1. Emissions from maritime transport
- 3.10.2. International regulation
- 3.10.3. Forms of compliance with regulations
- 3.10.4. Reduction of CO<sub>2</sub> emissions

## Module 4. Ports and Port Terminals

### 4.1. The Commercial Port. Functions

- 4.1.1. Functions of a commercial port
- 4.1.2. Ports and the supply chain
- 4.1.3. Ports in the 21st century

### 4.2. Models of Ports according to the flows of goods

- 4.2.1. Ports as essential nodes of logistics chains
- 4.2.2. Port typology according to flow freight
  - 4.2.2.1. Import/export ports
  - 4.2.2.2. Hub ports
- 4.2.3. Adapting to changing trends in the flow of goods

### 4.3. Port Terminals

- 4.3.1. Port Specialization
- 4.3.2. Scheme and Zones of a Port Terminal
- 4.3.3. Typology of port terminals

### 4.4. Cranes and mechanical means

- 4.4.1. Cranes for loading and unloading the vessel
- 4.4.2. Means of transport of cargo in a terminal
- 4.4.3. Means of handling the load in the courtyard

### 4.5. Multi-purpose terminals and container terminals

- 4.5.1. Multi-purpose or multi-purpose terminals
- 4.5.2. Container terminal
- 4.5.3. Loading and unloading flow in a container terminal

### 4.6. Bulk terminals

- 4.6.1. Solid bulk terminals
- 4.6.2. Liquid bulk terminals
- 4.6.3. Special facilities

### 4.7. Rolling Cargo Terminals

- 4.7.1. Rolling Cargo Terminals
- 4.7.2. Containers on platforms with wheels
- 4.7.3. Automotive

### 4.8. Passenger terminals and other specialized terminals

- 4.8.1. Passenger terminals
- 4.8.2. Sport Marinas
- 4.8.3. Fishing terminals

### 4.9. Smart ports and Automation

- 4.9.1. Smart Ports
- 4.9.2. Digitization
- 4.9.3. Operational automation

### 4.10. Latest trends in port innovation

- 4.10.1. Artificial Intelligence and its application to ports
- 4.10.2. Simulation based training (SBT)
- 4.10.3. Digital port twins

**Module 5. Port Governance Models**

**5.1. Port Governance**

- 5.1.1. Port Governance
- 5.1.2. Evolution of port governance
- 5.1.3. Port governance and economic development

**5.2. Port governance models**

- 5.2.1. Public and private ports
- 5.2.2. Tool ports
- 5.2.3. The landlord port model

**5.3. Trends in port governance**

- 5.3.1. Stabilization of the governance model: towards a nuanced landlord
- 5.3.2. Vertical and horizontal integration
- 5.3.3. Control and supervision of competition

**5.4. The landlord model and the public domain**

- 5.4.1. The management of the port public domain
- 5.4.2. Revenue from fees
- 5.4.3. Revenue from tariffs

**5.5. Examples of port governance models**

- 5.5.1. Private ports in the United Kingdom
- 5.5.2. The *landlord* model in continental Europe
- 5.5.3. Spanish America. Models in transition

**5.6. The port services regime**

- 5.6.1. Nature of service (public, private). Requirements for the provision of the service
- 5.6.2. Administrative link /contract, license)
- 5.6.3. Form or requirements for access to the provision of the service. Concurrence. Limitation of the number of providers

**5.7. Coordination of port systems at the country level**

- 5.7.1. Centralized Systems
- 5.7.2. Decentralized systems
- 5.7.3. Mixed Systems

**5.8. Intra-port governance**

- 5.8.1. Port management
- 5.8.2. Model organization chart and functional areas
- 5.8.3. Port planning and operation areas

**5.9. Port administration**

- 5.9.1. Economic and financial management
- 5.9.2. Management of Human Resources
- 5.9.3. Industrial safety and occupational risk prevention

**5.10. Relations between the port with its environment**

- 5.10.1. Port-city interrelations
- 5.10.2. The urban-port network. Urban planning considerations
- 5.10.3. Institutional activities and collaboration with the environment



**Module 6. Strategic Port Planning****6.1. The Port System**

- 6.1.1. Port authorities. Coordination
- 6.1.2. Economic perspective
- 6.1.3. Environmental perspective
- 6.1.4. Social Perspective
- 6.1.5. Performance criteria

**6.2. Economically profitable ports**

- 6.2.1. Financing
- 6.2.2. Budgeting
- 6.2.3. Prices associated with the port reality
- 6.2.4. Redistribution of resources between ports

**6.3. Port space management**

- 6.3.1. Port space performance
- 6.3.2. Port space at the service general interest
- 6.3.3. Digitalization of port space

**6.4. Infrastructure. Demand-oriented investments**

- 6.4.1. Leveraging infrastructure investments
- 6.4.2. Economically and socially profitable
- 6.4.3. Infrastructure connectivity
- 6.4.4. Respect for the environment

**6.5. Provision of services oriented customers and society as a whole**

- 6.5.1. Competitive services at the service of the general interest
- 6.5.2. Efficiency in the provision of services
- 6.5.3. Monitoring of the provision of services
- 6.5.4. Simplification of bureaucratic procedures
  - 6.5.4.1.1. Border controls and inspections
  - 6.5.4.1.2. Streamlining of procedures

**6.6. Innovation and digitalization of ports**

- 6.6.1. Electronic administration
- 6.6.2. Digital ports
- 6.6.3. Promotion of innovation
- 6.6.4. Innovation at the service of the general interest

**6.7. International projection**

- 6.7.1. International Relations
- 6.7.2. Brand Image
- 6.7.3. The competitiveness of ports in the international context

**6.8. Environmental Sustainability**

- 6.8.1. Environmental Management
- 6.8.2. Quality and environmental measurements
- 6.8.3. Consumption and waste management
- 6.8.4. Sustainable mobility
- 6.8.5. Climate Change
- 6.8.6. The port and the citizen

**6.9. Security/Safety**

- 6.9.1. Industrial Safety
- 6.9.2. Port security
- 6.9.3. Cybersecurity

**6.10. Ethical corporate culture and human capital**

- 6.10.1. Ethical Codes
- 6.10.2. Supervision and Control
- 6.10.3. Transparency
- 6.10.4. Organizational Structure
- 6.10.5. Equality
- 6.10.6. Training and Career
- 6.10.7. Communication and participation

**Module 7. Port Business Plan and HR Management**

**7.1. Port Business Plan as a Planning Tool**

- 7.1.1. The Business Plan as concretion of the global strategy of a port system
- 7.1.2. The Business Plan as a coordinating element of planning
- 7.1.3. SWOT Analysis
- 7.1.4. Strategic Map
- 7.1.5. Other planning instruments of the Port

**7.2. Perspectives of a Port Business Plan**

- 7.2.1. Port traffic
- 7.2.2. Inversions
- 7.2.3. Economic-financial
- 7.2.4. Human resources
- 7.2.5. Environment and sustainability

**7.3. Management control through the Business Plan**

- 7.3.1. Monitoring of objectives
- 7.3.2. Evolution of management ratios
- 7.3.3. Corrective Actions

**7.4. Human capital**

- 7.4.1. Socio-labor context of the Ports
- 7.4.2. HR planning within the global and port strategy
- 7.4.3. Industrial relations and negotiation

**7.5. Need for change. Professionalization of the Ports**

- 7.5.1. Resistance to Change
- 7.5.2. How to manage change
- 7.5.3. Professionalize the ports
- 7.5.4. Transparency and communication

**7.6. Competency-based management as a facilitator of change**

- 7.6.1. Knowledge competences
- 7.6.2. "Soft" competences
- 7.6.3. The different aspects of management by competences

**7.7. Jobs**

- 7.7.1. Establishment of Jobs
- 7.7.2. Job evaluation
- 7.7.3. Professional classification and organizational structure

**7.8. Training Plan**

- 7.8.1. Plan of formation of the harbor system
- 7.8.2. Training plan at port level
- 7.8.3. The "corporate university"
- 7.8.4. The virtual classroom

**7.9. Pay system**

- 7.9.1. Pay system
- 7.9.2. The remuneration structure
- 7.9.3. Performance evaluation and variable remuneration

**7.10. Prevention of Occupational Hazards**

- 7.10.1. Prevention memories. Prevention strategic
- 7.10.2. Prevention of occupational risks in a port
- 7.10.3. Psychosocial Risks

**Module 8. Maritime-port Logistics and Port Services****8.1. Port Community**

- 8.1.1. Port Community
- 8.1.2. Key Actors of the Port Community
- 8.1.3. Applied Quality Management Systems to the Port Community

**8.2. Port Operations**

- 8.2.1. Port operations and activities in port
- 8.2.2. Information systems in the port operations
- 8.2.3. Information flows in the port operations

**8.3. Port logistics**

- 8.3.1. Port logistics
- 8.3.2. Ports as logistical nodes in the global supply chain
- 8.3.3. Logistics in transport by container

**8.4. General management of the port**

- 8.4.1. General organization of sea and land traffic in a port
- 8.4.2. Entry of ships into port
- 8.4.3. Allocation of mooring and docking posts
- 8.4.4. Stays of ships and internal movements
- 8.4.5. Movement of vehicles and persons in port
- 8.4.6. Passengers and goods

**8.5. Management of a port terminal**

- 8.5.1. Levels of analysis
- 8.5.2. Planning of port terminals
- 8.5.3. Productivity indicators

**8.6. Port Services**

- 8.6.1. Regulation of port services
- 8.6.2. Public service obligations
- 8.6.3. Types of port services

**8.7. Technical and nautical services**

- 8.7.1. Mooring
- 8.7.2. Port trailer
- 8.7.3. Pilotage

**8.8. Goods, passengers and waste reception services**

- 8.8.1. Goods handling service
  - 8.8.1.1. Loading and stowing activities
  - 8.8.1.2. Activities in the field of waste disposal
  - 8.8.1.3. Possible operations exempted from stowage and disposal
- 8.8.2. Ship generated waste reception service
- 8.8.3. Passenger service

**8.9. Commercial services to the vessel**

- 8.9.1. Victualling
- 8.9.2. Fuel supply
- 8.9.3. Supply of LNG
- 8.9.4. Supply of electricity to ships

**8.10. Maritime signalling service**

- 8.10.1. Types of Aids to navigation
- 8.10.2. Visual aids
- 8.10.3. Acoustic aids
- 8.10.4. Radio aids
- 8.10.5. VTS
- 8.10.6. The Marking System Maritime IALA

**Module 9. Planning and Development of Infrastructure and Environmental Sustainability**

**9.1. Sustainable Port Planning**

- 9.1.1. Legislation: *Fit for 55* and EU ETS
- 9.1.2. Relations with other continents
- 9.1.3. Relations with the International Maritime Organisation (IMO)

**9.2. Port planning instruments and adaptation to the new climate reality**

- 9.2.1. Master Plans
- 9.2.2. Planning Tools for Infrastructure Development
- 9.2.3. Port terminal design and redesign: electrification plans
- 9.2.4. Sustainable port-city relations: Climate change and design of port-city spaces

**9.3. Environmental assessment of instruments port planning**

- 9.3.1. Programs for the development of infrastructure
- 9.3.2. Evaluation of development plans infrastructure
- 9.3.3. Evaluation of Infrastructure Projects

**9.4. Project financing of sustainable development of port infrastructure**

- 9.4.1. The European Investment Bank
- 9.4.2. The World Bank
- 9.4.3. The Inter-American Development Bank
- 9.4.4. International investment funds
- 9.4.5. Issuance of green bonds

**9.5. Ports and coastal erosion: Working with Nature**

- 9.5.1. Projects for the preservation of estuaries
- 9.5.2. Coastal regeneration projects
- 9.5.3. Projects for the re-use of sediments

**9.6. Renewable energy investment projects**

- 9.6.1. Wind power generation projects on shore and off shore
- 9.6.2. Photovoltaic energy projects on shore and off shore
- 9.6.3. Other renewable energy sources

**9.7. Assessment of the profitability of investment projects. MEIPORT methodology**

- 9.7.1. Analysis of the project context and objectives
- 9.7.2. Analysis of Alternatives
- 9.7.3. Project definition
- 9.7.4. Financial Analysis
- 9.7.5. Economic Analysis
- 9.7.6. Sensitivity and risk analysis

**9.8. Applied BIM technology to ports**

- 9.8.1. Design of port terminals
- 9.8.2. Design of dock electrification projects
- 9.8.3. Design of access projects land to ports

**9.9. Monitoring instruments and protection of the marine environment**

- 9.9.1. Measuring nets: buoys, tide gauges and high frequency radar
- 9.9.2. Elements for maritime climate prediction and change scenarios
- 9.9.3. Projects

**9.10. Blue Economy**

- 9.10.1. Blue Economy Dimensions
- 9.10.2. Projects for the preservation of marine ecosystems
- 9.10.3. Ports and climate research centres and marine: towards a long-term relationship

**Module 10. Port Security and Security****10.1. Port Security**

- 10.1.1. Port Security
- 10.1.2. Safety and security
- 10.1.3. Regulations and international standards

**10.2. Technological and Industrial Safety in Ports**

- 10.2.1. Management of dangerous goods
- 10.2.2. Prevention of industrial accidents
- 10.2.3. Safety procedures in the handling and transport of goods

**10.3. Port security Planning for the safety**

- 10.3.1. Threat identification and vulnerabilities
- 10.3.2. Risk analysis and assessment protective
- 10.3.3. Risk mitigation strategies. Protection plans

**10.4. Physical and electronic protection**

- 10.4.1. Design of physical protection systems
- 10.4.2. Access control and monitoring
- 10.4.3. Security technologies in ports

**10.5. Logical and cyber security in ports**

- 10.5.1. Cyber threats and specific vulnerabilities
- 10.5.2. Strategies for port cybersecurity
- 10.5.3. Responding to cyber incidents

**10.6. Crisis and Emergency Management**

- 10.6.1. Emergency response planning
- 10.6.2. Coordination with agencies public safety
- 10.6.3. Simulations and response exercises

**10.7. Relations with the Community and Communication in Crisis**

- 10.7.1. Importance of communication with the community
- 10.7.2. Communication strategies in crisis situations
- 10.7.3. Corporate social responsibility in ports

**10.8. Management of a Department security**

- 10.8.1. Management of public and private security
- 10.8.2. Safety planning
- 10.8.2. Material Resources
- 10.8.3. Human resources management and training

**10.9. Prevention and Protection**

- 10.9.1. Recommendations for antisocial risks
- 10.9.2. Recommendations for fire risk
- 10.9.3. Recommendations for occupational risks

**10.10. Innovation and the Future of Port Security**

- 10.10.1. Technological trends in port security
- 10.10.2. Artificial intelligence and data analysis
- 10.10.3. Preparing for future challenges

07

# 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"*

## TECH Business School uses the Case Study to contextualize all content

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

“

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



*This program prepares you to face business challenges in uncertain environments and achieve business success.*





## A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch to present executives with challenges and business decisions at the highest level, whether at the national or international level. This methodology promotes personal and professional growth, representing a significant step towards success. The case method, a technique that lays the foundation for this content, ensures that the most current economic, social and business reality is taken into account.

“

*You will learn, through collaborative activities and real cases, how to solve complex situations in real business environments”*

The case method has been the most widely used learning system among the world's leading business schools for as long as they have existed. 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 we face in the case method, an action-oriented learning method. Throughout the program, the studies will be presented with multiple real cases. They must integrate all their knowledge, research, argue and defend their ideas and decisions.

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

## Relearning Methodology

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

*Our online system will allow you to organize your time and learning pace, adapting it to your schedule. You will be able to access the contents from any device with an internet connection.*

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 Relearning.

Our online business school is the only one in the world licensed to incorporate 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.

With this methodology we have 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, markets, and financial 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.

*Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to 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.



### Management Skills Exercises

They will carry out activities to develop specific executive competencies in each thematic area. Practices and dynamics to acquire and develop the skills and abilities that a high-level manager 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

Students will complete a selection of the best case studies chosen specifically for this program. 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 educational system for presenting multimedia content 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 their goals.



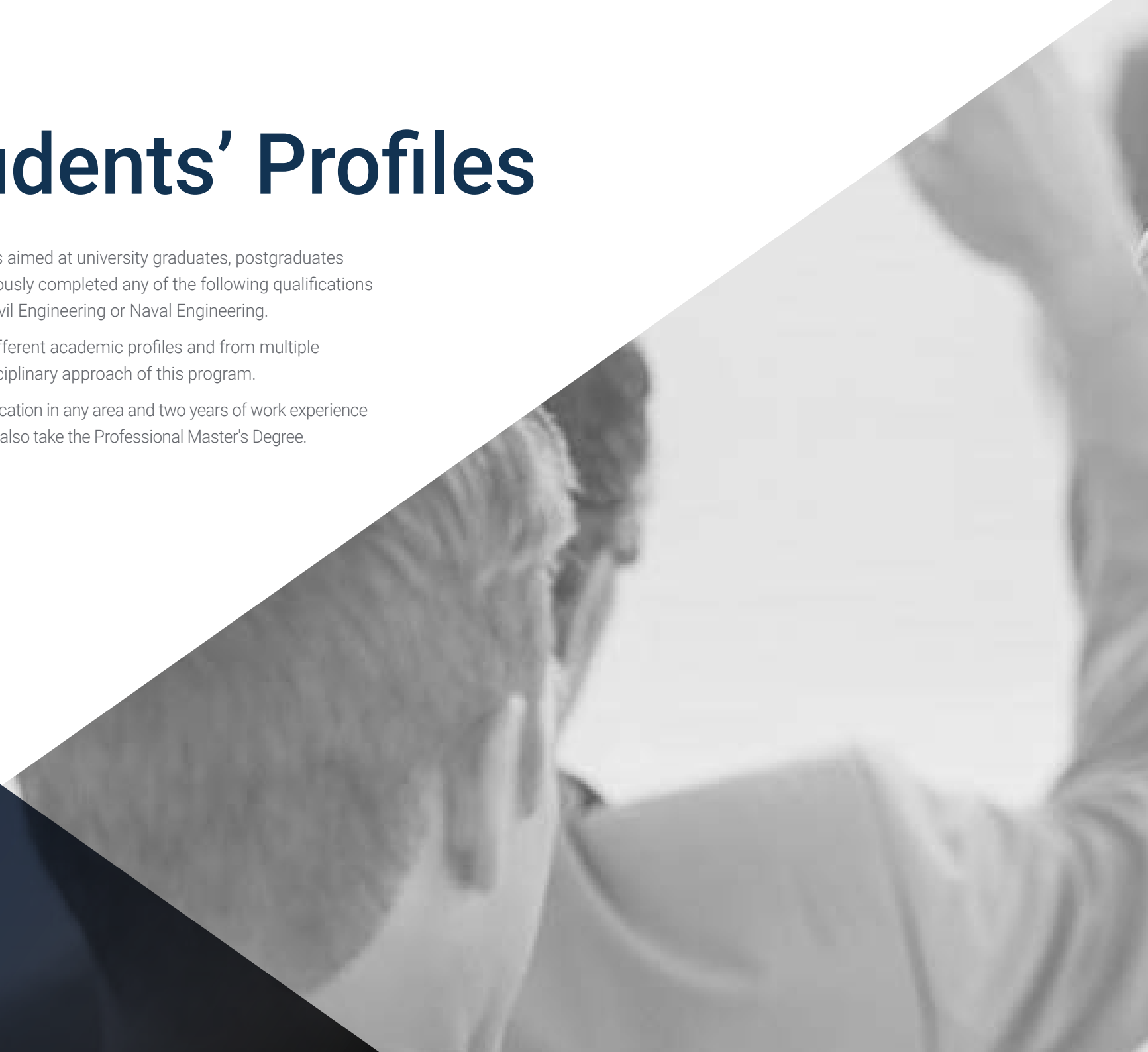
08

# Our Students' Profiles

The Professional Master's Degree is aimed at university graduates, postgraduates and degree holders who have previously completed any of the following qualifications in the field of Business Sciences, Civil Engineering or Naval Engineering.

The diversity of participants with different academic profiles and from multiple nationalities makes up the multidisciplinary approach of this program.

Professionals with a university qualification in any area and two years of work experience in the field of port management may also take the Professional Master's Degree.





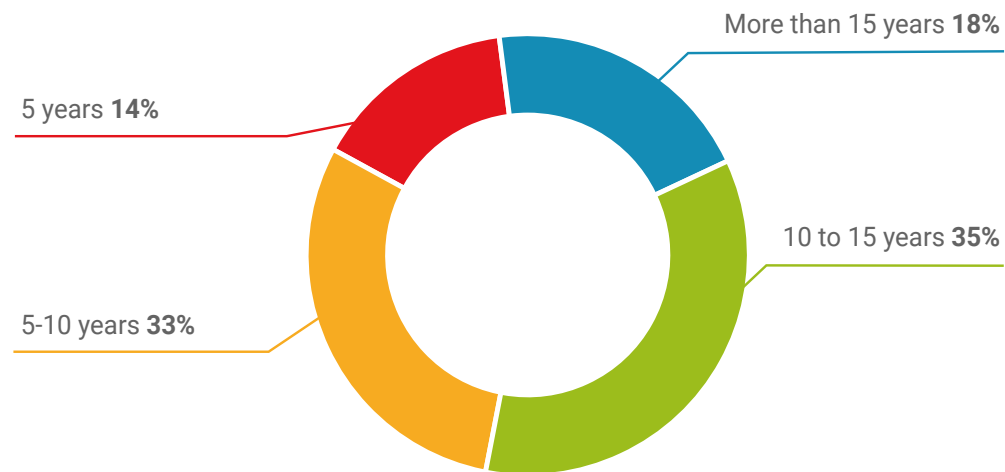
“

*Take the leap you are looking for in your career and increase your chances for the assumption of terminal management in the port sector”*

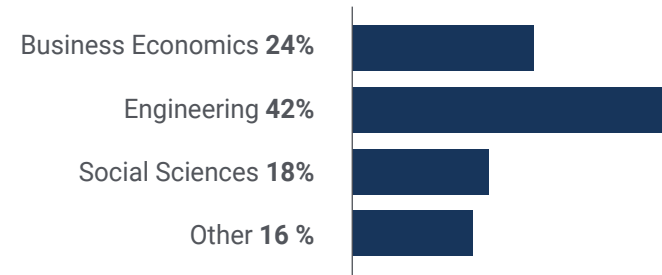
### Average Age

Between **35** and **45** years old

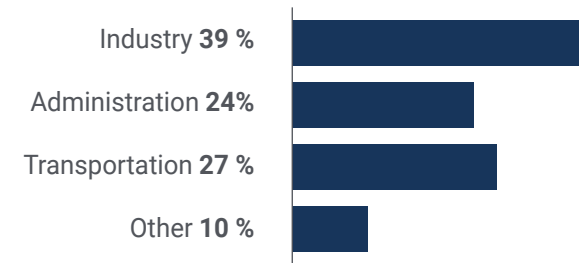
### Years of Experience



### Training



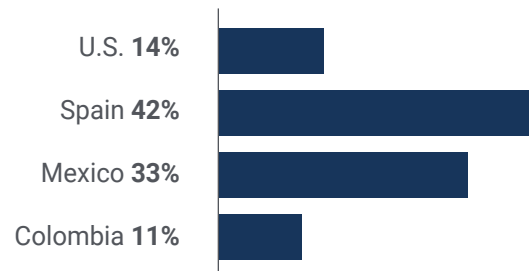
### Academic Profile





## Geographical Distribution

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## Ruth Gutiérrez

Manager of logistic and harbor infrastructures

*"This qualification enabled me to incorporate the most effective operation in the shipping company and also offer me different strategies to solve recurrent problems in this sector. This way, I achieved the promotion I was looking for in the company and consolidate myself in it"*

09

# Course Management

The management and teaching team that integrates this Professional Master's Degree have been rigorously selected by TECH to offer the graduates the most advanced and current content of the academic panorama. Students will have at their disposal a syllabus created and developed by professionals with 20 years of experience in the port sector, occupying senior management positions in operational management, planning and human resources management. Undoubtedly, a unique opportunity to grow with the best.





“

*Advance in the port sector hand in hand  
with professionals with decades of experience  
in the management of maritime companies"*

## Management



### Mr. López Rodríguez, Armando

- ♦ Technical Consultancy Area Head in the Office of the President of Puertos del Estado
- ♦ Head of Strategic Planning Area in Puertos del Estado
- ♦ Project Manager at Puertos del Estado
- ♦ Head of the Resources and Information and Communications Technology Area at Puertos del Estado
- ♦ Head of the Development Area in Puertos del Estado
- ♦ Head of Corporate Relations Area in Puertos del Estado
- ♦ Head of Strategic Planning Area in Puertos del Estado
- ♦ Associate Professor at the School of Industrial Organization
- ♦ AENOR Associate Professor
- ♦ Associate Professor at UBT Lab
- ♦ Telecommunications Engineer from Polytechnic University of Madrid
- ♦ Degree in History from the National University of Distance Education (UNED)
- ♦ PhD in History from the National University of Distance Education (UNED)
- ♦ Professional Master's Degree in Advanced Methods and Techniques of Historical, Artistic and Geographical Research from the National Distance
- ♦ Education University (UNED)
- ♦ Postgraduate Certificate in Management Development Program (PDD) from the IESE of the University of Navarra

## Professors

### Mr. Emilio Martín Gasull

- ♦ Director Refrigerated Transport Division at Zanotti Appliance
- ♦ General Manager at HI Logistics Group
- ♦ Regional Director Levante at ERTRANSIT
- ♦ Branch Manager Levante at Agencia Fernández de Sola
- ♦ Intermodal Transport Division Manager at Kuehne & Nagel Spain
- ♦ Maritime Division Director Spain and Portugal at DHL Global Forwarding
- ♦ Intermodal Transport Division Manager at DHL Global Forwarding
- ♦ Regional Technical Director at JF Hillebrand Spain
- ♦ Maritime and Inland Logistics Director at Evergreen Shipping Spain
- ♦ Teacher in the Professional Master's Degree in Port Management and Intermodal Transport
- ♦ Degree in Law from the University of Valencia Academic Background
- ♦ Commissioner of Average by the College of Merchant Marine Officers

### Mr. López Ansorena, César

- ♦ Postgraduate Diploma in Port Management
- ♦ Port Facility Security Officer by competent authority in the field of maritime security
- ♦ Director of Private Security recognized by the Ministry of the Interior
- ♦ PhD in Civil Engineering Systems (Land and Environment Program) with Outstanding Cum Laude from the Polytechnic University of Madrid
- ♦ Civil Engineer from the Polytechnic University of Madrid
- ♦ Professional Master's Degree in Intelligence Analysis

### Ms. Ana María García

- ♦ Chief Advisor to the Presidency of ESPO
- ♦ Head of State Port Planning Area
- ♦ Head of Human Resources Development in Ports of the State
- ♦ Transport and Industry Business Development Manager at Indra
- ♦ Head of the Technical Department of Commercial and Marketing in Ports of the State
- ♦ Professor of the Professional Master's Degree of Port Management and Planning and Intermodality
- ♦ Degree in Psychology Specialty Psychology of Work and Organizations from the Pontifical University of Comillas (ICAI-ICADE) and Complutense University of Madrid
- ♦ Professional Master's Degree in Business Administration, IESE, from the University of Navarre
- ♦ Leadership Program in Public Management, IESE, by the University of Navarra
- ♦ Member of: Port Governance Committee, Member of the General State Administration in the Port Authorities of Motril, Vigo, Gijón, A Coruña, Alicante, Tenerife and Cartagena

### Mr. Lubián García, José Miguel

- ♦ Postgraduate Diploma in human resources management in the port sector
- ♦ HR consultant
- ♦ Direction and coordination of the Master of Port Management of State Ports
- ♦ Professor at INAP, IIR and EOI
- ♦ Deputy Director of Port Studies
- ♦ Deputy Director of Business Plans
- ♦ Deputy Director of HR

**Mr. Martín Santodomingo, Francisco Javier**

- ♦ Deputy Director of Operation and Navigation Aids in Ports state
- ♦ Head of Division for Maritime Works Projects in the Dragados Group and Construction
- ♦ Professional Master's Degree in Port Management and Planning and Intermodality in Ports of the State, Polytechnic University of Madrid, University of Oviedo, University of Cádiz and University of A Coruña
- ♦ Engineer of Roads, Canals and Ports with the specialty in Transport by the Polytechnic University
- ♦ Professional Master's Degree in European Union from the Polytechnic University of Madrid
- ♦ Professional Master's Degree in Port Management and Intermodal Transport by ICADE at the Pontifical University of Comilla
- ♦ Head of HR Organization and Planning Area
- ♦ Degree in Economic and Business Sciences from the Autonomous University of Madrid
- ♦ Professional Master's Degree in Human Resources Management by Business School Executive in Port Sector Management from IESE Business School
- ♦ Member of: Board of Directors of the Port Authorities of Castellón, Tarragona, A Coruña, Almería and Pasaje

**Mr. Muriente Núñez, Carlos**

- ♦ Naval and Oceanic Engineer at Alten Spain
- ♦ Degree in Naval Architecture, Polytechnic University of Madrid
- ♦ Professional Master's Degree in Naval and Ocean Engineering, Polytechnic University of Madrid
- ♦ Professional Master's Degree in Renewable Energies from TECH Technological University of Madrid
- ♦ Course on Future in Materials of the Future in Industry, Construction and Technology by the Polytechnic University of Madrid

**Mr. Barroso Martín, Santiago**

- ♦ Legal content writer at Ingeniería e Integración Avanzada S.A / BABEL
- ♦ Legal Administrative at the Malaga Bar Association
- ♦ Paralegal Advisor at Garcia de la Vega Abogados
- ♦ Law Degree from the University of Malaga
- ♦ Master's Degree in Corporate Legal Advice (MAJE) from the University of Malaga
- ♦ Master's Degree in Labor, Tax and Accounting Consultancy by Ayuda T Pyme



10

# Impact on Your Career

This university program has been designed to offer students the boost they need in the port sector. For this reason, TECH has brought together top-level professionals in this field, which is a guarantee for the graduates who wish to obtain advanced knowledge in maritime-port operations and occupy positions of high responsibility in major national and international companies.





“

*Boost your career in the port sector through a program designed by the best experts”*

### Are you ready to take the leap? Excellent professional development awaits you

TECH's Professional Master's Degree in Port Management and Intermodal Transportation is an intensive program that prepares you to face challenges and business decisions in the port sector. Its main objective is to promote your personal and professional and professional growth. Helping you achieve success.

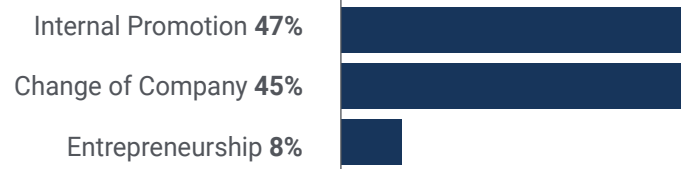
*Increase your vision of the port sector and successfully plan its management in the short, medium and long term.*

*You will achieve the salary increase you are looking for after completing this Professional Master's Degree*

#### When the change occurs



#### Type of change



### Salary increase

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This program represents a salary increase of more than **25%** for our students



11

# Benefits for Your Company

This program contributes to elevating the organization's talent to its maximum potential through the instruction of high-level leaders.

In addition, participating in this university option is a unique opportunity to access a powerful network of contacts in which to find future professional partners, customers or suppliers.



“

*In the digital era, managers must integrate new processes and strategies that bring about significant changes and organizational development. This is only possible through training and university and university updating”*

Developing and retaining talent in companies is the best long-term investment.

01

### **Growth of talent and intellectual capital**

The professional will introduce the company to new concepts, strategies, and perspectives that can bring about significant changes in the organization.

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02

### **Retaining high-potential executives to avoid talent drain**

This program strengthens the link between the company and the professional and opens new avenues for professional growth within the company.

03

### **Building agents of change**

You will be able to make decisions in times of uncertainty and crisis, helping the organization overcome obstacles.

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04

### **Increased international expansion possibilities**

Thanks to this program, the company will come into contact with the main markets in the world economy.



05

### **Project Development**

The professional can work on a real project or develop new projects in the field of R & D or business development of your company.

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06

### **Increased competitiveness**

This program will equip students with the skills to take on new challenges and drive the organization forward.

# 12 Certificate

The Professional Master's Degree in Port Management and Intermodal Transportation guarantees students, in addition to the most rigorous and up-to-date education, access to a Professional Master's Degree diploma issued by TECH Technological University.





“

*Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”*

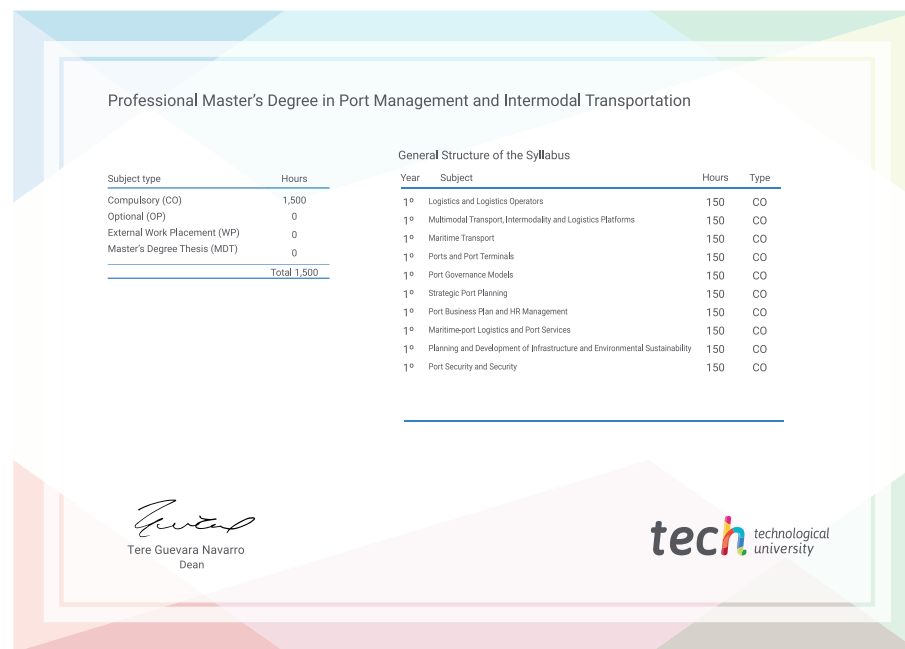
This **Professional Master's Degree in Port Management and Intermodal Transportation** contains the most complete and up-to-date program on the market.

After the student has passed the assessments, they will receive their corresponding **Professional Master's Degree** issued by **TECH Technological University** via tracked delivery\*.

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Professional Master's Degree, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Diploma in Port Management and Intermodal Transportation**

Official N° of Hours: **1500 h.**



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

future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present  
development languages  
virtual classroom



## Professional Master's Degree Port Management and Intermodal Transportation

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Technological University
- » Schedule: at your own pace
- » Exams: online

# Professional Master's Degree Port Management and Intermodal Transportation

