Executive Master's Degree

Digital Transformation Management and Industry 4.0

MDTMI

tech *technological university*

tech technological university

Executive Master's Degree
Digital Transformation Management and Industry 4.0

- » Modalidad: **online**
- » Duración: **12 meses**
- » Titulación: **TECH Universidad Tecnológica**
- » Dedicación: **16h/semana**
- » Horario: **a tu ritmo**
- » Exámenes: **online**

Target Group: **Graduates and professionals with demonstrable experience in logistics areas.**

Website: **www.techtitute.com/us/school-of-business/professional-master-degree/master-digital-transformation-management-industry-4-0**

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01
Welcome

New technologies have driven the transformation of different economic sectors. Therefore, the digital drive that has taken place in recent years has greatly optimized both the production processes and the internal organization of companies. In this scenario, professionals are presented with an excellent opportunity to develop startups supported by the technological component that has given rise to the so-called Industry 4.0. Given the existing demand in this sector for highly qualified personnel with leadership vision, this 100% online program was created in which the professional will obtain the most advanced and up-to-date knowledge in Blockchain and Quantum Computing, Big Data, Artificial Intelligence or automation systems through a theoretical-practical approach. All this will be possible thanks to the team of specialized teaching professionals who teach this program and the multimedia content developed with the latest technology applied to academic teaching.

Executive Master's Degree in Digital Management and Transformation and Industry 4.0.
TECH Technological University

This Executive Master's Degree will successfully introduce you to the latest developments in Digital Transformation and the streamlining of industrial processes. Enroll and take a step forward in your professional career"

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 centre for intensive managerial skills training.

> *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 combines 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.

100,000+ executives trained 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.

Learn with the best

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 studies in the academic community"

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

Analysis

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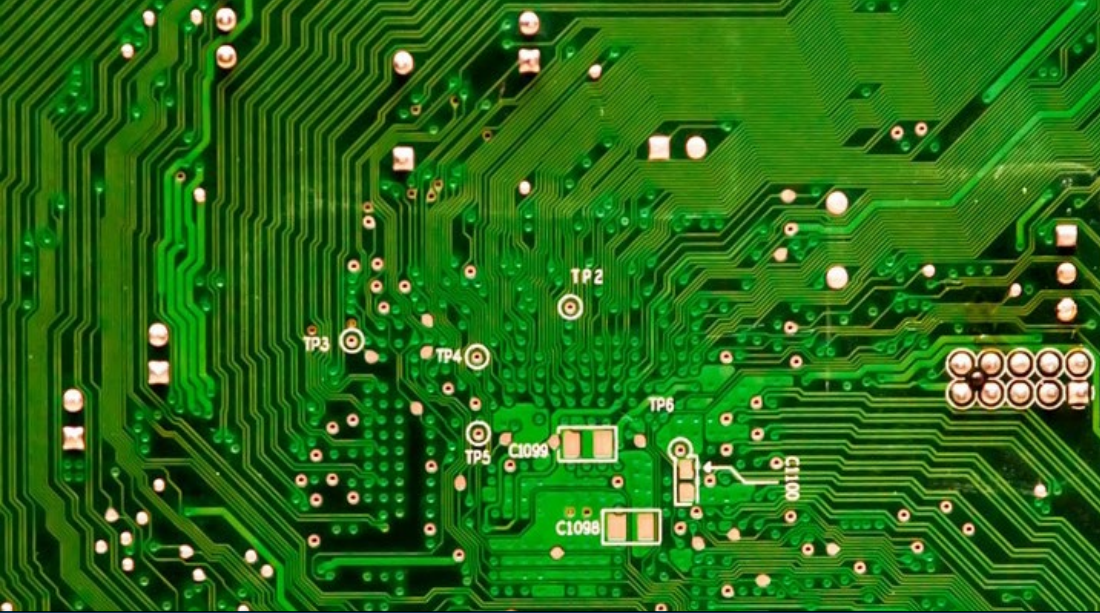
Academic Excellence

TECH offers students the best online learning methodology. The university combines the Relearning method (a postgraduate learning methodology with the highest international rating) with the Case Study. A complex balance between tradition and state-of-the-art, within the context of the most demanding academic itinerary.

Economy of Scale

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.

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.

tech

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

This program will provide students with a multitude of professional and personal advantages, particularly the following:

01

A significant career boost

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 participants achieve positive career development in less than 2 years.

02

Develop a strategic and global vision of companies

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

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

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 areas 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 Be part of an exclusive community

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

We give you the opportunity to train with a team of world renowned teachers.

04
Objectives

This Executive Master's Degree has been designed to offer the professional the most advanced and intensive education on Digital Transformation Management and Industry 4.0. For this purpose, TECH provides students with the most innovative teaching tools, so that, at the end of this program, they will have learnt successfully and will be able to put leadership in the digital sector into practice, to be able to turn the production process facilities into a real Smart Factory or to identify the main business areas related to IoT platforms.

" *Transform your knowledge into a tool for the updating of your company, with the mastery of the most up-to-date and innovative contents of Industry 4.0"*

Your goals are our goals.
We work together to help you achieve them

The **Executive Master's Degree in Digital Transformation and Industry 4.0 Management** will enable you to:

01 Acquire in-depth knowledge of the fundamentals of blockchain technology and its value propositions

02 Master the techniques and tools of this technology (Machine Learning/Deep learning)

03 Acquire expert knowledge on the characteristics and fundamentals of virtual reality, augmented reality and mixed reality, as well as their differences

04 Analyze the origins of the so-called Fourth Industrial Revolution and the Industry 4.0 concept

05 Understand the current virtual era we live in and its leadership capacity, on which will depend the success and survival of the digital transformation processes in which any type of industry is involved

06 Convert the production process facilities into a true Smart Factory

07 Conduct an exhaustive analysis of the practical application that emerging technologies are having in the different economic sectors and in the value chain of their main industries

08 Conduct an exhaustive analysis of the practical application that emerging technologies are having in the different economic sectors and in the value chain of their main industries

09 Choose a robotic platform, prototype and know in detail simulators and robot operating system (ROS)

10 Possess a thorough understanding of the technological impact and how technologies are revolutionizing the tertiary economic sector in the fields of transportation and logistics, health and healthcare (eHealth and Smart Hospitals), smart cities, the financial sector (Fintech) and mobility solutions

11 Know in detail the functioning of IoT and Industry 4.0 and its combinations with other technologies, its current situation, its main devices and uses and how hyperconnectivity gives rise to new business models where all products and systems are connected and in permanent communication

12 Possess a thorough understanding of the technological impact and how technologies are revolutionizing the tertiary economic sector in the fields of transportation and logistics, health and healthcare (eHealth and Smart Hospitals), smart cities, the financial sector (Fintech) and mobility solutions

05
Skills

Professionals who take this university program will acquire knowledge that will lead them to enhance their skills in the field of Digital Transformation Management and Industry 4.0. They will also expand their skills to use the main techniques of artificial intelligence such as Machine Learning and Deep Learning, to face the major challenges related to artificial intelligence or to create virtual worlds applied, for example, to the tertiary sector. All this will be possible thanks to the multimedia resources of this program, its educational methodology and the practical cases provided by the specialists who teach this Executive Master's Degree.

"

This 100% online program will allow you to enhance your skills to successfully integrate the IoT ecosystem in the industrial sector"

At the end of this program, the professional will be able to:

01 Securing an existing IoT ecosystem or creating a secure one by deploying intelligent security systems

02 Automate production systems with the integration of robots and industrial robotics systems

03 Maximize value creation for the customer by applying Lean Manufacturing to the digitalization of our production process

04 Know how the Blockchain works and the characteristics of the so-called networks

05 Use the main artificial intelligence techniques such as Machine Learning and Deep Learning, Neural Networks, and the applicability and use of Natural Language Recognition (NLR)

06 Facing the great challenges related to artificial intelligence, such as providing it with emotions, creativity and personality, even considering how ethical and moral connotations may be affected in its use

08 Create virtual worlds and elevate User Experience (UX) enhancement

09 Integrating the benefits and main advantages of Industry 4.0

07 Create truly useful chatbots and virtual assistants

10 Learn more about the key factors of the digital transformation of industry and the industrial internet

11 Leading the new business models derived from Industry 4.0

14 Mastering the essential technologies of Industry 4.0

12 Develop future production models

13 Facing the challenges of Industry 4.0 and understanding its effects

15 Lead manufacturing digitization processes and identify and define digital capabilities in an organization

16 Define the architecture behind a Smart Factory

18 Learn more about the current situation in the digital transformation
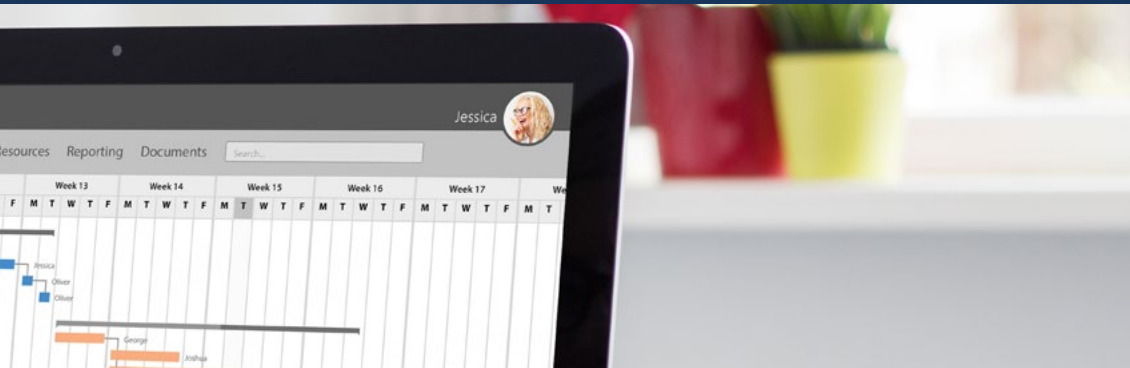
19 Use RPA (Robotic Process Automation) to automate processes in companies, gain efficiency and reduce costs

17 Reflect on technological markers in the post-covid era and in the era of absolute virtualization

20 Addressing the major challenges facing robotics and automation, such as transparency and ethics

06
Structure and Content

Professionals who immerse themselves in this university program will study the 10 modules that make up the syllabus of this Executive Master's Degree over a 12-month period. This will be done in a fluid way thanks to the *Relearning* system, used by TECH in all its programs, and in a much more dynamic way with multimedia resources. As such, there are video summaries, videos in detail or diagrams that will take you deeper into the latest advances in Big Data, technological applications in Industry 4.0 or the Internet of Things.

"Give a boost to your professional career thanks to the up-to-date multimedia content on Big Data and Artificial Intelligence provided by this university program"

Syllabus

The Executive Master's Degree in Digital Transformation Management and Industry 4.0 from TECH Technological University is an intensive program that prepares professionals to face challenges and business decisions in the technological field.

The content of the Executive Master's Degree is designed to promote the development of managerial skills that allow for more rigorous decision-making in uncertain environments.

Throughout the 1,500 hours of education, students analyze practical cases developed by the professionals who teach this program, which will bring them closer to situations that they can apply in their sectors. It is, therefore, an authentic immersion in real business situations.

This Executive Master's Degree deals in depth with the services and solutions that technology can offer to the Primary, Secondary or Tertiary sector, as well as the progress in the creation of drones, robots or the application of the Internet of Things. All this, from a strategic, international and innovative perspective.

A syllabus focused on professional improvement that prepares students to achieve excellence in the field of business management and administration. A program that understands both the students' and their companies' needs. To achieve these objectives, TECH provides innovative content based on the latest trends, supported by an improved educational methodology and an exceptional faculty, which will provide students with the skills to solve critical situations in a creative and efficient manner.

The program takes place over 12 months and is divided into 10 modules:

Module 1	Blockchain and Quantum Computing
Module 2	Big Data and Artificial Intelligence
Module 3	Virtual Reality Augmented and Mixed
Module 4	Industry 4.0
Module 5	Leading Industry 4.0
Module 6	Robotics, Drones and Augmented Workers
Module 7	Industry 4.0 Automation Systems
Module 8	Industry 4.0 - Services and Sectorial Solutions I
Module 9	Industry 4.0 - Services and Sectorial Solutions II
Module 10	The Internet of Things

Where, when, and how it is taught?

TECH offers the possibility of developing this Executive Master's Degree in Digital Transformation Management and Industry 4.0 completely online. Over the course of 12 months, 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. Blockchain and Quantum Computing

1.1. Aspects of Decentralization
1.1.1. Market Size, Growth, Companies and Ecosystem
1.1.2. Fundamentals of Blockchain

1.2. Background: Bitcoin, Ethereum, etc.
1.2.1. Popularity of Decentralized Systems
1.2.2. Evolution of Decentralized Systems

1.3. Blockchain Operation and Examples
1.3.1. Types of Blockchain and Protocols
1.3.2. Wallets, Mining and More

1.4. Characteristics of Blockchain Networks
1.4.1. Functions and Properties of Blockchain Networks
1.4.2. Applications: Cryptocurrencies, Reliability, Chain of Custody, etc

1.5. Types of Blockchain
1.5.1. Public and Private Blockchains
1.5.2. Hard and Soft Forks

1.6. Smart Contracts
1.6.1. Intelligent Contracts and Their Potential
1.6.2. Smart Contract Applications

1.7. Industry Use Models
1.7.1. Blockchain Applications by Industry
1.7.2. Blockchain Success Stories by Industry

1.8. Security and Cryptography
1.8.1. Objectives of Cryptography
1.8.2. Digital Signatures and Hash Functions

1.9. Cryptocurrencies and Uses
1.9.1. Types of Cryptocurrencies Bitcoin, HyperLedger, Ethereum, Litecoin, etc.
1.9.2. Current and Future Impact of Cryptocurrencies
1.9.3. Risks and Regulations

1.10. Quantum Computing
1.10.1. Definition and Keys
1.10.2. Uses of Quantum Computing

Module 2. Big Data and Artificial Intelligence

2.1. Fundamental Principles of Big Data
2.1.1. Big Data
2.1.2. Tools to Work With Big Data

2.2. Data Mining and Warehousing
2.2.1. Data Mining Cleaning and Standardization
2.2.2. Information Extraction, Machine Translation, Sentiment Analysis, etc
2.2.3. Types of Data Storage

2.3. Data Intake Applications
2.3.1. Principles of Data intake
2.3.2. Data Ingestion Technologies to Serve Business Needs

2.4. Viewing Data
2.4.1. The Importance of Data Visualization
2.4.2. Tools to Carry It Out Tableau, D3, matplotlib (Python), Shiny®

2.5. Machine Learning
2.5.1. Understanding Machine Learning
2.5.2. Supervised and Unsupervised Learning
2.5.3. Types of Algorithms

2.6. Neural Networks (Deep Learning)
2.6.1. Neural Network: Parts and Functionality
2.6.2. Types of Networks CNN, RNN
2.6.3. Applications of Neural Networks; Image Recognition and Natural Language Interpretation
2.6.4 Generative Text Networks: LSTM

2.7. Natural Language Recognition
2.7.1. PLN (Processing Natural Language)
2.7.2. Advanced PLN Techniques: Word2vec, Doc2vec

2.8. Chatbots and Virtual Assistants
2.8.1. Types of Assistants: Voice and Text Assistants
2.8.2. Fundamental Parts for the Development of an Assistant: Intents, Entities and Dialog Flow
2.8.3. Integrations: Web, Slack, WhatsApp, Facebook
2.8.4. Assistant Development Tools: Dialog Flow, Watson Assistant

2.9. Future of Artificial Intelligence
2.9.1. Understand How to Detect Emotions Using Algorithms
2.9.2. Creating a Personality: Language, Expressions and Content

2.10. Future of Artificial Intelligence

2.11. Reflections

Module 3. Virtual, Augmented and Mixed Reality

3.1. Market and Tendencies
3.1.1. Current Market Situation
3.1.2. Reports and Growth by Different Industries

3.2. Differences Between Virtual, Augmented and Mixed Reality
3.2.1. Differences Between Immersive Realities
3.2.2. Immersive Reality Typology

3.3. Virtual Reality Cases and Uses
3.3.1. Origin and Fundamentals of Virtual Reality
3.3.2. Cases Applied to Different Sectors and Industries

3.4. Augmented Reality Cases and Uses
3.4.1. Origin and Fundamentals of Augmented Reality
3.4.2. Cases Applied to Different Sectors and Industries

3.5. Mixed and Holographic Reality
3.5.1 Origin, History and Fundamentals of Mixed and Holographic Reality
3.5.2. Cases Applied to Different Sectors and Industries

3.6. 360º Photography and Video
3.6.1. Camera Typology
3.6.2. Uses of 360 Images
3.6.3 Creating a Virtual Space in 360 Degrees

3.7. Virtual World Creation
3.7.1. Platforms for the Creation of Virtual Environments
3.7.2. Strategies for the Creation of Virtual Environments

3.8. User Experience (UX)
3.8.1. Components in the User Experience
3.8.2. Tools for the Creation of User Experiences

3.9. Devices and Glasses for Immersive Technologies
3.9.1. Device Typology on the Market
3.9.2. Glasses and Wearables Functioning, Models and Uses
3.9.3. Smart Glasses Applications and Evolution

3.10. Future Immersive Technologies
3.10.1. Tendencies and Evolution
3.10.2. Challenges and Opportunities

Module 4. 4.0 Industry

4.1. Definition of Industry 4.0
4.1.1. Features

4.2. Benefits of Industry 4.0
4.2.1. Key Factors
4.2.2. Main Advantages

4.3. Industrial Revolutions and Vision of the Future
4.3.1. Industrial Revolutions
4.3.2. Keys Factors in Each Revolution
4.3.3. Technological Principles as a Basis for Possible New Revolutions

4.4. The Digital Transformation of the Industry
4.4.1. Characteristics of the Digitization of the Industry
4.4.2. Disruptive Technologies
4.4.3. Applications in the Industry

4.5. Forth Industrial Revolution Key Principles of Industry 4.0
4.5.1. Definitions
4.5.2. Key Principles and Applications

4.6. Industry 4.0 and Industrial Internet
4.6.1. Origin of IIoT
4.6.2. Operation
4.6.3. Steps to Follow for its Implementation
4.6.4. Benefits

4.7. Smart Factory Principles
4.7.1. Smart Factory
4.7.2. Elements that Define a Smart Factory
4.7.3. Steps to Deploy a Smart Factory

4.8. Status of the Industry 4.0
4.8.1. Status of the Industry 4.0 in Different Sectors
4.8.2. Barriers to the Implementation of Industry 4.0

4.9. Challenges and Risks
4.9.1. SWOT Analysis
4.9.2. Challenges

4.10. Role of Technological Capabilities and the Human Factor
4.10.1. Disruptive Technologies in Industry 4.0
4.10.2 The Importance of the Human Factor Key Factor

Module 5. Leading Industry 4.0

5.1. Leadership Abilities
5.1.1. Leadership Factors in the Human Factor
5.1.2. Leadership and Technology

5.2. Industry 4.0 and the Future of Production
5.2.1. Definitions
5.2.2. Production Systems
5.2.3. Future of Digital Production Systems

5.3. Effects of Industry 4.0
5.3.1. Effects and Challenges

5.4. Essential Technologies in Industry 4.0
5.4.1. Definition of Technologies
5.4.2. Characteristics of Technologies
5.4.3. Applications and Impacts

5.5. Digitization of Manufacturing
5.5.1. Definitions
5.5.2. Benefits of the Digitization of Manufacturing
5.5.3. Digital Twins

5.6. Digital Capabilities in an Organization
5.6.1. Development Digital Capabilities
5.6.2. Understanding the Digital Ecosystem
5.6.3. Digital Vision of the Business

5.7. Architecture Behind a Smart Factory
5.7.1. Areas and Operations
5.7.2. Connectivity and Security
5.7.3. Case Uses

5.8. Technology Markers in the Post-Covid Era
5.8.1. Technological Challenges in the Post-Covid Era
5.8.2. New Case Uses

5.9. The Era of Absolute Virtualization
5.9.1. Virtualisation
5.9.2. The New Era of Virtualization
5.9.3. Advantages

5.10. Current Situation in Digital Transformation Gartner Hype
5.10.1. Gartner Hype
5.10.2. Analysis of Technologies and Their Status
5.10.3. Data Exploitation

Module 6. Robotics, Drones and Augmented Workers

6.1. Robotics
6.1.1. Robotics, Societies and Cinema
6.1.2. Components and Parts of Robot

6.2. Robotics and Advanced Automation: Simulators, Cobots
6.2.1. Transfer of Learning
6.2.1. Cobots and Case Uses

6.3. RPA (Robotic Process Automatization)
6.3.1. Understanding RPA and its Functioning
6.3.2. RPA Platforms, Projects and Roles

6.4. Robot as a Service (RaaS)
6.4.1. Challenges and Opportunities for Implementing RaaS in Companies
6.4.2. Functioning of a RaaS System

6.5. Drones and Automated Vehicles
6.5.1. Components and Drones Operation
6.5.2. Uses, Types and Applications of Drones
6.5.3. Evolution of Drones and Autonomous Vehicles

6.6. The Impact of 5G
6.6.1. Evolution of Communications and Implications
6.6.2. Uses of 5G Technology

6.7. Augmented Workers
6.7.1. Human-Machine Integration in Industrial Environments
6.7.2. Challenges in Worker-Robot Collaboration

6.8. Transparency, Ethics and Traceability
6.8.1. Ethical Challenges in Robotics and Artificial Intelligence
6.8.2. Monitoring, Transparency and Traceability Methods

6.9. Prototyping, Components and Evolution
6.9.1. Prototyping Platforms
6.9.2. Phases to Make a Prototype

6.10. Future of Robotics
6.10.1. Trends in Robotization
6.10.2. New Types of Robots

Module 7. Industry 4.0 Automation Systems

7.1. Industrial Automation
7.1.1. Automization
7.1.2. Architecture and Components
7.7.3. Safety

7.2. Industrial Robotics
7.2.1. Fundamentals of Industrial Robotics
7.2.2. Models and Impact on Industrial Processes

7.3. PLC Systems and Industrial Control
7.3.1. PLC Evolution and Status
7.3.2. Evolution of Programming Languages
7.3.3. Computer Integrated Automation CIM

7.4. Sensors and Actuators
7.4.1. Classification of Transducers
7.4.2. Types of Sensors
7.4.3. Standardization of Signals

7.5. Monitor and Manage
7.5.1. Types of Actuators
7.5.2. Feedback Control Systems

7.6. Industrial Connectivity
7.6.1. Standardized Fieldbuses
7.6.2. Connectivity

7.7. Proactive/Predictive Maintenance
7.7.1. Predictive Maintenance
7.7.2. Fault Identification and Analysis
7.7.3. Proactive Actions Based on Predictive Maintenance

7.8. Continuous Monitoring and Prescriptive Maintenance
7.8.1. Prescriptive Maintenance Concept in Industrial Environments
7.8.2. Selection and Exploitation of Data for Self-Diagnostics

7.9. Lean Manufacturing
7.9.1. Lean Manufacturing
7.9.2. Benefits Lean Implementation in Industrial Processes

7.10. Industrialized Processes in Industry 4.0. Use Case
7.10.1. Project definition
7.10.2. Technological Selection
7.10.3. Connectivity
7.10.4. Data Exploitation

Module 8. Industry 4.0 - Services and Solutions (I)

8.1. Industry 4.0 and Business Strategies
8.1.1. Factors of Business Digitalization
8.1.2. Roadmap for Business Digitalization

8.2. Digitalization of Processes and the Value Chain
8.2.1. Value Chain
8.2.2. Key Steps in the Digitization of Processes

8.3. Sector Solutions Primary Sector
8.3.1. The Primary Economic Sector
8.3.2. Characteristics of Each Subsector

8.4. Digitization of the Primary Sector: Smart Farms
8.4.1. Main Characteristics
8.4.2. Keys Factors of Digitization

8.5. Digitization of the Primary Sector: Digital Agriculture and Intelligence
8.5.1. Main Characteristics
8.5.2. Keys Factors of Digitization

8.6. Sector Solutions Secondary Sector
8.6.1. The Secondary Economic Sector
8.6.2. Characteristics of Each Subsector

8.7. Digitization of the Secondary Sector: Smart Factory
8.7.1. Main Characteristics
8.7.2. Keys Factors of Digitization

8.8. Digitization of the Secondary Sector: Energy
8.8.1. Main Characteristics
8.8.2. Keys Factors of Digitization

8.9. Digitization of the Secondary Sector: Construction
8.9.1. Main Characteristics
8.9.2. Keys Factors of Digitization

8.10. Digitization of the Secondary Sector: Mining
8.10.1. Main Characteristics
8.10.2. Keys Factors of Digitization

Module 9. Industry 4.0 - Services and Solutions (II)

9.1. Tertiary Sector Solutions
9.1.1. Tertiary Economic Sector
9.1.2. Characteristics of Each Subsector

9.2. Digitization of the Tertiary Sector: Transport
9.2.1. Main Characteristics
9.2.2. Keys Factors of Digitization

9.3. Digitization of the Tertiary Sector: eHealth
9.3.1. Main Characteristics
9.3.2. Keys Factors of Digitization

9.4. Digitization of the Tertiary Sector: Smart Hospitals
9.4.1. Main Characteristics
9.4.2. Keys Factors of Digitization

9.5. Digitization of the Tertiary Sector: Smart Cities
9.5.1. Main Characteristics
9.5.2. Keys Factors of Digitization

9.6. Digitization of the Tertiary Sector: Logistics
9.6.1. Main Characteristics
9.6.2. Keys Factors of Digitization

9.7. Digitization of the Tertiary Sector: Tourism
9.7.1. Main Characteristics
9.7.2. Keys Factors of Digitization

9.8. Digitization of the Tertiary Sector: Fintech
9.8.1. Main Characteristics
9.8.2. Keys Factors of Digitization

9.9. Digitization of the Tertiary Sector: Mobility
9.9.1. Main Characteristics
9.9.2. Keys Factors of Digitization

9.10. Future Technological Tendencies
9.10.1. New Technological Innovations
9.10.2. Application Trends

Module 10. Internet of Things (IoT)

10.1. Cyber-Physical Systems (CPS) in the Industry 4.0 Vision
10.1.1. Internet of Things (IoT)
10.1.2. Components Involved in IoT
10.1.3 Cases and Applications of IoT

10.2. Internet of Things and Cyber-Physical Systems
10.2.1. Computing and Communication Capabilities to Physical Objects
10.2.2. Sensors, Data and Elements in Cyber-Physical Systems

10.3. Device Ecosystem
10.3.1. Typologies, Examples and Uses
10.3.2. Applications of the Different Devices

10.4. IoT Platforms and their Architecture
10.4.1. IoT Market Typologies and Platforms
10.4.2. Operation of an IoT Platform

10.5. Digital Twins
10.5.1. Digital Twins
10.5.2. Uses and Applications the Digital Twin

10.6. Indoor & Outdoor Geolocation (Real Time Geospatial)
10.6.1. Indoor and Outdoor Geolocation Platforms
10.6.2. Implications and Challenges of Geolocation in an IoT Project

10.7. Security Intelligence Systems
10.7.1. Typologies and Platforms for Security Systems Implementation
10.7.2. Components and Architectures in Intelligent Safety Systems

10.8. IoT and IIoT Platform Security
10.8.1. Security Components in an IoT System
10.8.2. IoT Security Implementation Strategies

10.9. Wearables at Work
10.9.1. Types of Wearables in Industrial Environments
10.9.2. Lessons Learned and Challenges in Implementing Wearables in the Workplace

10.10. Implementing an API to Interact with a Platform
10.10.1. Types of APIs Involved in an IoT Platform
10.10.2. API Market
10.10.3. Strategies and Systems to Implement API Integrations

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.

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

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.

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.

01 learning from evidence

02 relearning from evidence

03 testing

04 learning from an expert

05 neurocognitive context dependent learning

06 Von-Restorff effect

07 case based learning through storytelling

08 competencies testing (retesting)

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.

30%

10%

8%

3%

30%

15%

4%

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 Executive Master's Degree is aimed at university graduates who have previously completed a degree in the field of Engineering, Computer Science or Business.

This program uses a multidisciplinary approach as the students have a diverse set of academic profiles and represent multiple nationalities.

The Executive Master's Degree may also be taken by professionals who, as university graduates in any area, have work experience in the field of Industry 4.0.

"

If you are looking for growth and improvement in Industry 4.0, this is an Executive Master's Degree designed for professionals like you"

Average Age

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

Years of Experience

More than 15 years **24%**

Up to 5 years **17%**

10 to15 years **29%**

5 to 10 years **30%**

Training

Economics and Business **32%**

Design **15%**

Engineering **32%**

Social Sciences **8%**

Other **13%**

Academic Profile

Corporate Management **23 %**

Project Manager **32%**

Entrepreneurs **20 %**

Industry **15 %**

Other **10 %**
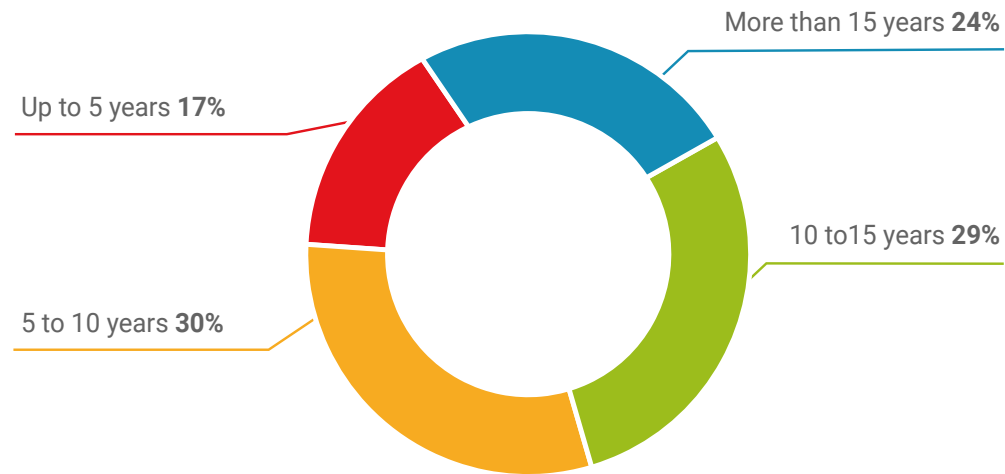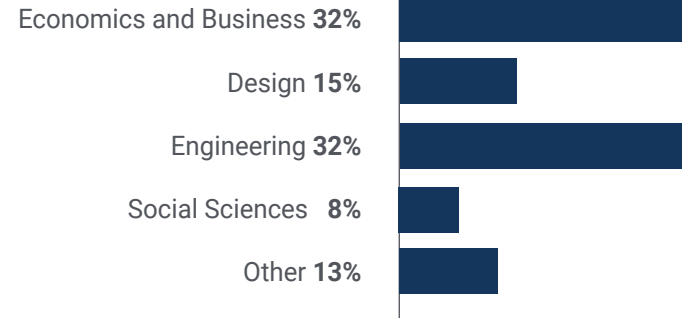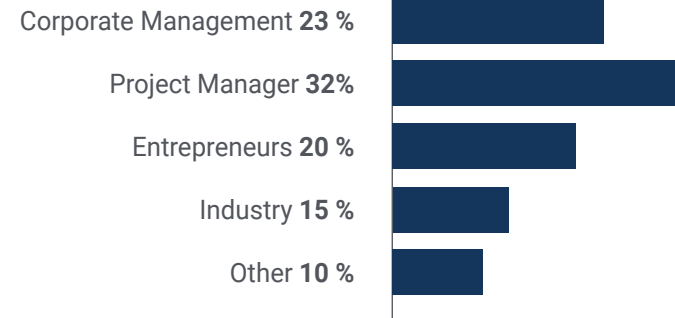
Geographical Distribution

Country	%
USA	9%
Spain	38%
Mexico	21%
Colombia	7%
Argentina	12%
Chile	5%
Peru	2%
Other	6%
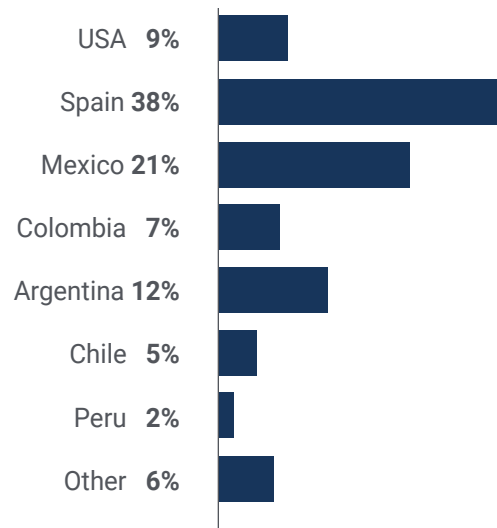
José Pérez Pérez

Degree in Economics

"*I was looking for a program that would lead me to entrepreneurship with the guarantee of knowing everything I needed to know about digital transformation and its application in different sectors, and I have found it in this Executive Master's Degree. And the teaching methodology has made things easy for me, without imposing timetables, allowing me to study at my own pace*"

09

Course Management

Professionals with extensive experience, the teachers of this Executive Master's Degree in Digital Transformation Management and Industry 4.0 master the updating processes of this sector, with expertise both at a professional and educational level. Distinguished individuals who understand the importance of higher education to achieve a better qualified community that is able to adapt to changes in society and the demands of business. In this way, TECH teachers have compiled the most up-to-date information on this subject to offer it to their students in a faithful and didactic way.

"
Study with renowned professors and take advantage of the opportunity to learn directly from them, all the latest news in this field of work"

Management

Mr. Segovia Escobar, Pablo

- Commercial manager of the Aftermarket and Industry 4.0 area applied to systems support in the company IndraMaster in Business Administration and Management
- Industrial Engineer, Project Management Professional (PMP) por el Program Management Institute
- Master in Business Administration and Management
- Postgraduate in Strategic Management Function
- Sales Manager and Program Manager
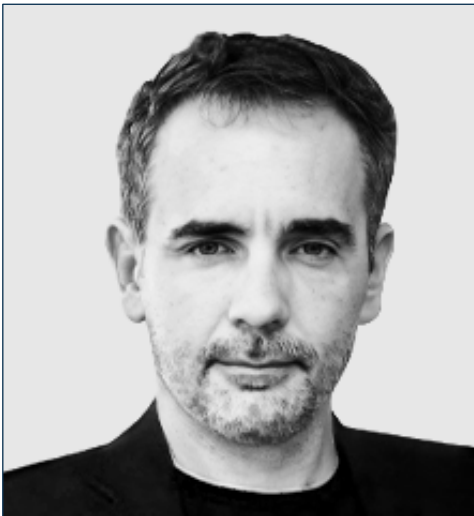
Mr. Diezma López, Pedro

- Entrepreneur, writer, TEDx speaker and expert in emerging and exponential technologies
- Founder of the technology companies Acuilae (Artificial Intelligence), Ethyka and Zerintia Technologies
- Wearable "Best Initiative" Award in eHealth 2017 and "Best Technological "Solution" 2018 for occupational safety
- One of the world's leading experts (Source: Onalytica) es Wearable Technology e Internet of Things

Professors

Ms. Sánchez López, Cristina

- (Software Engineer) for the Accenture Group in large clients such as Banco de Santander, BBVA, Endesa or Barclays Bank
- CEO and founder of Acuilae and ETHYKA
- Master's Degree in Data Science
- Degree in Statistics from the Complutense University Madrid

Mr. Montes, Armando

- Expert in drones, robots and electronics, and 3D printers
- Creator of several state-of-the-art technological solutions and projects such as Emertech or Smart Vest

Mr. Castellano Nieto, Francisco

- Responsible for the maintenance of defense equipment in the aeronautical, naval and terrestrial sectors at Indra
- Development engineer in R&D department in the sector of automatic packaging machines for solids, granulates and liquids, packaging machines, palletizers and distribution chains; solutions with technologies from Siemens, Allen-Bradley (Rockwell Automation), Schneider, Omron and Beckhoff
- Industrial Electronic Technical Engineer by the Universidad Pontificia de Comillas I.C.A.I

Mr. Asenjo Sanz, Álvaro

- Technical Engineer in Computer Systems from the UCM
- Software developer, consulting and IT project management Engineer at Kolokium
- Lecturer of the Degree in Computer Science at the Universidad Europea de Madrid
- Trainer in Blockchain

Mr. González Cano, José Luis

- Lighting Designer
- Industrial Electronics Technician. Madrid, Spain
- Technical Director Consulting, training and development of lighting technology projects and implementation of ISO 9001:2015 quality systems (internal auditor). Madrid, Spain
- Vocational teacher in electronics and automation
- Degree in Optics and Optometry from the Complutense University of Madrid, Spain

10
Impact on Your Career

TECH is aware of the fact that taking a program of this nature requires a great deal of effort. For this reason, a university program has been designed that is taught exclusively online, where students can distribute the course load according to their needs. In this way, this Executive Master's Degree allows you to advance in your professional career while balancing it with a quality university education.

" 24-hour easy access from your computer to the library of multimedia resources that will lead you to know the advances in digital solutions in the Primary or Secondary sector"

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

The Executive Master's Degree in Digital Transformation Management and Industry 4.0 from TECH is an intensive program that prepares you to face challenges and business decisions in the field of Industry 4.0. The main objective is to promote your personal and professional growth. Helping you achieve success.

If you want to improve yourself, make a positive change at a professional level, and network with the best, then this is the place for you.

Do not miss the opportunity to train with us and you will find the improvement you were looking for.

A program of high academic standing to lead your career to success.

When the change occurs

During the program	During the first year	After 2 years
25%	**40%**	**35%**

Type of change

Internal Promotion **33%**

Change of Company **39%**

Entrepreneurship **28%**
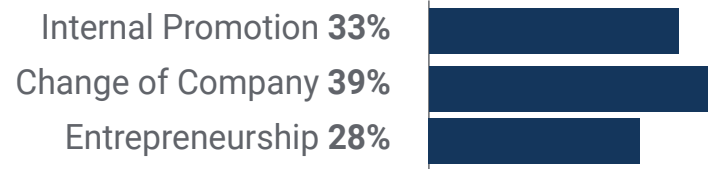
Salary increase

This program represents a salary increase of more than **25.22%** for our students.

Salary before	A salary increase of	Salary after
$57,900	**25.22%**	**$75,500**

11
Benefits for Your Company

The Executive Master's Degree in Digital Transformation Management and Industry 4.0 contributes to organizations with highly qualified and updated professionals, also in a sector that has undergone countless changes in recent years.

Being part of this program is an excellent opportunity to access a network of contacts in which to find future professional partners, with a vision of entrepreneurship and progression in this booming sector.

"

Bring the latest advances and strategies applied in Digital Transformation and Industry 4.0 to your company. Grow professionally with TECH"

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

01

Intellectual Capital and Talent Growth

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

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.

04

Increased international expansion possibilities

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

tech

05

Project Development

The manager can work on a current project or develop new projects in the field of R&D or Business Development within their company.

06

Increased competitiveness

This Executive Master's Degree will equip students with the skills to take on new challenges and drive the organization forward.

Certificate

The Executive Master's Degree in Digital Transformation Management and Industry 4.0 guarantees students, in addition to the most rigorous and up-to-date education, access to an Executive Master's Degree issued by TECH Technological University.

Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"
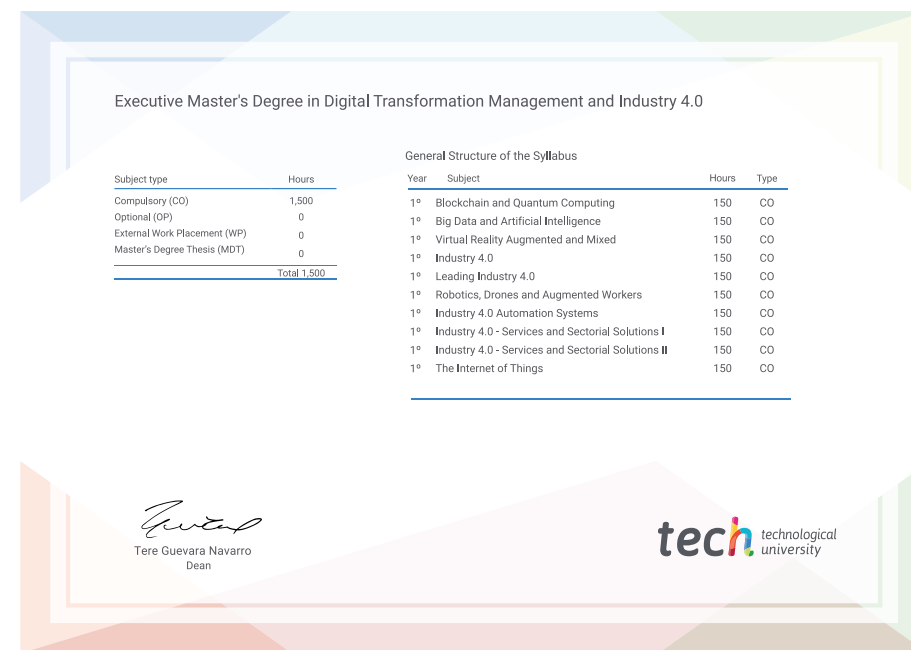
This **Executive Master's Degree in Digital Transformation Management and Industry 4.0** contains the most complete and up-to-date program on the market.

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

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

Title: **Executive Master's Degree in Digital Transformation Management and Industry 4.0**

Official Nº of Hours: **1,500 hours.**

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tech. technological university

Awards the following
DIPLOMA
to
Mr./Ms. _____ with identification number _____.
For having successfully passed and accredited the following program

EXECUTIVE MASTER'S DEGREE
in

Digital Transformation Management and Industry 4.0

This is a qualification awarded by this University, equivalent to 1,500 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro
Dean

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

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Executive Master's Degree in Digital Transformation Management and Industry 4.0

General Structure of the Syllabus

Subject type	Hours
Compulsory (CO)	1,500
Optional (OP)	0
External Work Placement (WP)	0
Master's Degree Thesis (MDT)	0
	Total 1,500

Year	Subject	Hours	Type
1º	Blockchain and Quantum Computing	150	CO
1º	Big Data and Artificial Intelligence	150	CO
1º	Virtual Reality Augmented and Mixed	150	CO
1º	Industry 4.0	150	CO
1º	Leading Industry 4.0	150	CO
1º	Robotics, Drones and Augmented Workers	150	CO
1º	Industry 4.0 Automation Systems	150	CO
1º	Industry 4.0 - Services and Sectorial Solutions I	150	CO
1º	Industry 4.0 - Services and Sectorial Solutions II	150	CO
1º	The Internet of Things	150	CO

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Dean

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*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.

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Executive Master's Degree
Digital Transformation Management and Industry 4.0

- » Modalidad: **online**
- » Duración: **12 meses**
- » Titulación: **TECH Universidad Tecnológica**
- » Dedicación: **16h/semana**
- » Horario: **a tu ritmo**
- » Exámenes: **online**

Executive Master's Degree
Digital Transformation
Management and Industry 4.0