

# Professional Master's Degree

## Industrial Innovation Management



## Professional Master's Degree Innovation Management Industrial

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/pk/engineering/professional-master-degree/master-industrial-innovation-management](http://www.techtute.com/pk/engineering/professional-master-degree/master-industrial-innovation-management)

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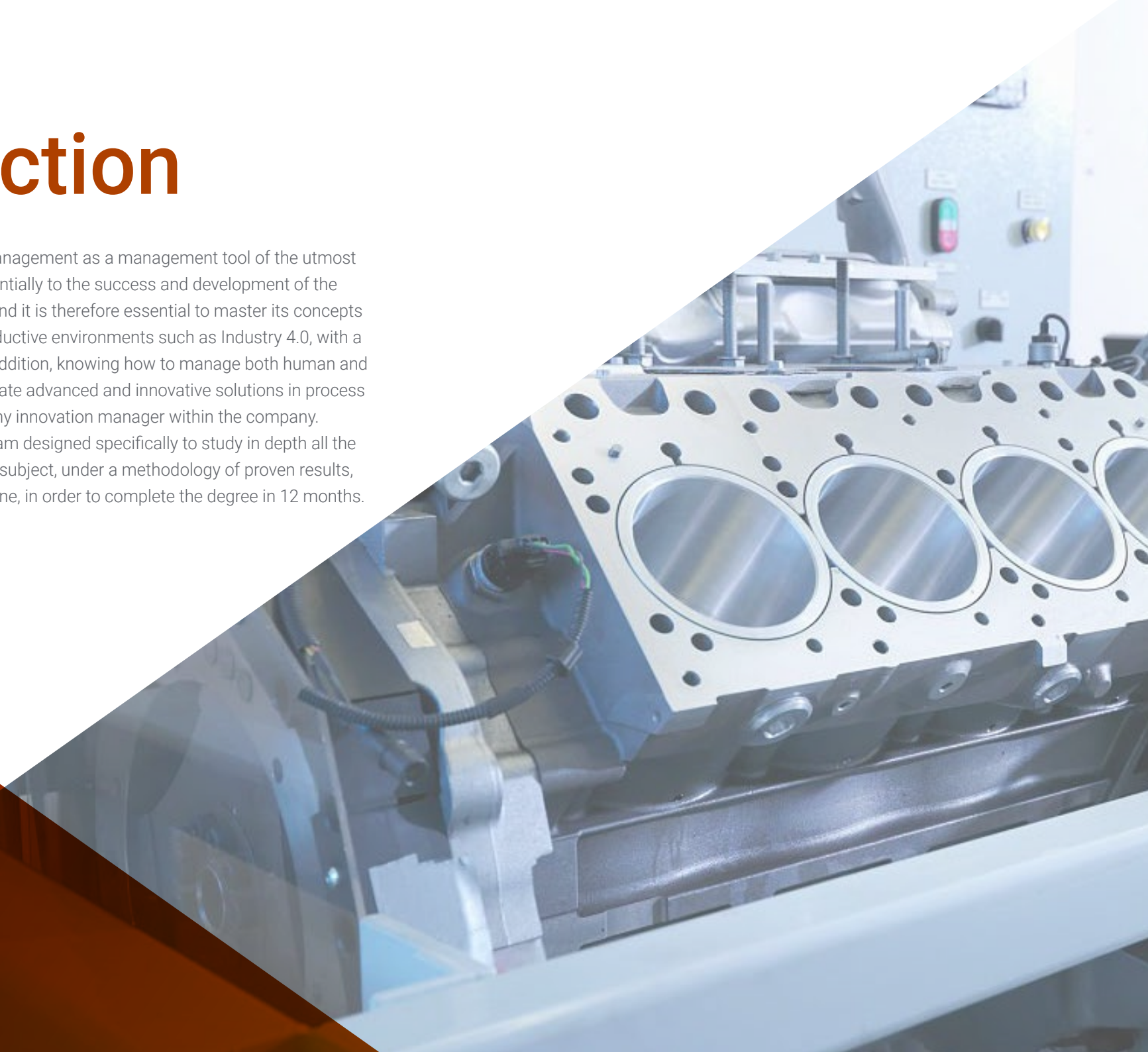
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# 01

# Introduction

We must understand Innovation Management as a management tool of the utmost importance that contributes substantially to the success and development of the company and of any organization and it is therefore essential to master its concepts and tools in order to develop in productive environments such as Industry 4.0, with a culture and innovative thinking. In addition, knowing how to manage both human and economic resources, in order to create advanced and innovative solutions in process optimization, is a per se issue for any innovation manager within the company. Therefore, we have created a program designed specifically to study in depth all the principles and fundamentals of the subject, under a methodology of proven results, based on *Relearning* and 100% online, in order to complete the degree in 12 months.





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*Develop yourself in Industrial Innovation Management and incorporate into your professional practice the latest advances in this important area for the market"*

All management begins with an intention, a defined objective that must be developed taking into account different processes and stages for its fulfillment. The differentiation of the professional lies in the ideas and the way they are executed. In the business sector, for the management of productive and administrative systems, it is essential to generate critical and innovative thinking, an up-to-date profile with the mastery of new tools and knowledge that make a competent leader efficient.

Contemplate the competitive strengths of the company, for the development of new ideas through individual and group work mechanisms. It is possible through the promotion of creative culture, to manage innovation in an organization, to deepen in the key principles of Industry 4.0, the technologies on which they are based and the potential of all of them in their application to the different productive sectors.

To reach this stage, this up-to-date program will develop all the knowledge related to Industrial Innovation Management, deepening in methodologies and new processes that will make you understand how creativity and innovation have become the engines of today's economy. Mastering the Design Thinking methodology as the main tool for creativity and innovation in the XXI century company and knowing the R&D&I management systems, is part of the objectives that the student will achieve at the end of this training.

Therefore, professionals in the field of business management will be able to generate value from different perspectives and positions, such as general, financial or commercial management, providing progressive solutions in contexts of innovation and internationalization. It should be noted that the learning process is completely online and lasts 12 months, under a relearning methodology, which allows the professional to train without sacrificing activities of their daily life, obtaining the quality and flexibility they need.

This **Professional Master's Degree in Industrial Innovation Management** contains the most complete and up-to-date scientific program on the market. Its most notable features are:

- ◆ The development of case studies presented by experts in Industrial Engineering
- ◆ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ◆ Practical exercises where self-assessment can be used to improve learning
- ◆ Its special emphasis on innovative methodologies
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ◆ Content that is accessible from any fixed or portable device with an Internet connection



*Industrial Innovation Management is the key to processes in business environments for value generation and wealth creation"*

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*This degree will provide you with the most up-to-date knowledge in product design and innovation management. Enroll now and graduate in 12 months"*

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

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

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

*Master the Innovation strategies in the Public and Private Sector and the future trends related to business innovation.*

*TECH offers you an innovative study methodology 100% online, based on relearning that provides you with fast and efficient learning.*



# 02

# Objectives

This Professional Master's Degree in Industrial Innovation Management has a series of specific and general objectives that unfold from a fundamental idea which is to generate new criteria in business management, with the implementation of models in line with the new digital era and contemplating future trends in sustainable production systems. The professional will develop a series of skills that will allow him/her to perform efficiently in demanding and modern organizational environments, thanks to the knowledge acquired in this program.







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*Professionals with innovative thinking are what the industrial field requires. You too can boost your profile as an innovation manager. This is your chance. Start now"*



## General objectives

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- ◆ Understand the concept of innovation in the business environment to develop effective solutions by implementing efficient models
- ◆ Understand current and future trends related to business innovation
- ◆ Analyze the behavior of the entrepreneur and businessman in the evolution of the times, in order to understand the current models
- ◆ Understand the Startups funding process, forms of capital and types of investors in the startup framework
- ◆ Contemplate sustainability as a concept within Industrial Innovation Management
- ◆ Analyze the fundamental aspects of production systems design and product life cycle
- ◆ Know the fundamental aspects of the digital transformation of companies and its use for Innovation Management
- ◆ Study innovation methodologies in depth, in particular Design Thinking
- ◆ Develop e-commerce strategies within business management
- ◆ Study in depth the R&D&I management systems





## Specific objectives

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### Module 1. Innovation

- ◆ Understanding the concept of innovation
- ◆ Identify and implement the different business innovation models
- ◆ Identify and prioritize innovation problems and opportunities
- ◆ Develop innovative solutions for the company
- ◆ Identify and distinguish risks related to innovation

### Module 2. Entrepreneurial Innovation and Initiative

- ◆ Know the evolution of the image of the entrepreneur and businessman in society according to periods and regions
- ◆ Understand the intellectual foundation of tools to foster innovation and entrepreneurship
- ◆ Analyze future trends related to business innovation
- ◆ Distinguish and analyze the different types of innovation

### Module 3. Business Creation

- ◆ Identify one's own capabilities and motivations as an entrepreneur
- ◆ Identify in a practical way the basic aspects of the business project for the creation of a company
- ◆ Apply tools to develop individual and group creativity
- ◆ Identify the main phases of the financing process
- ◆ Apply the methodology and models of product design and innovation in specific cases proposed
- ◆ Explain the Startups funding cycle, forms of capital and types of investors
- ◆ Identify the fundamental aspects of product and customer life cycles
- ◆ Designing a business plan for a real organization

#### **Module 4. Product Design and Innovation Management**

- ◆ Identify the fundamental aspects of the design of production systems
- ◆ Apply sustainable innovation criteria in the design of products
- ◆ Analyze the product design life cycle and its phases
- ◆ Design management processes for industrial organizations that take into account innovation and sustainability
- ◆ Apply the criteria related to the product life cycle in the search for sustainable products
- ◆ Identify the main characteristics of innovation as a business strategy from a sustainable perspective

#### **Module 5. Industry 4.0**

- ◆ Analyze the origins of the so-called Fourth Industrial Revolution and the Industry 4.0 concept
- ◆ In-depth study of the key principles of Industry 4.0, the technologies on which they are based and the potential of all of them in their application to the different productive sectors
- ◆ Identify the key aspects of the digital transformation of companies
- ◆ 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
- ◆ Select appropriate technological tools for the proposed situations

#### **Module 6. Future Thinking How to Transform Today from Tomorrow?**

- ◆ Understand how creativity and innovation have become the drivers of the economy
- ◆ Ability to solve problems in novel environments and interdisciplinary contexts
- ◆ Know how to manage the process of creation and implementation of novel ideas on specific topics
- ◆ Acquire specific knowledge for the management of companies and organizations in the new context of the creative industries

#### **Module 7. Innovative Methodologies: Design Thinking**

- ◆ Understand the main challenges of digital transformation in each area of the company
- ◆ Master the Design Thinking methodology as the main tool for creativity and innovation in the 21st century company
- ◆ Understanding the impact of constant change in business
- ◆ Distinguish and understand the major transformation trends occurring in today's businesses

#### **Module 8. Innovation, E-Logistics, and Technology in the Supply Chain**

- ◆ Identify the changes required to improve management and direction within the company, based on orienting the strategy to the digital environment
- ◆ Understand the competitive environment in which your business operates
- ◆ Implement digitization strategies for an industry, making the right decisions to achieve the planned objectives
- ◆ Lead processes of change in the industries based on digitalization
- ◆ Carry out e-commerce strategies

**Module 9. Digital Transformation as a 360° Strategy**

- ◆ Develop a strategic vision to lead the processes of change in innovation management and Digital Transformation
- ◆ Master the different technological trends that are taking place in order to have a strategic and global vision when applying them in business and industrial projects
- ◆ Establish the Digital Strategy, understanding this with a 360° vision, applied to the customer experience as well as to the internal experience in the company

**Module 10. Certification and Audits R&D&I**

- ◆ Develop techniques for fostering creative thinking to manage innovation in an organization
- ◆ Develop innovative processes for administration
- ◆ Evaluating products so that they meet industry objectives
- ◆ Knowledge of R&D&I management systems
- ◆ Know the phases of auditing and certification of R&D&I systems



*Study in depth the methodologies that foster creative and innovative thinking, in order to develop in productive environments"*

# 03 Skills

Thanks to the study of the most important concepts for understanding Industrial Innovation Management, studied in depth in this Professional Master's Degree, the student will be able to develop a series of competencies aimed at becoming a specialized and up-to-date manager in transformation and entrepreneurship. In this way, it will stand out in its working environment by offering advanced solutions adapted to an avant-garde, sustainable and technological context. With a strategic vision to promote new projects, fostered under a creative thinking and adapted to management systems and audits.





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*Develop the best competencies to become a great business leader thanks to this Professional Master's Degree"*



## General skills

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- ◆ Implement the concept of innovation in business management projects
- ◆ Integrate into its processes tools that promote innovation and entrepreneurship
- ◆ Apply the different methodologies and models of product design implementing innovation
- ◆ Design projects taking into account the product life cycle and its phases
- ◆ Master the key concepts and principles of Industry 4.0
- ◆ Problem solving in novel environments and interdisciplinary contexts
- ◆ Understand the transformation trends in today's businesses
- ◆ Leading innovative production and administrative processes in the industry based on digitalization







## Specific skills

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- ◆ Identify innovation problems and opportunities
- ◆ Master tools that foster innovation and entrepreneurship
- ◆ Integrate *Design Thinking* as the main tool for creativity and innovation in the XXI century company
- ◆ Designing a business plan for a real organization
- ◆ Apply sustainable innovation criteria in the design of products
- ◆ Use appropriate technological tools in the development of industrial processes
- ◆ Efficiently manage the process of creating and implementing novel ideas
- ◆ Know the competition and the target audience very well
- ◆ Develop a digital strategy with 360° vision, to improve the customer and business experience
- ◆ Study in order to develop yourself in the R&D&I management systems

# 04

# Structure and Content

This Professional Master's Degree in Industrial Innovation Management has been structured in 10 specialized modules, through which the student will be able to delve into the fundamental aspects of industrial innovation, as well as develop skills in the use of methodologies, techniques and tools that promote creative and innovative thinking within business management and its processes. Thanks to the variety of multimedia resources and the *Relearning* methodology, the contents are understood quickly and dynamically, with a variety of audiovisual and written formats available for consultation from the first day.





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*The most up-to-date contents related to innovation and entrepreneurship are available in this Professional Master's Degree”*

## Module 1. Innovation

- 1.1. Innovation
  - 1.1.1. Innovation and Misconceptions
  - 1.1.2. Basic Premises of Innovation
  - 1.1.3. Redefining Innovation
  - 1.1.4. Most Common Mistakes
    - 1.1.4.1. Falling into the Trap of Consistency and Commitment
    - 1.1.4.2. Confusing Technical Problems with Innovation Problems
    - 1.1.4.3. Develop Tactical Solutions to Strategic Problems and vice versa.
- 1.2. Innovative Thoughts and Culture
  - 1.2.1 The Talent Needed to Innovate
    - 1.2.1.1. The Myth of the Expert
    - 1.2.1.2. Variety is the Key to Success
    - 1.2.1.3. The Talent of Innovative Businesses
    - 1.2.1.4. Ideal Profile of a Business Innovation Manager
  - 1.2.2. Collaborative Culture
    - 1.2.2.1. Without Collaboration There Is No Innovation
    - 1.2.2.2. Towards a Collaborative Culture
    - 1.2.2.3. Values
  - 1.2.3. Models for Seeding a Culture of Innovation
- 1.3. Soft Skills as a Driver of Innovation
  - 1.3.1. The Soft Skills Revolution
    - 1.3.1.1. The 4.0 Revolution
    - 1.3.1.2. The Soft Revolution
    - 1.3.1.3. Soft Skills
    - 1.3.1.4. Soft Skills Vs. Hard Skills
  - 1.3.2. Soft Skills
    - 1.3.2.1. Soft Skills as a Driver of Innovation
    - 1.3.2.2. Developing Soft Skills to Innovate in Yourself
    - 1.3.2.3. Development of Soft Skills for Business Innovation
- 1.4. Innovation Ecosystems
  - 1.4.1. The Innovative Ecosystem
    - 1.4.1.1. The Triple and Quadruple Helix
    - 1.4.1.2. Protagonists of Innovative Ecosystems
    - 1.4.1.3. Building an Innovative Ecosystem for a Business
  - 1.4.2. Open Innovation
    - 1.4.2.1. Benefits and Weaknesses of the Different Models
    - 1.4.2.2. When and How Much to Open Innovation
    - 1.4.2.3. Examples
  - 1.4.3. Main Collaborative Innovation Tools
    - 1.4.3.1. Analog Tools
    - 1.4.3.2. Digital Tools
    - 1.4.3.3. Business Selection Process
- 1.5. Business Innovation Systems
  - 1.5.1. Innovation Systems
    - 1.5.1.1. The Importance of the Size
    - 1.5.1.2. The Innovation System, a Tailor-Made Suit for our Organization
    - 1.5.1.3. Types of Innovation Systems
  - 1.5.2. Innovation Cycle
    - 1.5.2.1. The Scientific Method
    - 1.5.2.2. Phases of the Innovation Cycle
    - 1.5.2.3. Failure Management
  - 1.5.3. Fundamental Elements of a System
    - 1.5.3.1. Knowledge Management
    - 1.5.3.2. Measuring Innovation
    - 1.5.3.3. Financing Innovation
- 1.6. Identification of Problems and Opportunities for Innovation
  - 1.6.1. Identifying Problems
    - 1.6.1.1. Operational and Strategic Issues
    - 1.6.1.2. Classification of Problems
    - 1.6.1.3. How to Prepare a Problem Maps

- 1.6.2. Prioritizing Problems
  - 1.6.2.1. Ruling out Technical Problems
  - 1.6.2.2. The Prioritization Matrix
  - 1.6.2.3. Group Exercises
- 1.6.3. Dissecting Problems and Defining Challenges
  - 1.6.3.1. Problems vs. Challenges
  - 1.6.3.2. Dissection of Problems
  - 1.6.3.3. Definition of Challenges
  - 1.6.3.4. Challenge Sizing (Potential Return)
- 1.7. Development of Innovative Solutions
  - 1.7.1. Design of Innovative Solutions
    - 1.7.1.1. Creativity Techniques
    - 1.7.1.2. Building blocks to Innovate
    - 1.7.1.3. Creativity Training
  - 1.7.2. Risk Identification
    - 1.7.2.1. Generation Risks
    - 1.7.2.2. Market Risks
    - 1.7.2.3. Financial Risks
    - 1.7.2.4. Prioritization Matrix of Hypothetical Solutions
  - 1.7.3. Iterative Experimentation and Validation
    - 1.7.3.1. Reasoning for Experimenting and Not Surveying
    - 1.7.3.2. Design of Tests and Experiments by Type of Risk
    - 1.7.3.3. Measurement of Results, Analysis, Conclusions and Iteration
- 1.8. Innovation Strategies in the Public Sector
  - 1.8.1 Public Innovation Strategies and Tactics
    - 1.8.1.1. Public Policies for the Promotion of Innovation
    - 1.8.1.2. Public Actions to Promote Innovation
    - 1.8.1.3. Tax or Financial Benefits
  - 1.8.2. Regional Innovation Systems and Plans
    - 1.8.2.1. Regional Innovation Diagnosis
    - 1.8.2.2. Focus of a Regional Innovation Plan or System
    - 1.8.2.3. Design of Regional Innovation Systems and Plans
  - 1.8.3. Public Entities for the Promotion of Innovation
    - 1.8.3.1. Others
    - 1.8.3.2. Public Research Centers
    - 1.8.3.3. Public Innovation Parks
    - 1.8.3.4. Innovative Public Businesses
- 1.9. Innovative and Intelligent Sustainable Urban Developments (Smart Cities)
  - 1.9.1. Fostering Innovation in Sustainable and Intelligent Development
    - 1.9.1.1. Innovation as a Driver of Sustainable Development
    - 1.9.1.2. National Sustainable Development Strategies
    - 1.9.1.3. Impacts Sought
  - 1.9.2. The Innovation of Smart Cities
    - 1.9.2.1. Smart Cities
    - 1.9.2.2. Innovation in Cities Development
    - 1.9.2.3. Fostering the Innovative Ecosystem in Cities
    - 1.9.2.4. Public-Private Cooperation
  - 1.9.3. The Innovation of Smart Regions
    - 1.9.3.1. Innovation in Region Development
    - 1.9.3.2. Fostering the Innovative Ecosystem in Regions
    - 1.9.3.3. The Impact of Smart Regions
- 1.10. Public Financing of Innovation
  - 1.10.1. Financing Innovation
    - 1.10.1.1. Reasons for Financing
    - 1.10.1.2. Objectives of Innovation Financing
    - 1.10.1.3. Benefits of Financing Innovation
  - 1.10.2. Public Financing of Innovation
    - 1.10.2.1. Public Funding
    - 1.10.2.2. Sources of European Financing
    - 1.10.2.3. Impact of Publicly Financed Projects

## Module 2. Entrepreneurial Innovation and Initiative

- 2.1. Introduction to Entrepreneurship Research
  - 2.1.1. Entrepreneurship
  - 2.1.2. Strengths and Weaknesses of a Business Plan
- 2.2. Introduction to Innovation Research
  - 2.2.1. Historical Overview of Entrepreneurial Innovation
  - 2.2.2. Technology Transfer Processes
- 2.3. Creativity
  - 2.3.1. The Theoretical Framework of Ideation and Creation
  - 2.3.2. Creativity and Innovation
  - 2.3.3. Creative Businesses
  - 2.3.4. Creative Tools
  - 2.3.5. Selection of Ideas
- 2.4. Agile Ventures
  - 2.4.1. The Lean Startup Model
  - 2.4.2. Development of Products and Services with Agile
  - 2.4.3. DevOps in ICT Ventures
- 2.5. Innovation Management
  - 2.5.1. Analysis of the Types of Innovation
  - 2.5.2. Drivers of Innovation
  - 2.5.3. Scope of Innovation
  - 2.5.4. Comparative Analysis of Innovation Cases
  - 2.5.5. R&D Management
- 2.6. Entrepreneurial Context: Information Society
  - 2.6.1. The Entrepreneur and their Time
  - 2.6.2. Opportunities and Challenges of Contemporary Entrepreneurship
- 2.7. Globalization
  - 2.7.1. Globalization.
  - 2.7.2. Advocate and Detractors
  - 2.7.3. Influence on The Entrepreneurial Project
  - 2.7.4. Economic Analysis of International Environments

- 2.8. Project Management
  - 2.8.1. The Business Plan.
  - 2.8.2. Conventional Project Management
  - 2.8.3. Agile Project Management
- 2.9. Intrapreneurship
  - 2.9.1. Intrapreneurship Specificities
  - 2.9.2. Comparative Analysis of Intrapreneurship Cases
- 2.10. Future Tendencies
  - 2.10.1. New Entrepreneurship Niches
  - 2.10.2. Social Entrepreneurship
  - 2.10.3. Entrepreneurship by Seniors

## Module 3. Business Creation

- 3.1. Entrepreneurial Spirit
  - 3.1.1. Entrepreneur
  - 3.1.2. Entrepreneur Characteristics
  - 3.1.3. Types of Entrepreneurs
- 3.2. Entrepreneurship and Teamwork
  - 3.2.1. Teamwork
  - 3.2.2. Characteristics of Teamwork
  - 3.2.3. Advantages and Disadvantages of Teamwork
- 3.3. Creation of a Company
  - 3.3.1. Being an Entrepreneur
  - 3.3.2. Company Concept and Model
  - 3.3.3. Stages of the Business Creation Process
- 3.4. Basic Components of a Company
  - 3.4.1. Different Approaches
  - 3.4.2. The 8 Components of a Company
    - 3.4.2.1. Customers:
    - 3.4.2.2. Environment.
    - 3.4.2.3. Technology

- 3.4.2.4. Material Resources
- 3.4.2.5. Human resources.
- 3.4.2.6. Finances
- 3.4.2.7. Enterprise Networks
- 3.4.2.8. Opportunity
- 3.5. Value proposition
  - 3.5.1. Value Proposition
  - 3.5.2. Ideas Generation
  - 3.5.3. General Recommendations for Value Propositions
- 3.6. Support Tools for the Entrepreneur
  - 3.6.1. Lean Start-up
  - 3.6.2. Design Thinking
  - 3.6.3. Open Innovation
- 3.7. Lean Start-ups
  - 3.7.1. Lean Start-up
  - 3.7.2. Lean Start-up Methodology
  - 3.7.3. Phases a Start-up Goes Through
- 3.8. Business Approach Sequence
  - 3.8.1. Validate Hypotheses
  - 3.8.2. MVP: Minimum Viable Products
  - 3.8.3. Measure: Lean Analytics
  - 3.8.4. Pivot or Persevere
- 3.9. Innovate
  - 3.9.1. Innovation
  - 3.9.2. The Ability to Innovate, Creativity and Growth
  - 3.9.3. Innovation Cycle
- 3.10. Creativity
  - 3.10.1. Creativity as a Skill
  - 3.10.2. Creativity Process
  - 3.10.3. Types of Creativity

## Module 4. Product Design and Innovation Management

- 4.1. QFD in Product Design and Development (Quality Function Deployment)
  - 4.1.1. From the Voice of the Customer to Technical Requirements
  - 4.1.2. The House of Quality. Phases for its Development
  - 4.1.3. Advantages and Limitations
- 4.2. Design Thinking
  - 4.2.1. Design, Need, Technology and Strategy
  - 4.2.2. Stages of the Process
  - 4.2.3. Tools and Technique Used
- 4.3. Concurrent Engineering
  - 4.3.1. Concurrent Engineering Fundamentals
  - 4.3.2. Concurrent Engineering Methods
  - 4.3.4. Tools Used
- 4.4. Programming Planning and Definition
  - 4.4.1. Requirements. Quality Management
  - 4.4.2. Development Phases. Time Management
  - 4.4.3. Materials, Feasibility, Processes. Cost Management
  - 4.4.4. Project Team. Human Resource Management
  - 4.4.5. Information. Communication Management
  - 4.4.6. Risk Analysis Risk Management
- 4.5. Products Design (CAD) and Development
  - 4.5.1. Information Management PLM. Product Life Cycle
  - 4.5.2. Product Failure Modes and Effects
  - 4.5.3. CAD Construction. Review
  - 4.5.4. Product and Manufacturing Drawings
  - 4.5.5. Design Verification
- 4.6. Prototypes Its Development
  - 4.6.1. Rapid Prototyping
  - 4.6.2. Control Plan
  - 4.6.3. Experiment Design
  - 4.6.4. Analysis of Measurement Systems

- 4.7. Production Process. Design and Development.
  - 4.7.1. Modes and Effects of Process Failure
  - 4.7.2. Design and Construction of Manufacturing Tooling
  - 4.7.3. Design and Construction of Checking Fixtures (Gauges)
  - 4.7.4. Adjustment Phase
  - 4.7.5. Production Start-up
  - 4.7.6. Initial Evaluation of the Process
- 4.8. Product and Process. Your Validation
  - 4.8.1. Evaluation of Measurement Systems
  - 4.8.2. Validation Tests
  - 4.8.3. Statistical Process Control (SPC)
  - 4.8.4. Product Certification
- 4.9. The Management of Change. Improvement and Corrective Actions
  - 4.9.1. Type of Change
  - 4.9.2. Variability Analysis, Improvement
  - 4.9.3. Lessons Learned and Proven Practices
  - 4.9.4. Process of Change
- 4.10. Innovation and Technology Transfer
  - 4.10.1. Intellectual Property
  - 4.10.2. Innovation
  - 4.10.3. Technology Transfer

## Module 5. 4.0 Industry

- 5.1. Definitions of 4.0 Industry
  - 5.1.1. Features
- 5.2. Benefits of the 4.0 Industry
  - 5.2.1. Key Factors
  - 5.2.2. Main Advantages
- 5.3. Industrial Revolutions and Vision of Future
  - 5.3.1. Industrial Revolutions
  - 5.3.2. Keys Factors in Each Revolution
  - 5.3.3. Technological Principles a Basis for Possible New Revolutions

- 5.4. The Digital Transformation of the Industry
  - 5.4.1. Characteristics of the Digitization of the Industry
  - 5.4.2. Disruptive Technologies
  - 5.4.3. Applications in Industry
- 5.5. Forth Industrial Revolution Key Principles of Industry 4.0
  - 5.5.1. Definitions
  - 5.5.2. Key Principles and Applications
- 5.6. 4.0 Industry and Industrial Internet
  - 5.6.1. Origin of IIoT
  - 5.6.2. Operation
  - 5.6.3. Steps to Follow for its Implementation
  - 5.6.4. Benefits
- 5.7. Smart Factory Principles
  - 5.7.1. Smart Factory
  - 5.7.2. Elements That Define a Smart Factory
  - 5.7.3. Steps to Deploy a Smart Factory
- 5.8. Status of the 4.0 Industry
  - 5.8.1. Status of the 4.0 Industry in Different Sectors
  - 5.8.2. Barriers to the Implementation of 4.0 Industry
- 5.9. Challenges and Risks
  - 5.9.1. DAFO Analysis
  - 5.9.2. Challenges
- 5.10. Role of Technological Capabilities and the Human Factor
  - 5.10.1. Disruptive Technologies in Industry 4.0
  - 5.10.2. The Importance of the Human Factor Key Factor



## Module 6. Future Thinking How to Transform Today from Tomorrow?

- 6.1. Methodology Futures Thinking
  - 6.1.1. Futures Thinking
  - 6.1.2. Benefits of using this Methodology
  - 6.1.3. The Role of the "Futurist" in the Creative Enterprise
- 6.2. Signs of Change
  - 6.2.1. The Sign of Change
  - 6.2.2. Identification of the Signs of Change
  - 6.2.3. Interpretation of the Signs
- 6.3. Types of Futures
  - 6.3.1. Journey to the Past
  - 6.3.2. The Four Types of Futures
  - 6.3.3. Application of the Methodology Futures Thinking in the Workplace
- 6.4. Future Forecasting
  - 6.4.1. Searching for Drivers
  - 6.4.2. How to Create a Forecast for the Future
  - 6.4.3. How to Design a Future Scenario
- 6.5. Mental Stimulation Techniques
  - 6.5.1. Past, Future and Empathy
  - 6.5.2. Facts vs. Experience
  - 6.5.3. Alternative Routes
- 6.6. Collaborative Forecasting
  - 6.6.1. The Future as a Game
  - 6.6.2. Future Wheel
  - 6.6.3. The Future from Different Approaches
- 6.7. Epic Victories
  - 6.7.1. From Discovery to the Innovation Proposal
  - 6.7.2. The Epic Victory
  - 6.7.3. Fairness in the Game of the Future
- 6.8. Preferred Futures
  - 6.8.1. The Preferred Future
  - 6.8.2. Techniques
  - 6.8.3. Working Backwards from the Future

- 6.9. From Prediction to Action
  - 6.9.1. Images of the Future
  - 6.9.2. Artifacts of the Future
  - 6.9.3. Roadmap
- 6.10. ODS. A Global and Multidisciplinary Vision of the Future ODS
  - 6.10.1. Sustainable Development as a Global Goal
  - 6.10.2. Human Management in Nature
  - 6.10.3. Social Sustainability

## Module 7. Innovative Methodologies: Desing Thinking

- 7.1. Design Thinking: People-Centered Innovation
  - 7.1.1. Understand the Fundamental Principles of Design Thinking
  - 7.1.2. Objectives and Limitations
  - 7.1.3. Benefits Within the Current Context
- 7.2. Design Thinking Phases
  - 7.2.1. Understand the Development Flow of this Methodology
  - 7.2.2. Challenges in Each Phase of a Project
  - 7.2.3. Errors and Malpractice
- 7.3. Research Methodologies in Design Thinking I
  - 7.3.1. Methods I
  - 7.3.2. Objectives, Benefits and Limitations I
  - 7.3.3. Practical Application I
- 7.4. Research Methodologies in Design Thinking II
  - 7.4.1. Methodology II
  - 7.4.2. Objectives, Benefits and Limitations II
  - 7.4.3. Practical Application II
- 7.5. The Customer Journey
  - 7.5.1. The Customer Journey
  - 7.5.2. Objectives, Benefits and Use Cases
  - 7.5.3. Practical Application
- 7.6. Workflow in Design Thinking I: Immersion
  - 7.6.1. Objectives
  - 7.6.2. Procedure
  - 7.6.3. Challenges and Good Practices

- 7.7. Workflow in Design Thinking II: Ideation
  - 7.7.1. Objectives
  - 7.7.2. Procedure
  - 7.7.3. Challenges and Good Practices
- 7.8. Workflow in Design Thinking III: Implementation
  - 7.8.1. Objectives
  - 7.8.2. Procedure
  - 7.8.3. Challenges and Good Practices
- 7.9. Workflow in Design Thinking IV: Testing and Closing Up
  - 7.9.1. Objectives
  - 7.9.2. Procedure
  - 7.9.3. Challenges and Precautions Prior to Solution Implementation
- 7.10. Good and Malpractices in Design Thinking
  - 7.10.1. Risks and Common Mistakes in Design Thinking Practice
  - 7.10.2. Cases in Which This Methodology Should Not Be Applied
  - 7.10.3. Final Recommendations and Checklist

## Module 8. Innovation, E-Logistics, and Technology in the Supply Chain

- 8.1. Process Engineering and Product Engineering
  - 8.1.1. Innovation Strategies
  - 8.1.2. Open Innovation.
  - 8.1.3. Innovative Organization and Culture
  - 8.1.4. Multifunctional Teams.
- 8.2. Launch and Industrialization of New Products
  - 8.2.1. Design of New Products
  - 8.2.2. Lean Design.
  - 8.2.3. Industrialisation of New Products
  - 8.2.4. Manufacture and Assembly
- 8.3. Digital E-Commerce Management
  - 8.3.1. New e-Commerce Business Models.
  - 8.3.2. Planning and Developing an e-Commerce Strategic Plan.
  - 8.3.3. Technological Structure in e-Commerce
- 8.4. E-Commerce Operations and Logistics
  - 8.4.1. Digital Point-of-Sale Management.
  - 8.4.2. Contact Center Management
  - 8.4.3. Automation in Management and Monitoring Processes
- 8.5. E-Logistics. B2C and B2B
  - 8.5.1. E-Logistics
  - 8.5.2. B2C B2C: e-Fulfilment, the Last Mile
  - 8.5.3. B2B E-Procurement. Marketplaces
- 8.6. Digital Pricing
  - 8.6.1. Online Payment Methods and Payment Gateways
  - 8.6.2. Electronic Promotions.
  - 8.6.3. Digital Price Timing
  - 8.6.4. E-Auctions
- 8.7. Legal Aspects of e-Commerce
  - 8.7.1. EU and Spanish Regulations
  - 8.7.2. Data Protection
  - 8.7.3. Fiscal Aspects of e-Commerce
  - 8.7.4. General Sales Conditions
- 8.8. The Warehouse in e-Commerce
  - 8.8.1. Peculiarities of the Warehouse in e-Commerce
  - 8.8.2. Warehouse Design and Planning
  - 8.8.3. Infrastructure. Fixed and Mobile Devices
  - 8.8.4. Zoning and Locations
- 8.9. Designing an Online Store
  - 8.9.1. Design and Usability
  - 8.9.2. Most Common Functionalities
  - 8.9.3. Alternative Technologies.
- 8.10. Supply Chain Management and Future Trends
  - 8.10.1. The Future of E-Business
  - 8.10.2. The Current and Future Reality of e-Commerce
  - 8.10.3. SC Operating Models for Global Companies

## Module 9. Digital Transformation as a 360° Strategy

- 9.1. 360° Strategy
  - 9.1.1. Brand Awareness
  - 9.1.2. Content Mapping and Customer Journey
  - 9.1.3. Always on Strategy
- 9.2. Rebranding
  - 9.2.1. Rebranding
  - 9.2.2. When to Apply a Rebranding Strategy?
  - 9.2.3. How to Apply a Rebranding Strategy?
- 9.3. HR Marketing
  - 9.3.1. Recruitment Marketing
  - 9.3.2. Phases of HR Marketing
  - 9.3.3. Communication Strategy
- 9.4. Relationship Marketing
  - 9.4.1. Relationship Marketing
  - 9.4.2. Inbound Marketing
  - 9.4.3. Tools
- 9.5. Innovation Ecosystems and Communities
  - 9.5.1. Innovation Ecosystems
  - 9.5.2. Types of Profiles
  - 9.5.3. Keys for Having an Internal and External Community
- 9.6. Social Selling
  - 9.6.1. Social Selling
  - 9.6.2. How to Apply a Social Selling Strategy?
  - 9.6.3. Applications Based on Social Selling
- 9.7. Experience Marketing
  - 9.7.1. Experience Marketing
  - 9.7.2. Objectives in an Experience Marketing Campaign
  - 9.7.3. Use of Technology in Experience Marketing
- 9.8. Branded Content and Native Publicity
  - 9.8.1. Branded Content and Debranding
  - 9.8.2. Content Marketing vs. Brand Journalism
  - 9.8.3. Native Publicity

- 9.9. Real Time Marketing
  - 9.9.1. Real Time Marketing
  - 9.9.2. Preparation of a Real-Time Marketing Campaign
  - 9.9.3. Personalization as a Key Concept
  - 9.9.4. Corporate Social Responsibility
- 9.10. Key Performance Indicators (KPI) in the Digital Era
  - 9.10.1. Organizational Indicators
  - 9.10.2. Innovation Indicators
  - 9.10.3. Marketing Indicators

## Module 10. Certification and Audits R&D&I

- 10.1. Creative Thinking: Innovation
  - 10.1.1. Innovation in the Technology Business
  - 10.1.2. Techniques to Promote Creativity
  - 10.1.3. Process of Conception of Innovative Ideas
- 10.2. Process Engineering and Product Engineering
  - 10.2.1. Innovation Strategies
  - 10.2.2. Open Innovation
  - 10.2.3. Innovative Organization and Culture
  - 10.2.4. Multifunctional Teams
- 10.3. Launch and Industrialization of New Products
  - 10.3.1. Design of New Products
  - 10.3.2. Efficient Design
  - 10.3.3. Industrialisation of New Products
  - 10.3.4. Manufacture and Assembly
- 10.4. Research, Development and Innovation R&D&I Management Systems
  - 10.4.1. Requirements of a Research, Development and Innovation Management System R&D&I
  - 10.4.2. Line of Action, Activity, Process and Procedure
  - 10.4.3. Recommended Framework for Research, Development and Innovation (R&D&I) Management

- 10.5. Auditing and Certification of Research, Development and Innovation R&D&I
  - 10.5.1. Basic Principles of Research, Development and Innovation (R&D&I) Audits
  - 10.5.2. Phases of a Research, Development and Innovation (R&D&I) Audit
  - 10.5.3. Certifications in the Field of Research, Development and Innovation R&D&I
  - 10.5.4. Certification of Research, Development and Innovation Management System R&D&I
- 10.6. Tools for Research, Development and Innovation (R&D&I) Management
  - 10.6.1. Cause-Effect Diagram for Research, Development and Innovation R&D&I
  - 10.6.2. Weighted Selection for Research, Development and Innovation R&D&I
  - 10.6.3. Pareto Diagram for Research, Development and Innovation R&D&I
  - 10.6.4. Matrix of Priorities for Research, Development and Innovation R&D&I
- 10.7. Benchmarking Applied to Research, Development and Innovation R&D&I
  - 10.7.1. Types of Benchmarking
  - 10.7.2. The Benchmarking Process in Research, Development and Innovation R&D&I
  - 10.7.3. Methodology of the Benchmarking Process applied to Research, Development and Innovation R&D&I
  - 10.7.4. Benchmarking Measurement
- 10.8. Re-Engineering for the Radical Innovation of the Business Processes in the Company
  - 10.8.1. Origins and Evolution of Process Re-Engineering
  - 10.8.2. Objectives of Re-Engineering
  - 10.8.3. Correct Approach to Re-Engineering
- 10.9. Management and Administration of R&D&I Research, Development and Innovation Projects.
  - 10.9.1. Elements of a Research, Development and Innovation (R&D&I) Project
  - 10.9.2. Most Significant Stages of a Research, Development and Innovation (R&D&I) Project
  - 10.9.3. Processes for the Management of Research, Development and Innovation (R&D&I) Projects
- 10.10. Quality Management in Research, Development and Innovation (R&D&I) Projects
  - 10.10.1. The Quality Management System in Research, Development and Innovation (R&D&I) Projects
  - 10.10.2. Quality Plans for Research, Development and Innovation (R&D&I) Projects
  - 10.10.3. Content of a Quality Plan for Research, Development and Innovation (R&D&I) Projects





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05

# Methodology

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

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





“

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

### At TECH we use the Case Method

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

“

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



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





### A learning method that is different and innovative.

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

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

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

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

What should a professional do in a given situation? This is the question that you are presented with in the case method, an action-oriented learning method. Throughout the program, the studies will be presented with multiple real cases.

They will have to combine all their knowledge and research, and argue and defend their ideas and decisions.

## Relearning Methodology

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

We enhance Harvard case studies with the best 100% online teaching method: Relearning.

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

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

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



In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

This methodology has trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, and financial markets and instruments. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

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

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

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



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



#### Study Material

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

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



#### Classes

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



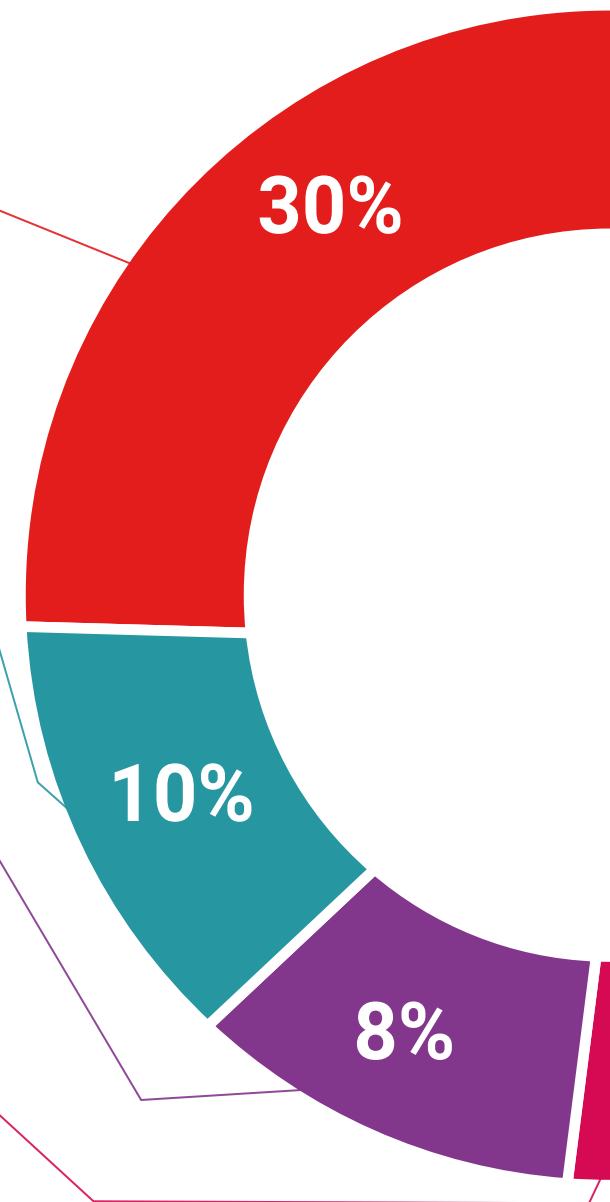
#### Practising Skills and Abilities

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



#### Additional Reading

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





#### Case Studies

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



#### Interactive Summaries

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

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



#### Testing & Retesting

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



06

# Certificate

The Professional Master's Degree in Industrial Innovation Management guarantees you, in addition to the most rigorous and updated training, access to a Professional Master's Degree issued by TECH Technological University.



“

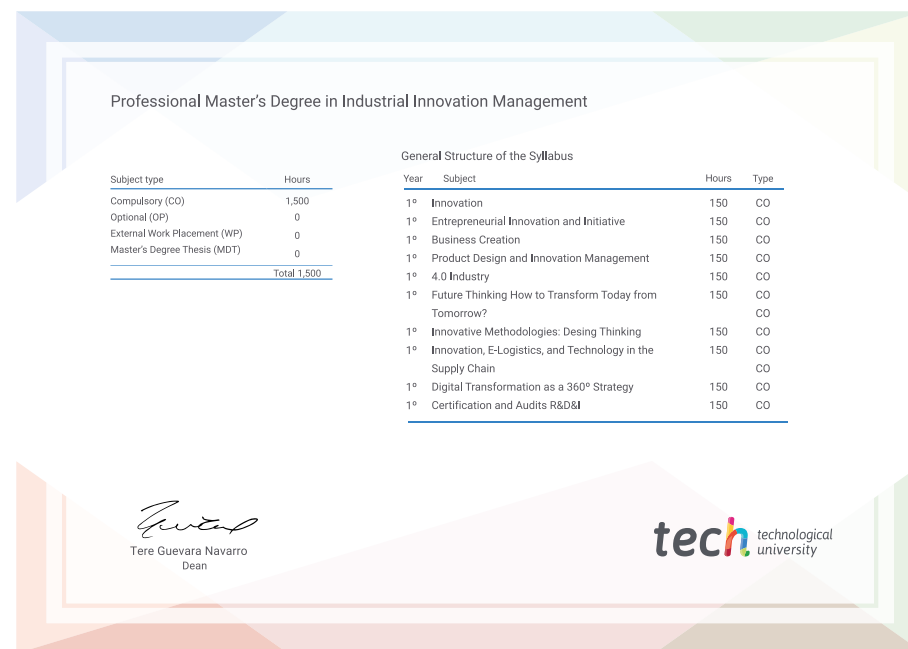
*Successfully complete this training and receive your university degree without travel or laborious paperwork"*

This **Professional Master's Degree in Industrial Innovation Management** contains the most complete and updated program on the market.

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

The certificate 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: **Professional Master's Degree in Industrial Innovation Management**  
Official Number of hours: **1,500 h.**



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



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community commitment

personalized service innovation

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virtual classroom

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university

## Professional Master's Degree Innovation Management Industrial

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

# Professional Master's Degree Industrial Innovation Management

