

# Professional Master's Degree MBA in Digital Transformation and Industry 4.0



## Professional Master's Degree MBA in Digital Transformation and Industry 4.0

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Global University
- » Credit: 90 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/engineering/professional-master-degree/master-mba-digital-transformation-industry-4-0](http://www.techtute.com/us/engineering/professional-master-degree/master-mba-digital-transformation-industry-4-0)

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# 01

# Introduction

New technologies have driven Industry 4.0, but another major revolution has come from the pandemic caused by COVID-19. Drones, artificial intelligence, 3D printing have undergone a push that has revealed their great potential in many sectors. However, this situation has also served for the detection of digital deficiencies in other fields, which currently seek to develop using not only the tools and techniques themselves, but also favoring collaborative work. An ideal scenario for engineering professionals who are in high demand in an emerging sector. This 100% online program provides the latest information on the Internet of things, Robotics, Big Data or Quantum Computing. As could not be otherwise, it will feature innovative multimedia content, in which the latest technology applied to academic teaching has been used.



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*Enter a constantly evolving technology sector and get up to date to achieve the best benefits for your digital business. Enroll now”*

Today's progress has new technologies as a great ally, a digital transformation present from the educational bases to sectors such as aviation, automobiles, the arms industry, commerce and finance. All of this is geared towards the achievement of a true digital economy, in which the engineering professional plays a leading role thanks to their knowledge.

Change is rapid, accelerated by the pandemic caused by coronavirus, and initiatives from Open Source communities, Startups and public institutions are emerging. The current scenario is completely favorable and forecasts predict a successful future for those who have decided to take this path and face the challenges posed by Industry 4.0. That is why TECH has gathered in this Professional Master's Degree a relevant teaching team in the engineering sector, whose main objective is to offer the most up-to-date knowledge in an area with great potential.

A program with a practical-theoretical approach, which provides graduates with a study in depth on virtual, augmented and mixed reality, industry 4.0 applied to sectors such as tourism, energy, construction or Smart Factory, or automation systems. The case studies provided by the specialists who teach this degree will provide students with a learning experience that is close to the reality they may encounter in their work performance in different areas.

Professionals, are also faced with a program that is taught exclusively online, in a convenient and flexible way. All they need is a computer, tablet or cell phone to connect to the virtual campus and access the complete syllabus of this program. A program, without attendance or classes with fixed schedules, which also gives students the freedom to view or download the content of this Professional Master's Degree whenever they wish. Engineers are, therefore, facing an excellent opportunity to boost their career in a sector with a wide range of opportunities and also, with a university education that is compatible with the most demanding responsibilities.

This **MBA in Digital Transformation and Industry 4.0** contains the most complete and up-to-date program on the market. The most important features include:

- ◆ The development of case studies presented by experts in Digital Transformation and Industry 4.0.
- ◆ The graphic, schematic and eminently practical contents with which it is conceived provide technical and practical information on those disciplines that are essential for professional practice
- ◆ Practical exercises where the self-assessment process can be carried out 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



*Give your profession a boost with this Professional Master's Degree and get the main tools and techniques to succeed in the Industry 4.0 field"*

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*This 100% online MBA will allow you to combine a university education with your professional work. You choose where and when to access"*

The program includes in its teaching staff, professionals of the sector who pour into this specialization the experience of their work, in addition to recognized specialists from reference 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 education programmed to learn 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 course. For this purpose, students will be assisted by an innovative interactive video system created by renowned and experienced experts.

*The completion of this university degree will place engineering professionals at the forefront of the latest developments in Industry 4.0.*

*Video summaries, detailed videos or specialized readings will allow you to delve into essential technologies in the tourism, agriculture or manufacturing sectors.*



# 02

# Objectives

Upon completion of this program, the engineering professional will have acquired a thorough understanding of the profound Digital Transformation that is currently taking place in different sectors. This will be possible thanks to the multimedia material that will enable them to lead the digital change, master the concepts of Virtual Reality or know the existing Wearable devices and their application in security systems. These goals will be easier with the support offered by the teachers selected to teach this program.



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*This program aims to make you the best professional in the industry. For this you have the best methodology and content on digitization in the primary, secondary and tertiary sectors”*

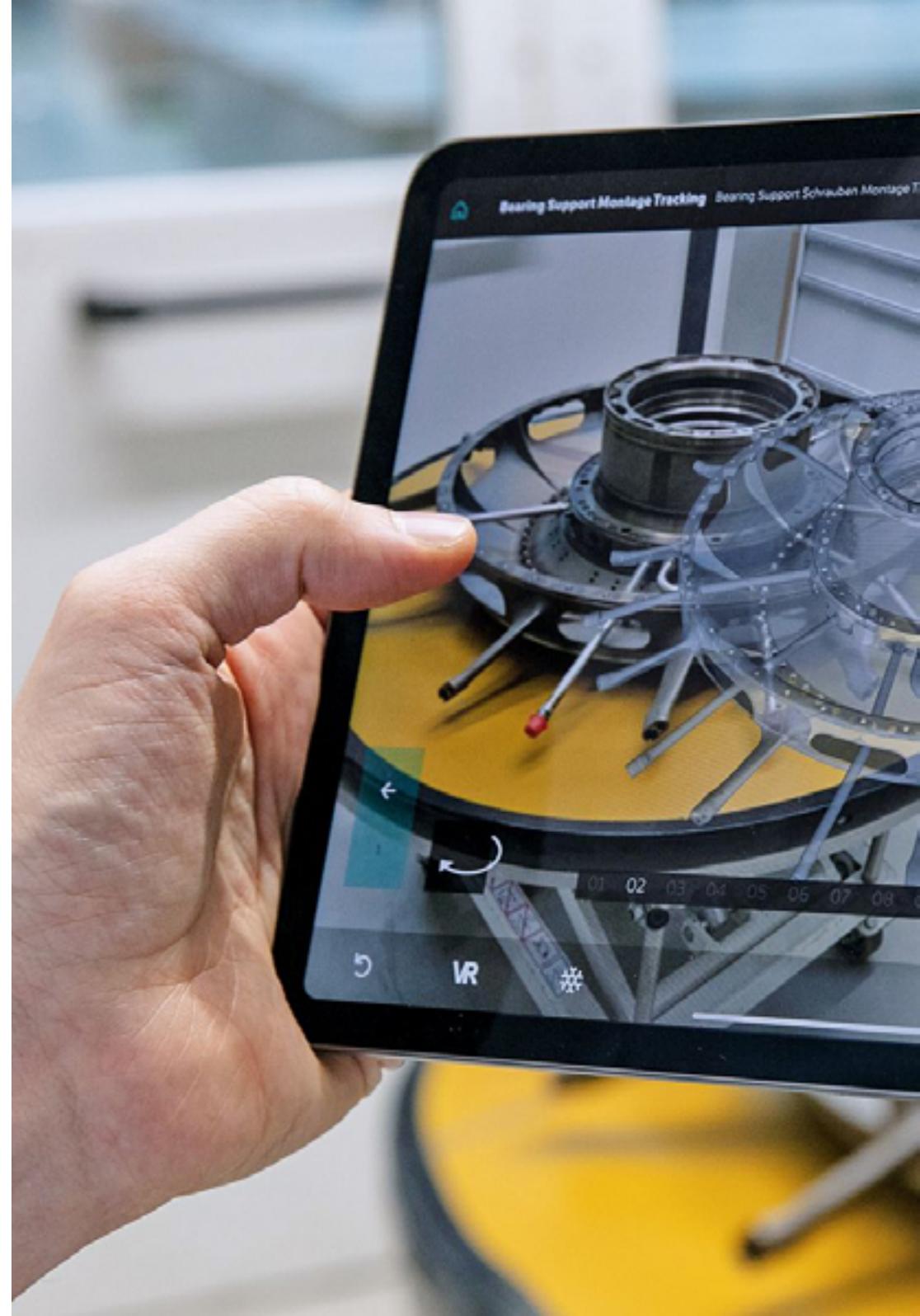


## General Objectives

- ◆ Conduct a comprehensive analysis of the profound transformation and radical paradigm shift being experienced in the current global digitalization process
- ◆ Provide in-depth knowledge and the necessary technological tools to face and lead the technological leap and the challenges currently present in companies
- ◆ Mastering the digitalization procedures of companies and the automation of their processes to create new fields of wealth in areas such as creativity, innovation and technological efficiency
- ◆ Leading Digital Change



*TECH helps you achieve professional excellence. Immerse yourself in a program that will show you the latest developments in robotics, 3D, virtual reality or the Internet of things"*





## Specific Objectives

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### Module 1. Blockchain and Quantum Computing

- ◆ Acquire in depth knowledge of the fundamentals of Blockchain technology and its value propositions
- ◆ Lead the creation of Blockchain-based projects and apply this technology to different business models and the use of tools such as Smart Contracts
- ◆ Acquire important knowledge about one of the technologies that will revolutionize our future, such as Quantum Computing

### Module 2. Big Data and Artificial Intelligence

- ◆ Delve into the knowledge of the fundamental principles of artificial intelligence
- ◆ Master the techniques and tools of this technology (Machine Learning/Deep Learning)
- ◆ Obtain a practical knowledge of one of the most widespread applications such as Chatbots and Virtual Assistants
- ◆ Acquire knowledge of the different transversal applications that this technology has in all fields

### Module 3. Virtual, Augmented and Mixed Reality

- ◆ Acquire expert knowledge on the characteristics and fundamentals of virtual reality, augmented reality and mixed reality, as well as their differences
- ◆ Use applications of each of these technologies and develop solutions with each of them individually and in an integrated manner, combining them define immersive experiences

#### **Module 4. 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
- ◆ Convert any manufacturing facility into a Smart Factory and be prepared for the challenges and challenges that come with it

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

- ◆ 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
- ◆ Develop, from all available data, the Digital Twin of the facilities/systems/assets integrated in an IoT network

#### **Module 6. Robotics, Drones and Augmented Workers**

- ◆ Entering the world of robotics and automation
- ◆ Choose a robotic platform, prototype and know about simulators and robot operating system (ROS) in detail
- ◆ Delve into in the applications of artificial intelligence to robotics oriented to predict behaviors and optimize processes
- ◆ Study robotics concepts and tools, as well as use cases, real examples and integration with other systems and demonstration
- ◆ Analyze the most intelligent robots that will accompany us in the coming years and how humanoid machines will be trained to perform in complex and challenging environments

#### **Module 7. Industry 4.0 Automation Systems**

- ◆ Better understanding of the main automation and control systems, their connectivity, the types of industrial communications and the type of data they exchange
- ◆ Convert the production process facilities into a true Smart Factory

- ◆ Be able to deal with large amounts of data, define their analysis and derive value from them
- ◆ Define continuous monitoring, predictive and prescriptive maintenance models

#### **Module 8. Industry 4.0 Services and Sectorial Solutions I**

- ◆ 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
- ◆ In-depth knowledge of the primary and secondary economic sectors, as well as the technological impact they are experiencing
- ◆ Find out how technologies are revolutionizing the agricultural, livestock, industrial, energy and construction sectors

#### **Module 9. Industry 4.0 Industry Services and Solutions II**

- ◆ 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 (e-Health and Smart Hospitals), smart cities, the financial sector (Fintech) and mobility solutions
- ◆ Knowing the technological trends of the future

#### **Module 10. Internet of Things**

- ◆ Have detailed knowledge of 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
- ◆ Delve in the knowledge of an IoT platform and the elements that compose it, the challenges and opportunities to implement IoT platforms in factories and companies, the main business areas related to IoT platforms and the relationship between IoT platforms, robotics and other emerging technologies
- ◆ Know the main existing wearable devices, their usefulness, the security systems to be applied in any IoT model and its variant in the industrial world, called IIoT

**Module 11. Leadership, Ethics and Social Responsibility in Companies**

- ♦ Analyze the impact of globalization on corporate governance and corporate social responsibility
- ♦ Evaluate the importance of effective leadership in the management and success of companies
- ♦ Define cross-cultural management strategies and their relevance in diverse business environments
- ♦ Develop leadership skills and understand the current challenges faced by leaders
- ♦ Determine the principles and practices of business ethics and their application in corporate decision making
- ♦ Structure strategies for the implementation and improvement of sustainability and social responsibility in business

**Module 12. People and Talent Management**

- ♦ Determine the relationship between strategic direction and human resources management
- ♦ Delve into the competencies necessary for the effective management of human resources by competencies
- ♦ Delve into the methodologies for performance evaluation and management
- ♦ Integrate innovations in talent management and their impact on employee retention and staff loyalty
- ♦ Develop strategies for motivation and development of high performance teams
- ♦ Propose effective solutions for change management and conflict resolution in organizations

**Module 13. Economic and Financial Management**

- ♦ Analyze the macroeconomic environment and its influence on the national and international financial system
- ♦ Define the information systems and Business Intelligence for financial decision-making
- ♦ Differentiate key financial decisions and risk management in financial management
- ♦ Evaluate strategies for financial planning and obtain business financing

**Module 14. Commercial and Strategic Marketing Management**

- ♦ Structure the conceptual framework and the importance of commercial management in companies
- ♦ Delve into the fundamental elements and activities of marketing and their impact on the organization
- ♦ Determine the stages of the strategic marketing planning process
- ♦ Evaluate strategies to improve corporate communication and the digital reputation of the company

**Module 15. Executive Management**

- ♦ Define the concept of General Management and its relevance in business management
- ♦ Evaluate the roles and responsibilities of managers in organizational culture
- ♦ Analyze the importance of operations management and quality management in the value chain
- ♦ Develop interpersonal communication and public speaking skills for the formation of spokespersons

# 03 Skills

This Professional Master's Degree seeks to provide students with the tools, skills and competencies necessary to successfully develop in Industry 4.0. A process that will be carried out throughout the 2,700 teaching hours of this program and where students will be able to acquire a deep knowledge about the *Blockchain* operation, the great challenges of artificial intelligence or Robotic Process Automatization. All this will allow students to progress with solid and efficient steps in this sector.





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*Lead any technological project thanks to the tools and techniques shown in this MBA”*



## General Skills

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- ◆ Develop an Industry 4.0 oriented strategy
- ◆ Have a thorough knowledge of the fundamental elements to successfully carry out a digital transformation process adapted to the new market rules
- ◆ Develop an advanced knowledge of the new emerging and exponential technologies that are affecting the vast majority of industrial and business processes in the market
- ◆ Adapt to the current market situation governed by automation, robotization and IoT platforms
- ◆ Apply the necessary tools to lead technological innovation and digital transformation processes

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*Improve your skills in the field of digital transformation. A competitive industry that is waiting for professionals like you. Enroll now”*





## Specific Skills

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- ◆ Secure an existing IoT ecosystem or create a secure one by deploying intelligent security systems
- ◆ Automate production systems with the integration of robots and industrial robotics systems
- ◆ Maximize value creation for the customer by applying Lean Manufacturing to the digitalization of our production process
- ◆ Know how the blockchain works and the characteristics of the so-called networks
- ◆ Use the main techniques of artificial intelligence such as Machine Learning and Deep Learning, Neural Networks, and the applicability and use of Natural Language Recognition
- ◆ Face 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
- ◆ Create useful Chatbots and Virtual Assistants
- ◆ Create virtual worlds and elevate User Experience (UX) enhancement
- ◆ Integrating the benefits and main advantages of Industry 4.0
- ◆ Learn more about the key factors of the digital transformation of industry and the Industrial Internet
- ◆ Leading the new business models derived from Industry 4.0
- ◆ Develop future production models
- ◆ Facing the challenges of Industry 4.0 and understanding its effects
- ◆ Mastering the essential technologies of Industry 4.0
- ◆ Lead manufacturing digitization processes and identify and define digital capabilities in an organization
- ◆ Define the architecture behind a Smart Factory
- ◆ Reflect on technological markers in the post-covid era and in the era of absolute virtualization
- ◆ Learn more about the current situation in the digital transformation
- ◆ Use RPA (Robotic Process Automation) to automate processes in companies, gain efficiency and reduce costs
- ◆ Address the major challenges facing robotics and automation, such as transparency and ethics
- ◆ Know the business strategies derived from Industry 4.0, its value chain and the factors of digitalization of its processes

# 04

# Course Management

Having specialists with extraordinary professional backgrounds in the field of Software Engineering, Development, Robotics or Drones gives graduates of this degree the opportunity to acquire the necessary knowledge to progress in their professional career in Industry 4.0. In addition, the human quality and proximity of the teaching staff will allow students to resolve any doubts that may arise regarding the syllabus throughout the 12-month duration of this program. All this, with the main objective of offering the engineer an education that places them at the forefront of academic teaching.





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*TECH has selected an outstanding teaching team for you to obtain the most current knowledge and progress with them in your professional career”*

## International Guest Director

With over 20 years of experience in designing and leading global **talent acquisition teams**, Jennifer Dove is an expert in **technology recruitment** and **strategy**. Throughout her career, she has held senior positions in several technology organizations within *Fortune 50* companies such as **NBCUniversal** and **Comcast**. Her track record has allowed her to excel in competitive, high-growth environments.

As **Vice President of Talent Acquisition** at **Mastercard** she is responsible for overseeing talent onboarding strategy and execution, collaborating with business leaders and **HR Managers** to meet operational and strategic hiring objectives. In particular, she aims to **build diverse, inclusive and high-performing teams** that drive innovation and growth of the company's products and services. In addition, she is adept at using tools to attract and retain the best people from around the world. She is also responsible for **amplifying** Mastercard's **employer brand** and **value proposition** through publications, events and social media.

Jennifer Dove has demonstrated her commitment to continuous professional development by actively participating in networks of **Human Resources** professionals and contributing to the onboarding of numerous employees at different companies. After earning her bachelor's degree in **Organizational Communication** from the University of Miami, she has held management positions in recruitment for companies in various areas.

On the other hand, it has been recognized for its ability to lead organizational transformations, **integrate technologies** into **recruitment processes** and develop leadership programs that prepare institutions for future challenges. She has also successfully implemented **wellness programs** that have significantly increased employee satisfaction and retention.



## Ms. Dove, Jennifer

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- Vice President of Talent Acquisition at Mastercard, New York, United States
- Director of Talent Acquisition at NBCUniversal, New York, USA
- Head of Recruitment at Comcast
- Director of Recruiting at Rite Hire Advisory, New York, USA
- Executive Vice President of the Sales Division at Ardor NY Real Estate
- Director of Recruitment at Valerie August & Associates
- Account Executive at BNC
- Account Executive at Vault
- Graduated in Organizational Communication from the University of Miami.

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*A unique, crucial and  
decisive learning  
experience to boost your  
professional development”*

## International Guest Director

A technology leader with decades of experience in major technology multinationals, Rick Gauthier has developed prominently in the field of cloudservices and end-to-end process improvement. He has been recognized as a leader and manager of highly efficient teams, showing a natural talent for ensuring a high level of engagement among his employees.

He possesses innate gifts in strategy and executive innovation, developing new ideas and backing his success with quality data. His background at Amazon has allowed him to manage and integrate the company's IT services in the United States. At Microsoft he has led a team of 104 people, responsible for providing corporate-wide IT infrastructure and supporting product engineering departments across the company.

This experience has allowed him to stand out as a high-impact manager with remarkable abilities to increase efficiency, productivity and overall customer satisfaction.



## D. Gauthier, Rick

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- ♦ Regional IT Director at Amazon, Seattle, USA
- ♦ Senior Program Manager at Amazon
- ♦ Vice President of Wimmer Solutions
- ♦ Senior Director of Productive Engineering Services at Microsoft
- ♦ Degree in Cybersecurity from Western Governors University
- ♦ Technical Certificate in Commercial Diving from Divers Institute of Technology
- ♦ B.S. in Environmental Studies from The Evergreen State College

“

*Take the opportunity to learn about the latest advances in this field in order to apply it to your daily practice"*

## International Guest Director

Romi Arman is a renowned international expert with more than two decades of experience in **Digital Transformation, Marketing, Strategy and Consulting**. Through that extended trajectory, he has taken different risks and is a permanent **advocate for innovation and change** in the business environment. With that expertise, he has collaborated with CEOs and corporate organizations from all over the world, pushing them to move away from traditional business models. In this way, he has helped companies such as Shell Energy become **true market leaders**, focused on their **customers and the digital world**.

The strategies designed by Arman have a latent impact, as they have enabled several corporations **to improve the experiences of consumers, staff and shareholders alike**. The success of this expert is quantifiable through tangible metrics such as **CSAT, employee engagement** in the institutions where he has practiced and the growth of the **EBITDA financial indicator** in each of them.

Also, in his professional career, he has nurtured and **led high-performance teams** that have even received awards for their **transformational potential**. With Shell, specifically, the executive has always set out to overcome three challenges: meeting **customers'** complex **decarbonization** demands **supporting a "cost-effective decarbonization"** and **overhauling a fragmented data, digital and technology landscape**. Thus, his efforts have shown that in order to achieve sustainable success, it is essential to start from the needs of consumers and lay the foundations for the transformation of processes, data, technology and culture.

In addition, the executive stands out for his mastery of the **business applications of Artificial Intelligence**, a subject in which he holds a postgraduate degree from the London Business School. At the same time, he has accumulated experience in **IoT and Salesforce**.



## Mr. Arman, Romi

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- ♦ Digital Transformation Director (CDO) at Shell Energy Corporation, London, UK
- ♦ Global Director of E-Commerce and Customer Service at Shell Energy Corporation
- ♦ National Key Account Manager (OEM and automotive retailers) for Shell in Kuala Lumpur, Malaysia
- ♦ Senior Management Consultant (Financial Services Sector) for Accenture based in Singapore
- ♦ Graduate of the University of Leeds
- ♦ Graduate Diploma in Business Applications of AI for Senior Executives from London Business School
- ♦ CCXP Customer Experience Professional Certification
- ♦ IMD Executive Digital Transformation Course

“Do you want to update your knowledge with the highest educational quality? TECH offers you the most updated content in the academic market, designed by authentic experts of international prestige”

## International Guest Director

Manuel Arens is an experienced data management professional and leader of a highly qualified team. In fact, Arens holds the position of **global purchasing manager** in Google's Technical Infrastructure and Data Center division, where he has spent most of his professional career. Based in Mountain View, California, he has provided solutions for the tech giant's operational challenges, such as **master data integrity, vendor data updates** and **vendor prioritization**. He has led data center supply chain planning and vendor risk assessment, generating improvements in vendor risk assessment, resulting in process improvements and workflow management that have resulted in significant cost savings.

With more than a decade of work providing digital solutions and leadership for companies in diverse industries, he has extensive experience in all aspects of strategic solution delivery, including **marketing, media analytics, measurement and attribution**. In fact, he has received a number of accolades for his work, including the **BIM Leadership Award**, the **Search Leadership Award**, the **Lead Generation Export Program Award** and the **Export Lead Generation Program Award** and the **EMEA Best Sales Model Award**.

Arens also served as **Sales Manager** in Dublin, Ireland. In this role, he built a team of 4 to 14 members over three years and led the sales team to achieve results and collaborate well with each other and cross-functional teams. He also served as **Senior Industry Analyst**, Hamburg, Germany, creating storylines for over 150 clients using internal and third party tools to support analysis. He developed and wrote in-depth reports to demonstrate his mastery of the subject matter, including understanding the **macroeconomic and political/regulatory factors** affecting technology adoption and diffusion.

He has also led teams at companies such as Eaton, Airbus and Siemens, where he gained valuable account management and supply chain experience. He is particularly noted for continually exceeding expectations by **building valuable customer relationships** and **working seamlessly with people at all levels of an organization**, including stakeholders, management, team members and customers. His data-driven approach and ability to develop innovative and scalable solutions to industry challenges have made him a prominent leader in his field.



## Mr. Arens, Manuel

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- Global Procurement Manager at Google, Mountain View, USA
- Senior Manager, B2B Analytics and Technology, Google, USA
- Sales Director - Google, Ireland
- Senior Industry Analyst at Google, Germany
- Accounts Manager - Google, Ireland
- Accounts Payable at Eaton, UK
- Supply Chain Manager at Airbus, Germany

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*Bet on TECH! You will have access to the best didactic materials, at the forefront of technology and education, implemented by internationally renowned specialists in the field"*

## International Guest Director

Andrea La Sala is an experienced Marketing executive whose projects have had a significant impact on the Fashion environment. Throughout his successful career he has developed different tasks related to Products, Merchandising and Communication. All of this linked to with prestigious brands such as Giorgio Armani, Dolce&Gabbana, Calvin Klein, among others.

The results of this high-profile international executive have been linked to his proven ability to synthesize information in clear frameworks and execute concrete actions aligned to specific business objectives. In addition, he is recognized for his proactivity and adaptability to fast-paced work rhythms. To all this, this expert adds a strong commercial awareness,, market vision and a genuine passion for products.

As Global Brand and Merchandising Director at Giorgio Armani, he has overseen a variety of Marketing strategies for apparel and accesories. His tactics have also focused on the retail environment and consumer needs and behavior. In this

La Sala has also been responsible for shaping the commercialization of products in different markets, acting as team leader in the Design, Communication and Sales departments..

On the other hand, in companies such as Calvin Klein or Gruppo Coin, he has undertaken projects to boost the structure, and development of different collections. He has been in charge of creating effective calendars for buying and selling campaings.

He has also been in charge of the terms, costs, processes and delivery times of different operations.

These experiences have made Andrea La Sala one of the main and most qualified corporate leaders in Fashion and Luxury. A high managerial capacity with which he has managed to effectively implement the positive positioning of different brands and redefine their key performance indicators (KPIs).



## Ms. La Sala, Andrea

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- ♦ Global Brand & Merchandising Director Armani Exchange at Giorgio Armani, Milan, Italy
- ♦ Merchandising Director at Calvin Klein
- ♦ Brand Manager at Gruppo Coin
- ♦ Brand Manager at Dolce&Gabbana
- ♦ Brand Manager at Sergio Tacchini S.p.A.
- ♦ Market Analyst at Fastweb
- ♦ Graduate of Business and Economics at Università degli Studi del Piemonte Orientale

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*The most qualified and experienced professionals at international level are waiting for you at TECH to offer you a first class teaching, updated and based on the latest scientific evidence. What are you waiting for to enroll?"*

## International Guest Director

Mick Gram is synonymous with innovation and excellence in the field of **Business Intelligence** internationally. His successful career is linked to leadership positions in multinationals such as **Walmart** and **Red Bull**. Likewise, this expert stands out for his vision to **identify emerging technologies** that, in the long term, achieve an everlasting impact in the corporate environment.

On the other hand, the executive is considered a **pioneer** in the **use of data visualization techniques** that simplified complex sets, making them accessible and facilitating decision making. This ability became the pillar of his professional profile, transforming him into a desired asset for many organizations that bet on **gathering information** and **generating concrete actions** from them.

One of his most outstanding projects in recent years has been the **Walmart Data Cafe platform**, the largest of its kind in the world that is anchored in the **cloud** aimed at **Big Data** analysis. In addition, he has held the position of **Director of Business Intelligence at Red Bull**, covering areas such as **Sales, Distribution, Marketing and Supply Chain Operations**. His team was recently recognized for its constant innovation regarding the use of Walmart Luminare's new API for Shopper and Channel insights.

As for his training, the executive has several Masters and postgraduate studies at prestigious centers such as the **University of Berkeley**, in the United States, and the **University of Copenhagen**, in Denmark. Through this continuous updating, the expert has attained cutting-edge competencies. Thus, he has come to be considered a **born leader** of the **new global economy**, centered on the drive for data and its infinite possibilities.



## Mr. Gram, Mick

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- ♦ Director of Business Intelligence and Analytics at Red Bull, Los Angeles, United States
- ♦ Business Intelligence Solutions Architect for Walmart Data Cafe
- ♦ Independent Business Intelligence and Data Science Consultant
- ♦ Director of Business Intelligence at Capgemini
- ♦ Senior Analyst at Nordea
- ♦ Senior Business Intelligence Consultant at SAS
- ♦ Executive Education in AI and Machine Learning at UC Berkeley College of Engineering
- ♦ Executive MBA in e-commerce at the University of Copenhagen
- ♦ B.Sc. and M.Sc. in Mathematics and Statistics at the University of Copenhagen

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*Study at the best online university in the world according to Forbes! In this MBA you will have access to an extensive library of multimedia resources, developed by internationally renowned professors"*

## International Guest Director

Scott Stevenson is a distinguished expert in the **Digital Marketing** sector who, for more than 19 years, has been linked to one of the most powerful companies in the entertainment industry, **Warner Bros. Discovery**. In this role, he has played a fundamental role in **overseeing logistics and creative workflows** across various digital platforms, including social media, search, display and linear media.

This executive's leadership has been crucial in driving in **production strategies in paid media**, resulting in a **marked improvement** which has resulted in **company's conversion rates**. At the same time, he has assumed other roles, such as Director of Marketing Services and Traffic Manager at the same multinational during his former management.

Stevenson has also been involved in the global distribution of video games and **digital property campaigns**. He was also responsible for introducing operational strategies related to the formation, completion and delivery of sound and image content for **television commercials and trailers**.

In addition, he holds a Bachelor's degree in Telecommunications from the University of Florida and a Master's Degree in Creative Writing from the University of California, which demonstrates his proficiency in **communication and storytelling**. In addition, he has participated at Harvard University's School of Professional Development in cutting-edge programs on the use of **Artificial Intelligence in business**. Therefore, his professional profile stands as one of the most relevant in the current field of **Marketing and Digital Media**.



## Mr. Stevenson, Scott

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- Director of Digital Marketing at Warner Bros. Discovery, Burbank, United States
- Traffic Manager at Warner Bros. Entertainment.
- M.A. in Creative Writing from the University of California
- B.S. in Telecommunications from the University of Florida

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*Achieve your academic and career goals with the best qualified experts in the world! The faculty of this MBA will guide you through the entire learning process”*

## International Guest Director

Eric Nyquist, Ph.D., is a leading international sports professional who has built an impressive career, noted for his **strategic leadership** and ability to drive change and **innovation** in world-class sports organizations.

In fact, he has held senior roles such as **Director of Communications and Impact** at **NASCAR**, based in Florida, USA. With many years of experience behind him at NASCAR, Dr. Nyquist has also held several leadership positions, including **Senior Vice President of Strategic Development** and **General Manager of Business Affairs**, managing more than a dozen disciplines ranging from **strategic development** to **entertainment marketing**.

Nyquist has also made a significant mark on Chicago's top sports franchises. As **Executive Vice President** of the **Chicago Bulls** and **Chicago White Sox** franchises, he has demonstrated his ability to drive **business** and **strategic success** in the world of **professional sports**.

Finally, it is worth noting that he began his career in **sports** while working in **New York** as a **senior strategic analyst** for **Roger Goodell** in the **National Football League (NFL)** and, prior to that, as a **Legal Intern** with the **United States Football Federation**.



## Mr. Nyquist, Eric

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- ♦ Director of Communications and Impact at NASCAR, Florida, USA
- ♦ Senior Vice President of Strategic Development at NASCAR, Florida, United States
- ♦ Vice President of Strategic Planning at NASCAR
- ♦ Senior Director of Business Affairs at NASCAR
- ♦ Executive Vice President at Chicago White Sox Franchises
- ♦ Executive Vice President at Chicago Bulls Franchises
- ♦ Manager of Business Planning at the National Football League (NFL)
- ♦ Business Affairs/Legal Intern with the United States Soccer Federation
- ♦ Juris Doctor from the University of Chicago
- ♦ Master's Degree in Business Administration-MBA from the University of Chicago Booth School of Business
- ♦ B.A. in International Economics from Carleton College.



*Thanks to this university program, 100% online, you will be able to combine your studies with your daily obligations, under the guidance of the leading international experts in the field of your interest. Enroll now!"*

## Management



### Mr. Segovia Escobar, Pablo

- ♦ Chief Executive of the Defense Sector in the Company Tecnobit of the Oesía Group
- ♦ Corporate Project Director Indra
- ♦ Master's Degree in Companies Administration and Management by the National University of Distance Education
- ♦ Postgraduate in Strategic Management Function
- ♦ Member of the English Spanish Association of People with High Intellectual Quotient



### Mr. Diezma López, Pedro

- ♦ Chief Innovation Officer and CEO of Zerintia Technologies
- ♦ Founder of the technology company Acuilae
- ♦ Member of the Kebala Group for business incubation and promotion
- ♦ Consultant for technology companies such as Endesa, Airbus or Telefónica
- ♦ Wearable "Best Initiative" Award in eHealth 2017 and "Best Technological "Solution" 2018 for occupational safety

## Professors

### Ms. Sánchez López, Cristina

- ◆ CEO and founder of Acuilae
- ◆ Artificial Intelligence consultant at ANHELA IT
- ◆ Creator of Etyka Software for Computer System Security
- ◆ (Software Engineer) for the Accenture Group in large clients such as Bank of Santander, BBVA, Endesa or Barclays Bank.
- ◆ Master's Degree in Data Science at KSchool
- ◆ Degree in Statistics from the Complutense University Madrid

### Mr. Montes, Armando

- ◆ Expert in drones, robots , electronics and 3D printers
- ◆ EMERTECH collaborator developing technology products such as Smart Vest
- ◆ Ordering and Customer Fulfillment Specialist for GE Renewable Energy
- ◆ CEO of the School of Superheroes Foundation related to 3D Printing and Smart Robot Implementation and the Implementation of Smart Robots

### Mr. Castellano Nieto, Francisco

- ◆ Head of Indra Company Maintenance Area
- ◆ Consultant for Siemens AG, Allen-Bradley at Rockwell Automation and other companies
- ◆ Industrial Electronic Technical Engineer by the Universidad Pontificia Comillas

### Mr. Asenjo Sanz, Álvaro

- ◆ IT Consultant for Capitole Consulting
- ◆ Project Manager for Kolokium Blockchain Technologies
- ◆ IT Engineer for Aubay, Tecnocom, Humantech, Ibermatica and Acens Technologies
- ◆ Degree from Computer Engineering of Systems at the Complutense University of Madrid.

### Mr. González Cano, José Luis

- ◆ Lighting Designer
- ◆ Vocational training teacher in electronic systems, telematics (CISCO certified instructor), radio communications, IoT
- ◆ Degree in Optics and Optometry from the Complutense University of Madrid
- ◆ Industrial Electronics Technician by Netecad Academy
- ◆ He is a member of the Professional Association of Lighting Designers (Technical Consultant), Member of the Spanish Lighting Committee

# 05

# Structure and Content

The syllabus of this Professional Master's Degree has been designed with the objective of offering the most recent information and close to the reality of the market and the new needs in terms of digitalization and automation, crisis management and incorporation of new exponential and emerging technologies. To this end, students have at their disposal 10 modules with advanced yet dynamic content, based on video summaries, videos in detail or interactive diagrams, which will lead them into the digital transformation and Industry 4.0. In addition, the Relearning system will help you progress naturally through the course, reducing even the long hours of study that are so frequent in other teaching methods.





“

*Are you thinking of launching your own Industry 4.0 Startup? This syllabus will show you the most comprehensive and essential content in this field. Enroll now”*

## 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 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. Data Visualization
  - 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 Operation
  - 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. Emotions, Creativity and Personality in IA
  - 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. 360° 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: Operation, 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 4.0 Industry
  - 4.1.1. Features
- 4.2. Benefits of the 4.0 Industry
  - 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. 4.0 Industry 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. The 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 4.0 Industry
  - 4.8.1. Status of the 4.0 Industry in Different Sectors
  - 4.8.2. Barriers to the Implementation of 4.0 Industry
- 4.9. Challenges and Risks
  - 4.9.1. DAFO 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. Virtualization
  - 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
  - 6.2.2. 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 Services and Robotics in Enterprises
  - 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
  - 7.1.3. 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 of 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 Sectorial 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 and Intelligent Agriculture
  - 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. 4.0 Industry - Services and Solutions II

- 9.1. Tertiary Sector Solutions
  - 9.1.1. Tertiary Economic Sector
  - 9.1.2. Characteristics of Each Subsector
- 9.2. Digitalization of the Tertiary Sector: Transportation
  - 9.2.1. Main Characteristics
  - 9.2.2. Keys Factors of Digitization
- 9.3. Digitization of the Tertiary Sector: e-Health
  - 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. Digitalization of the Tertiary Sector: Logistics
  - 9.6.1. Main Characteristics
  - 9.6.2. Keys Factors of Digitization
- 9.7. Digitalization 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. Digitalization 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

## Module 11. Leadership, Ethics and Social Responsibility in Companies

- 11.1. Globalization and Governance
  - 11.1.1. Governance and Corporate Governance
  - 11.1.2. The Fundamentals of Corporate Governance in Companies
  - 11.1.3. The Role of the Board of Directors in the Corporate Governance Framework
- 11.2. Leadership
  - 11.2.1. Leadership A Conceptual Approach
  - 11.2.2. Leadership in Companies
  - 11.2.3. The Importance of Leaders in Business Management

- 11.3. Cross Cultural Management
  - 11.3.1. Cross Cultural Management Concept
  - 11.3.2. Contributions to Knowledge of National Cultures
  - 11.3.3. Diversity Management
- 11.4. Management and Leadership Development
  - 11.4.1. Concept of Management Development
  - 11.4.2. Concept of Leadership
  - 11.4.3. Leadership Theories
  - 11.4.4. Leadership Styles
  - 11.4.5. Intelligence in Leadership
  - 11.4.6. The Challenges of Today's Leader
- 11.5. Business Ethics
  - 11.5.1. Ethics and Morality
  - 11.5.2. Business Ethics
  - 11.5.3. Leadership and Ethics in Companies
- 11.6. Sustainability
  - 11.6.1. Sustainability and Sustainable Development
  - 11.6.2. The 2030 Agenda
  - 11.6.3. Sustainable Companies
- 11.7. Corporate Social Responsibility
  - 11.7.1. International Dimensions of Corporate Social Responsibility
  - 11.7.2. Implementing Corporate Social Responsibility
  - 11.7.3. The Impact and Measurement of Corporate Social Responsibility
- 11.8. Responsible Management Systems and Tools
  - 11.8.1. CSR: Corporate Social Responsibility
  - 11.8.2. Essential Aspects for Implementing a Responsible Management Strategy
  - 11.8.3. Steps for the Implementation of a Corporate Social Responsibility Management System
  - 11.8.4. CSR Tools and Standards
- 11.9. Multinationals and Human Rights
  - 11.9.1. Globalization, Multinational Companies and Human Rights
  - 11.9.2. Multinational Corporations and International Law
  - 11.9.3. Legal Instruments for Multinationals in the Area of Human Rights

- 11.10. Legal Environment and Corporate Governance
  - 11.10.1. International Rules on Importation and Exportation
  - 11.10.2. Intellectual and Industrial Property
  - 11.10.3. International Labor Law

## Module 12. People and Talent Management

- 12.1. Strategic People Management
  - 12.1.1. Strategic Human Resources Management
  - 12.1.2. Strategic People Management
- 12.2. Human Resources Management by Competencies
  - 12.2.1. Analysis of the Potential
  - 12.2.2. Remuneration Policy
  - 12.2.3. Career/Succession Planning
- 12.3. Performance Evaluation and Performance Management
  - 12.3.1. Performance Management
  - 12.3.2. Performance Management: Objectives and Process
- 12.4. Innovation in Talent and People Management
  - 12.4.1. Strategic Talent Management Models
  - 12.4.2. Talent Identification, Training and Development
  - 12.4.3. Loyalty and Retention
  - 12.4.4. Proactivity and Innovation
- 12.5. Motivation
  - 12.5.1. The Nature of Motivation
  - 12.5.2. Expectations Theory
  - 12.5.3. Needs Theory
  - 12.5.4. Motivation and Financial Compensation
- 12.6. Developing High Performance Teams
  - 12.6.1. High-Performance Teams: Self-Managed Teams
  - 12.6.2. Methodologies for the Management of High Performance Self-Managed Teams
- 12.7. Change Management
  - 12.7.1. Change Management
  - 12.7.2. Type of Change Management Processes
  - 12.7.3. Stages or Phases in the Change Management Process

- 12.8. Negotiation and Conflict Management
  - 12.8.1. Negotiation
  - 12.8.2. Conflict Management
  - 12.8.3. Crisis Management
- 12.9. Executive Communication
  - 12.9.1. Internal and External Communication in the Corporate Environment
  - 12.9.2. Communication Departments
  - 12.9.3. The Person in Charge of Communication of the Company The Profile of the Dircom
- 12.10. Productivity, Attraction, Retention and Activation of Talent
  - 12.10.1. Productivity
  - 12.10.2. Talent Attraction and Retention Levers

### Module 13. Economic and Financial Management

- 13.1. Economic Environment
  - 13.1.1. Macroeconomic Environment and the National Financial System
  - 13.1.2. Financial Institutions
  - 13.1.3. Financial Markets
  - 13.1.4. Financial Assets
  - 13.1.5. Other Financial Sector Entities
- 13.2. Executive Accounting
  - 13.2.1. Basic Concepts
  - 13.2.2. The Company's Assets
  - 13.2.3. The Company's Liabilities
  - 13.2.4. The Company's Net Worth
  - 13.2.5. The Income Statement
- 13.3. Information Systems and Business Intelligence
  - 13.3.1. Fundamentals and Classification
  - 13.3.2. Cost Allocation Phases and Methods
  - 13.3.3. Choice of Cost Center and Impact
- 13.4. Budget and Management Control
  - 13.4.1. The Budget Model
  - 13.4.2. The Capital Budget
  - 13.4.3. The Operating Budget
  - 13.4.5. Treasury Budget
  - 13.4.6. Budget Monitoring
- 13.5. Financial Management
  - 13.5.1. The Company's Financial Decisions
  - 13.5.2. Financial Department
  - 13.5.3. Cash Surpluses
  - 13.5.4. Risks Associated with Financial Management
  - 13.5.5. Financial Administration Risk Management
- 13.6. Financial Planning
  - 13.6.1. Definition of Financial Planning
  - 13.6.2. Actions to be Taken in Financial Planning
  - 13.6.3. Creation and Establishment of the Business Strategy
  - 13.6.4. The Cash Flow Table
  - 13.6.5. The Working Capital Table
- 13.7. Corporate Financial Strategy
  - 13.7.1. Corporate Strategy and Sources of Financing
  - 13.7.2. Financial Products for Corporate Financing
- 13.8. Strategic Financing
  - 13.8.1. Self-Financing
  - 13.8.2. Increase in Equity
  - 13.8.3. Hybrid Resources
  - 13.8.4. Financing Through Intermediaries
- 13.9. Financial Analysis and Planning
  - 13.9.1. Analysis of the Balance Sheet
  - 13.9.2. Analysis of the Income Statement
  - 13.9.3. Profitability Analysis
- 13.10. Analyzing and Solving Cases/Problems
  - 13.10.1. Financial Information on Industria de Diseño y Textil, S.A. (INDITEX)

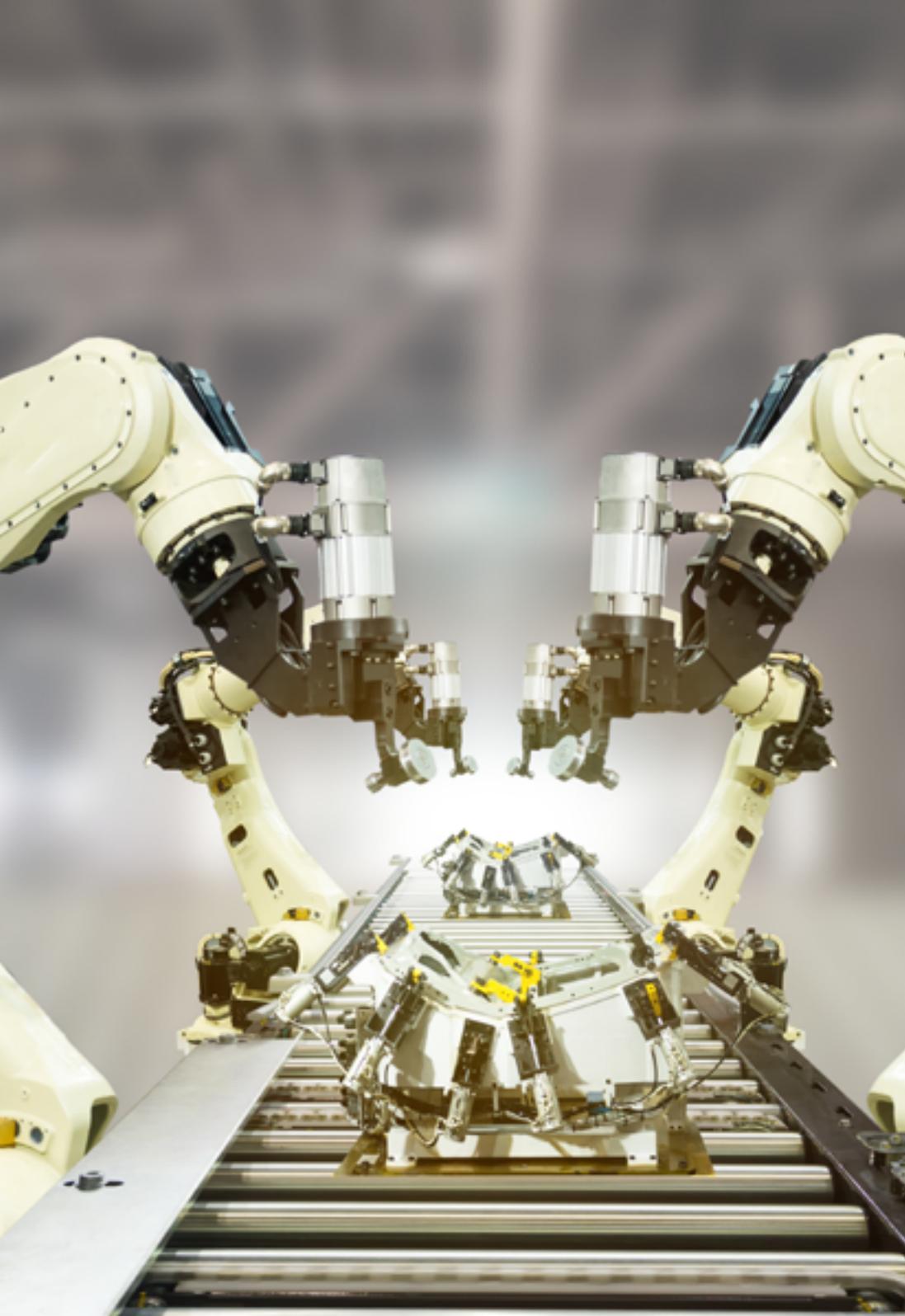
## Module 14. Commercial and Strategic Marketing Management

- 14.1. Commercial Management
  - 14.1.1. Conceptual Framework of Commercial Management
  - 14.1.2. Business Strategy and Planning
  - 14.1.3. The Role of Sales Managers
- 14.2. Marketing
  - 14.2.1. The Concept of Marketing
  - 14.2.2. Basic Elements of Marketing
  - 14.2.3. Marketing Activities of the Company
- 14.3. Strategic Marketing Management
  - 14.3.1. The Concept of Strategic Marketing
  - 14.3.2. Concept of Strategic Marketing Planning
  - 14.3.3. Stages in the Process of Strategic Marketing Planning
- 14.4. Digital Marketing and e-Commerce
  - 14.4.1. Digital Marketing and E-commerce Objectives
  - 14.4.2. Digital Marketing and Media Used
  - 14.4.3. E-Commerce General Context
  - 14.4.4. Categories of E-commerce
  - 14.4.5. Advantages and Disadvantages of E-commerce Versus Traditional Commerce
- 14.5. Digital Marketing to Reinforce a Brand
  - 14.5.1. Online Strategies to Improve Your Brand's Reputation
  - 14.5.2. Branded Content and Storytelling
- 14.6. Digital Marketing to Attract and Retain Customers
  - 14.6.1. Loyalty and Engagement Strategies through the Internet
  - 14.6.2. Visitor Relationship Management
  - 14.6.3. Hypersegmentation
- 14.7. Managing Digital Campaigns
  - 14.7.1. What is a Digital Advertising Campaign?
  - 14.7.2. Steps to Launch an Online Marketing Campaign
  - 14.7.3. Mistakes in Digital Advertising Campaigns
- 14.8. Sales Strategy
  - 14.8.1. Sales Strategy
  - 14.8.2. Sales Methods

- 14.9. Corporate Communication
  - 14.9.1. Concept
  - 14.9.2. The Importance of Communication in the Organization
  - 14.9.3. Type of Communication in the Organization
  - 14.9.4. Functions of Communication in the Organization
  - 14.9.5. Elements of Communication
  - 14.9.6. Communication Problems
  - 14.9.7. Communication Scenarios
- 14.10. Digital Communication and Reputation
  - 14.10.1. Online Reputation
  - 14.10.2. How to Measure Digital Reputation?
  - 14.10.3. Online Reputation Tools
  - 14.10.4. Online Reputation Report
  - 14.10.5. Online Branding

## Module 15. Executive Management

- 15.1. General Management
  - 15.1.1. The Concept of General Management
  - 15.1.2. The Role of the CEO
  - 15.1.3. The CEO and their Responsibilities
  - 15.1.4. Transforming the Work of Management
- 15.2. Manager Functions: Organizational Culture and Approaches
  - 15.2.1. Manager Functions: Organizational Culture and Approaches
- 15.3. Operations Management
  - 15.3.1. The Importance of Management
  - 15.3.2. Value Chain
  - 15.3.3. Quality Management
- 15.4. Public Speaking and Spokesperson Education
  - 15.4.1. Interpersonal Communication
  - 15.4.2. Communication Skills and Influence
  - 15.4.3. Communication Barriers



- 15.5. Personal and Organizational Communications Tools
  - 15.5.1. Interpersonal Communication
  - 15.5.2. Interpersonal Communication Tools
  - 15.5.3. Communication in the Organization
  - 15.5.4. Tools in the Organization
- 15.6. Communication in Crisis Situations
  - 15.6.1. Crisis
  - 15.6.2. Phases of the Crisis
  - 15.6.3. Messages: Contents and Moments
- 15.7. Preparation of a Crisis Plan
  - 15.7.1. Analysis of Possible Problems
  - 15.7.2. Planning
  - 15.7.3. Adequacy of Personnel
- 15.8. Emotional Intelligence
  - 15.8.1. Emotional Intelligence and Communication
  - 15.8.2. Assertiveness, Empathy, and Active Listening
  - 15.8.3. Self-Esteem and Emotional Communication
- 15.9. Personal Branding
  - 15.9.1. Strategies for Personal Brand Development
  - 15.9.2. Personal Branding Laws
  - 15.9.3. Tools for Creating Personal Brands
- 15.10. Leadership and Team Management
  - 15.10.1. Leadership and Leadership Styles
  - 15.10.2. Leader Capabilities and Challenges
  - 15.10.3. Managing Change Processes
  - 15.10.4. Managing Multicultural Teams

06

# 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"*

## 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"*



*You will have access to a learning system based on repetition, with natural and progressive teaching throughout the entire syllabus.*



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

### A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch, which presents the most demanding challenges and decisions in this field, both nationally and internationally. 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 professional reality is taken into account.

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

The case method is the most widely used learning system in 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 effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

We enhance the Case Study 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 one 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.

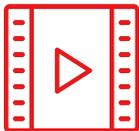
*Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.*

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.



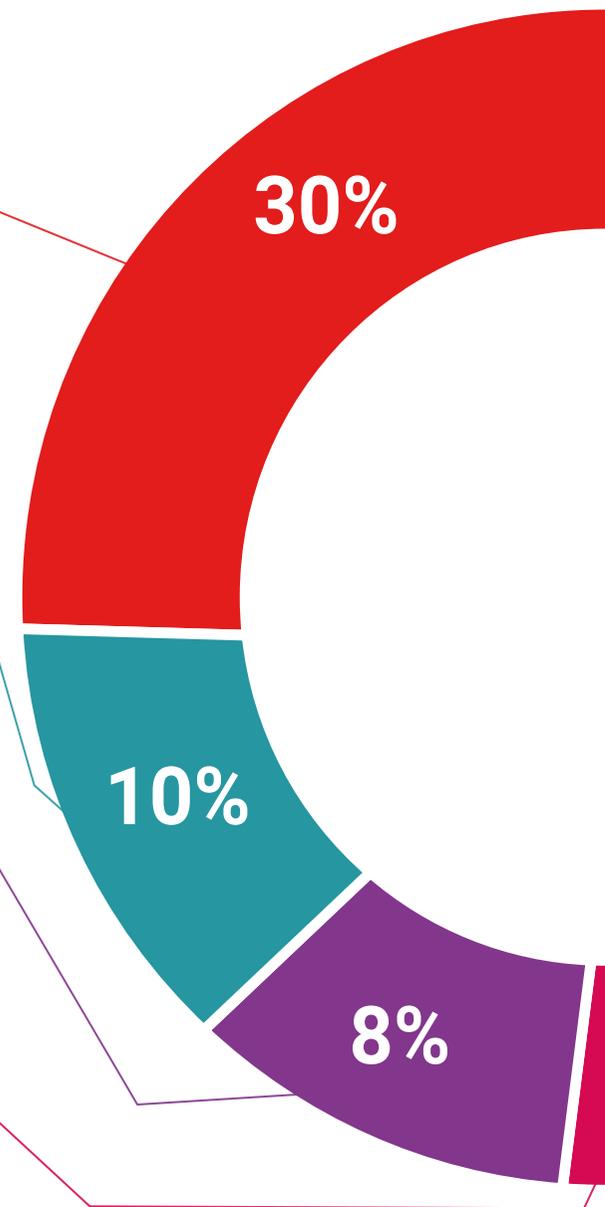
### Practising Skills and Abilities

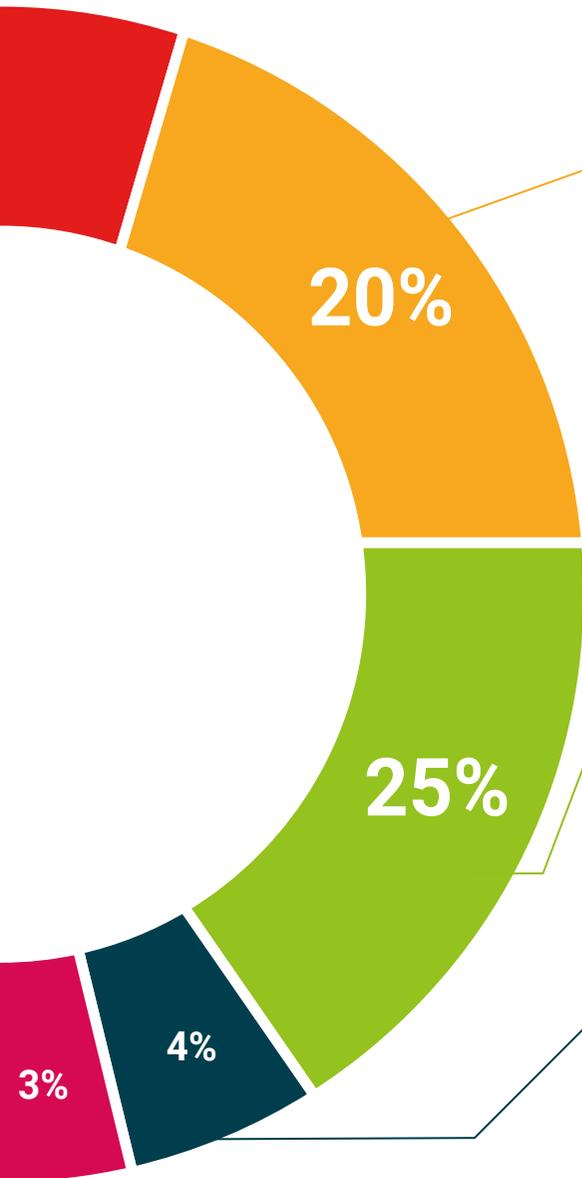
They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



### Additional Reading

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





#### Case Studies

Students will complete a selection of the best case studies chosen specifically for this program. Cases that are presented, analyzed, and supervised by the best 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.



07

# Certificate

The MBA in Digital Transformation and Industry 4.0 guarantees students, in addition to the most rigorous and up-to-date education, access to a Professional Master's Degree issued by TECH Global University.





“

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

This private qualification will allow you to obtain a **MBA in Digital Transformation and Industry 4.0** endorsed by **TECH Global University**, the world's largest online university.

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

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

Title: **Professional Master's Degree MBA in Digital Transformation and Industry 4.0**

Modality: **online**

Duration: **12 months**

Accreditation: **90 ECTS**



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

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



**Professional Master's  
Degree**  
MBA in Digital  
Transformation  
and Industry 4.0

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Global University
- » Credits: 90 ECTS
- » Schedule: at your own pace
- » Exams: online

# Professional Master's Degree MBA in Digital Transformation and Industry 4.0

