Postgraduate Diploma

Industry 4.0 and Industry Solutions

tech global university

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Postgraduate Diploma

Industry 4.0 and Industry Solutions

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

Website: www.techtitute.com/us/information-technology/postgraduate-diploma/postgraduate-diploma-industry-4-0-industry-solutions

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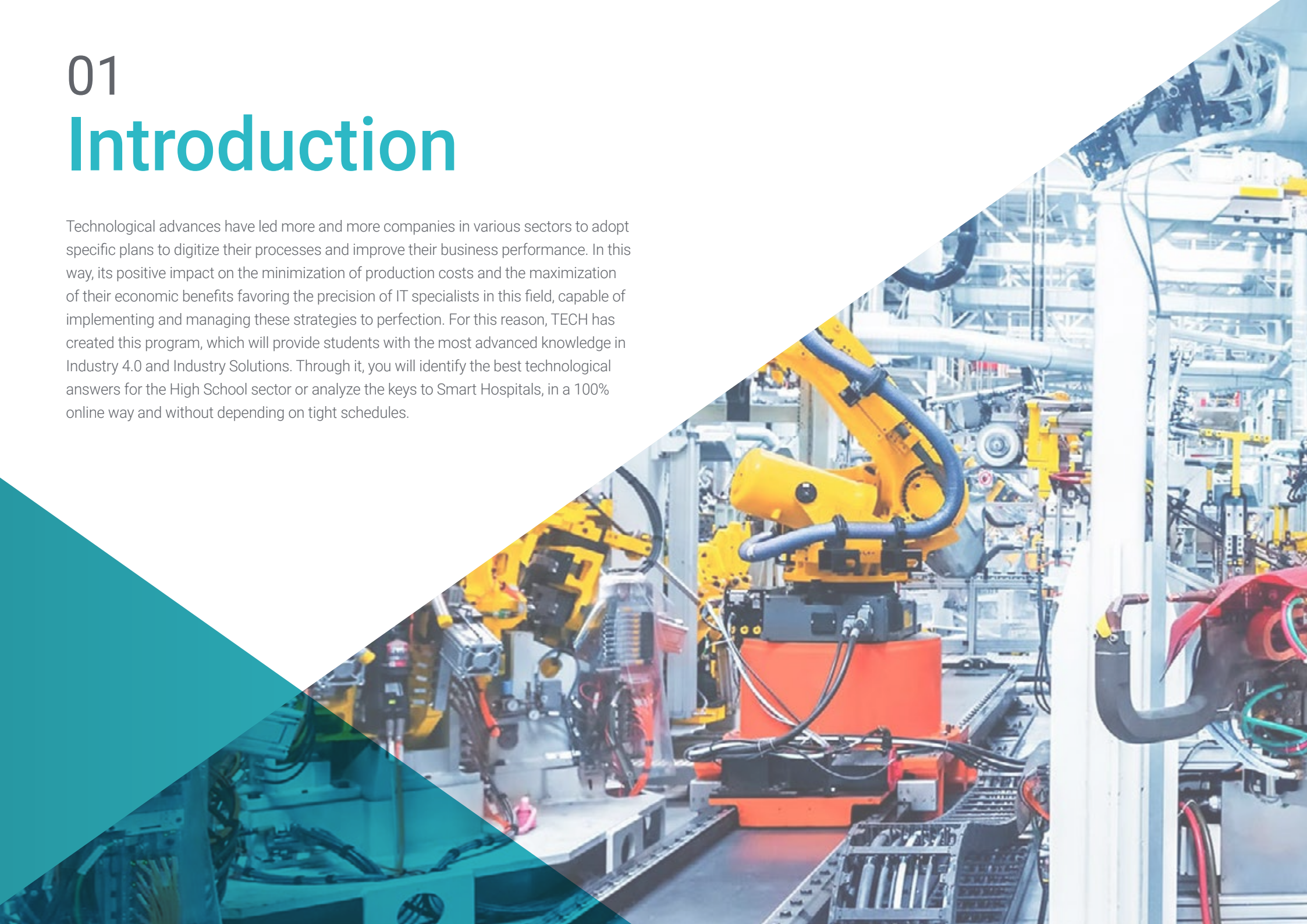
01

Introduction

Technological advances have led more and more companies in various sectors to adopt specific plans to digitize their processes and improve their business performance. In this way, its positive impact on the minimization of production costs and the maximization of their economic benefits favoring the precision of IT specialists in this field, capable of implementing and managing these strategies to perfection. For this reason, TECH has created this program, which will provide students with the most advanced knowledge in Industry 4.0 and Industry Solutions. Through it, you will identify the best technological answers for the High School sector or analyze the keys to Smart Hospitals, in a 100% online way and without depending on tight schedules.



The Postgraduate Diploma in Industry 4.0 and Industry Solutions will allow you to learn about the most appropriate digital tools to improve the organization and production in companies in the secondary sector"

The relentless technological boom has completely revolutionized many sectors of activity, modifying all their processes to perfect the production of goods or the provision of services. In this sense, fields as varied as industry and healthcare have experienced these innovations, giving rise to the so-called Smart Factories or Smart Hospitals, which provide production efficiency or first-class hospital care through technology. Given the benefits offered by these digital solutions, IT specialists in their implementation, maintenance and management have excellent career prospects in different areas of work.

For this reason, TECH has opted to design this Postgraduate Diploma, through which students will delve into the world of Industry 4.0 and Industry Solutions to acquire a complete vision that favors their incursion into this field. During 600 hours of intensive education, you will detect the procedures to progressively incorporate digitization into business organization and manufacturing processes. It will also analyze the best digital strategies for areas such as mining and construction and identify the potential of these technological tools in different areas of the tertiary sector.

All this, following a 100% online modality, which will ensure the computer scientist an excellent learning experience without the need to make uncomfortable daily trips to a study center. In addition, you will benefit from didactic resources available in cutting-edge formats such as self-assessment tests, interactive summaries or explanatory videos. As a result, you will acquire an education that is completely tailored to your educational and personal preferences.

This **Postgraduate Diploma in Industry 4.0 and Industry Solutions** contains the most complete and up-to-date program on the market. The most important features include:

- The development of case studies presented by IoT experts and the provision of technological solutions
- The graphic, schematic, and practical contents with which they are created, provide practical information on the 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

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

Together with the best teachers specialized in technological solutions, you will acquire a series of knowledge that will place you at the forefront of this IT area"

Throughout this educational itinerary, you will learn the most sophisticated procedures to gradually incorporate digitalization in the different processes of companies in the agricultural world.

Compatibilize your excellent learning with your personal and professional tasks thanks to the study facilities provided by TECH.

The program's teaching staff includes professionals from the field who contribute their work experience to this educational 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 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 educational year. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Objectives

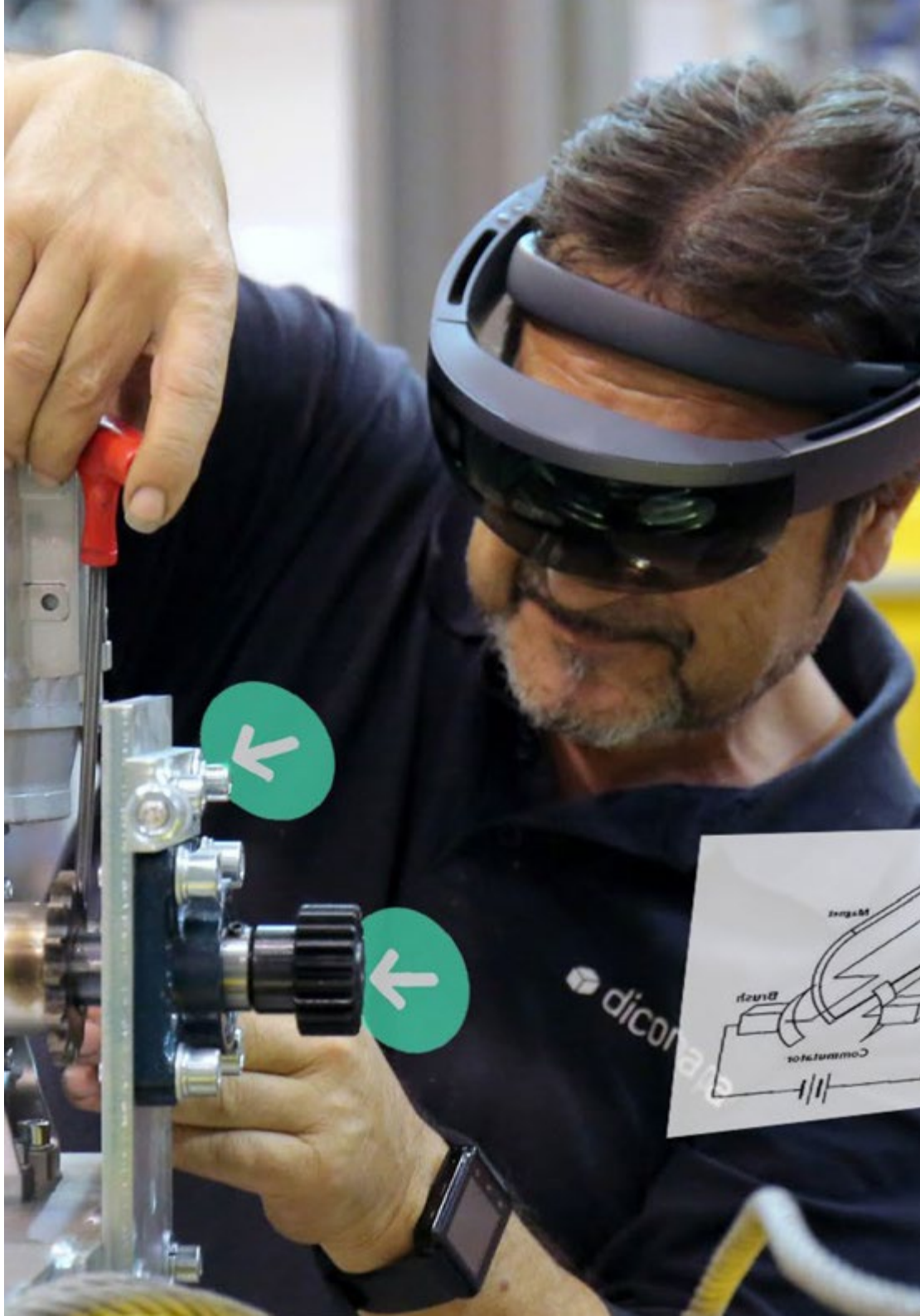
The Industry 4.0 and Industry Solutions Postgraduate Diploma program will provide you with the necessary tools to increase your knowledge in this area in only 600 hours. In this way, it will identify the procedures required for the implementation of a Smart Factory or detect the peculiarities and needs of new technologies in each of the sectors. This learning will be ensured by the achievement of the following general and specific objectives.

Boost your career opportunities in the field of technology solutions thanks to this TECH program"

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

Develop the objectives that TECH has outlined for this program and become a reference professional in the field of Industry 4.0 and Industry Solutions"



Specific Objectives

Module 1. 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 2. Leading Industry 4.0

- Understand the current virtual era and its leadership capacity, on which the success and survival of digital transformation processes involving any type of industry will depend
- Develop, from all available data, the Digital Twin of the facilities/systems/assets integrated in an IoT network
- Analyze the architecture that makes up a Smart Factory

Module 3. Industry 4.0- Services and Industry Solutions I

- Entering the world of robotics and automation
- Choose a robotic platform, prototype and know in detail simulators and robot operating system (ROS)
- Delve 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 humans in the coming years and how humanoid machines will be trained to cope in complex and challenging environments

Module 4. Industry 4.0 Services and Industry 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, healthcare (E-Health and Smart Hospitals), smart cities, the financial sector (Fintech) and mobility solutions
- Knowing the technological trends of the future

03

Course Management

In order to preserve intact the excellent educational level so characteristic of TECH's programs, this institution has appointed leading specialists in the field of Industry 4.0 and technological solutions to be responsible for teaching this Postgraduate Diploma. Since these professionals are in charge of the elaboration of all the didactic contents available throughout this educational experience, the students will obtain knowledge of great applicability in their working life.

With the help of the best specialists in the provision of technological solutions, you will acquire the most up-to-date knowledge in this field"

Management

Mr. Segovia Escobar, Pablo

- Chief Executive of the Defense Sector in the Company Tecnobit of the Oesía Group
- Project Manager at Indra
- Master's Degree in Business Administration and Management from the National University of Distance Education
- Postgraduate in Strategic Management Function
- Member: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 the incubation and promotion of businesses
- Consultant for technology companies such as Endesa, Airbus or Phone
- Wearable "Best Initiative" Award in eHealth 2017 and "Best Technological "Solution" 2018 for occupational safety

04

Structure and Content

The syllabus of this Postgraduate Diploma has been designed to transmit to the student, through 4 very complete modules, the most advanced and up-to-date knowledge in Industry 4.0 and Industry Solutions. Furthermore, the didactic contents that you will benefit from during the duration of this program are available in a variety of formats, such as, for example, readings, explanatory videos or self-assessment tests. As a result, the computer scientist will obtain a 100% online, enjoyable and fully individualized education.

The modern Relearning system of this program will allow you to learn at your own pace without any external teaching limitations"

Module 1. 4.0 Industry

1.1. Definition of 4.0 Industry
  1.1.1. Features
1.2. Benefits of the 4.0 Industry
  1.2.1. Key Factors
  1.2.2. Main Advantages
1.3. Industrial Revolutions and Vision of the Future
  1.3.1. Industrial Revolutions
  1.3.2. Keys Factors in Each Revolution
  1.3.3. Technological Principles as a Basis for Possible New Revolutions
1.4. The Digital Transformation of the Industry
  1.4.1. Characteristics of the Digitization of the Industry
  1.4.2. Disruptive Technologies
  1.4.3. Applications in the Industry
1.5. Forth Industrial Revolution Key Principles of Industry 4.0
  1.5.1. Definitions
  1.5.2. Key Principles and Applications
1.6. 4.0 Industry and Industrial Internet
  1.6.1. Origin of IoT
  1.6.2. Operation
  1.6.3. Steps to Follow for its Implementation
  1.6.4. Benefits
1.7. Smart Factory Principles
  1.7.1. Smart Factory
  1.7.2. Elements That Defiine a Smart Factory
  1.7.3. Steps to Deploy a Smart Factory
1.8. Status of the Industry 4.0
  1.8.1. Status of the Industry 4.0 in Different Sectors
  1.8.2. Barriers to the Implementation of Industry 4.0
1.9. Challenges and Risks
  1.9.1. DAFO Analysis
  1.9.2. Challenges
1.10. Role of Technological Capabilities and the Human Factor
  1.10.1. Disruptive Technologies in Industry 4.0
  1.10.2. The Importance of the Human Factor Key Factor

Module 2. Leading Industry 4.0

2.1. Leadership Abilities
  2.1.1. Leadership Factors in the Human Factor
  2.1.2. Leadership and Technology
2.2. Industry 4.0 and the Future of Production
  2.2.1. Definitions
  2.2.2. Production Systems
  2.2.3. Future of Digital Production Systems
2.3. Effects of Industry 4.0
  2.3.1. Effects and Challenges
2.4. Essential Technologies in Industry 4.0
  2.4.1. Definition of Technologies
  2.4.2. Characteristics of Technologies
  2.4.3. Applications and Impacts
2.5. Digitization of Manufacturing
  2.2.1. Definitions
  2.5.2. Benefits of the Digitization of Manufacturing
  2.5.3. Digital Twins
2.6. Digital Capabilities in an Organization
  2.6.1. Development Digital Capabilities
  2.6.2. Understanding the Digital Ecosystem
  2.6.3. Digital Vision of the Business
2.7. Architecture Behind a Smart Factory
  2.7.1. Areas and Operations
  2.7.2. Connectivity and Security
  2.7.3. Case Uses
2.8. Technology Markers in the Post-Covid Era
  2.8.1. Technological Challenges in the Post-Covid Era
  2.8.2. New Case Uses
2.9. The Era of Absolute Virtualization
  2.9.1. Virtualisation
  2.9.2. The New Era of Virtualization
  2.9.3. Advantages

2.10. Current Situation in Digital Transformation Gartner Hype
- 2.10.1. Gartner Hype
- 2.10.2. Analysis of Technologies and Their Status
- 2.10.3. Data Exploitation

Module 3. Industry 4.0– Services and Industry Solutions I

3.1. Industry 4.0 and Business Strategies
- 3.1.1. Factors of Business Digitalization
- 3.1.2. Roadmap for Business Digitalization

3.2. Digitalization of Processes and the Value Chain
- 3.2.1. Value Chain
- 3.2.2. Key Steps in the Digitization of Processes

3.3. Sector Solutions Primary Sector
- 3.3.1. The Primary Economic Sector
- 3.3.2. Characteristics of Each Subsector

3.4. Digitization of the Primary Sector: Smart Farms
- 3.4.1. Main Characteristics
- 3.4.2. Keys Factors of Digitization

3.5. Digitization of the Primary Sector: Digital Agriculture and Intelligence
- 3.5.1. Main Characteristics
- 3.5.2. Keys Factors of Digitization

3.6. Sector Solutions Secondary Sector
- 3.6.1. The Secondary Economic Sector
- 3.6.2. Characteristics of Each Subsector

3.7. Digitization of the Secondary Sector: Smart Factory
- 3.7.1. Main Characteristics
- 3.7.2. Keys Factors of Digitization

3.8. Digitization of the Secondary Sector: Energy
- 3.8.1. Main Characteristics
- 3.8.2. Keys Factors of Digitization

3.9. Digitization of the Secondary Sector: Construction
- 3.9.1. Main Characteristics
- 3.9.2. Keys Factors of Digitization

3.10. Digitization of the Secondary Sector: Mining
- 3.10.1. Main Characteristics
- 3.10.2. Keys Factors of Digitization

Module 4. Industry 4.0 Services and Industry Solutions II

4.1. Tertiary Sector Solutions
- 4.1.1. Tertiary Economic Sector
- 4.1.2. Characteristics of Each Subsector

4.2. Digitization of the Tertiary Sector: Transport
- 4.2.1. Main Characteristics
- 4.2.2. Keys Factors of Digitization

4.3. Digitization of the Tertiary Sector: eHealth
- 4.3.1. Main Characteristics
- 4.3.2. Keys Factors of Digitization

4.4. Digitization of the Tertiary Sector: Smart Hospitals
- 4.4.1. Main Characteristics
- 4.4.2. Keys Factors of Digitization

4.5. Digitization of the Tertiary Sector: Smart Cities
- 4.5.1. Main Characteristics
- 4.5.2. Keys Factors of Digitization

4.6. Digitization of the Tertiary Sector: Logistics
- 4.6.1. Main Characteristics
- 4.6.2. Keys Factors of Digitization

4.7. Digitization of the Tertiary Sector: Tourism
- 4.7.1. Main Characteristics
- 4.7.2. Keys Factors of Digitization

4.8. Digitization of the Tertiary Sector: tt4.8.1. Main Characteristics
- 4.8.2. Keys Factors of Digitization

4.9. Digitization of the Tertiary Sector: Mobility
- 4.9.1. Main Characteristics
- 4.9.2. Keys Factors of Digitization

4.10. Future Technological Tendencies
- 4.10.1. New Technological Innovations
- 4.10.2. Application Trends

05

Methodology

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

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

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

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 has been the most widely used learning system among the world's leading Information Technology schools for as long as they have existed. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question that you are presented with in the case method, an action-oriented learning method. Throughout the course, students 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

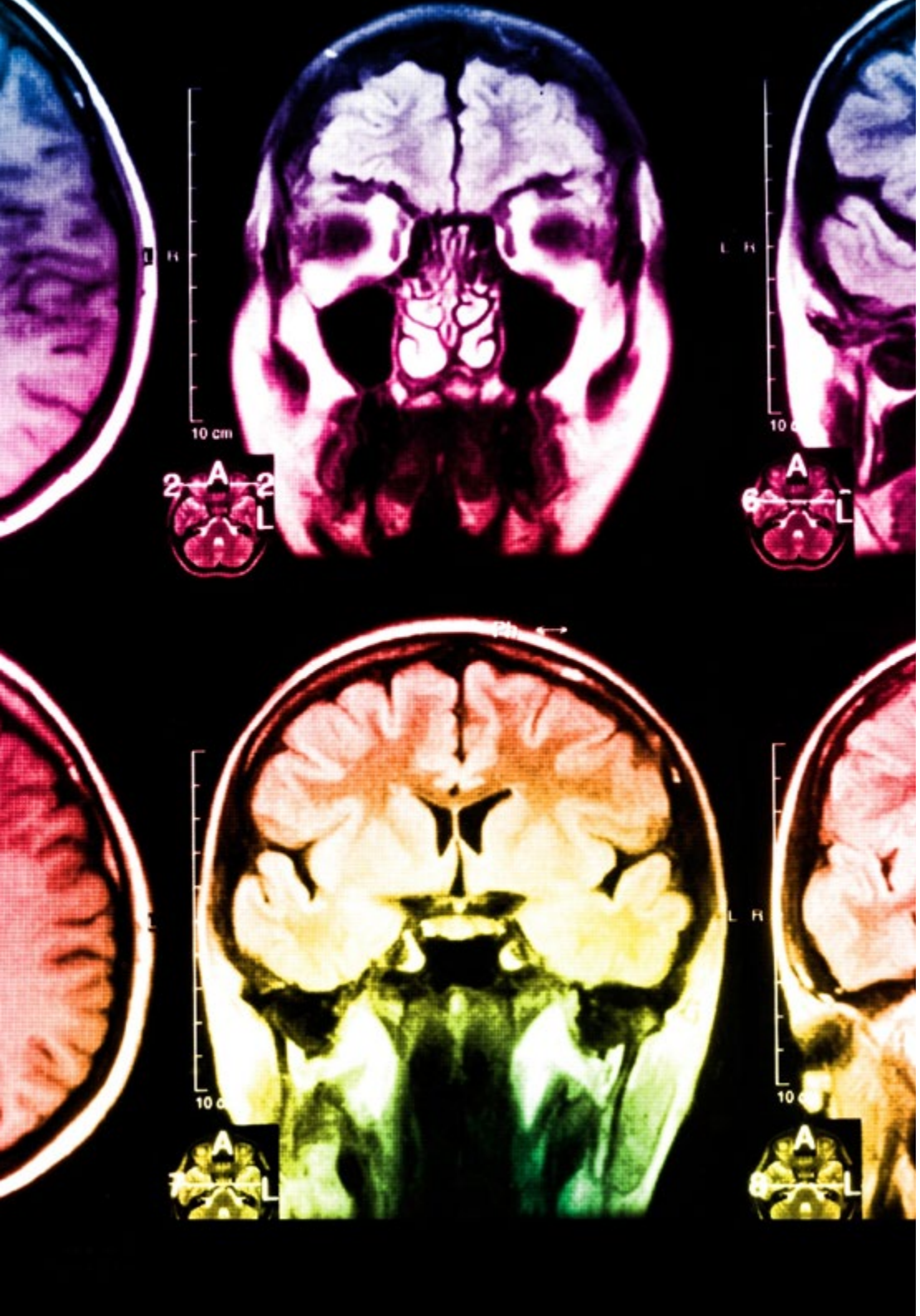
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

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.

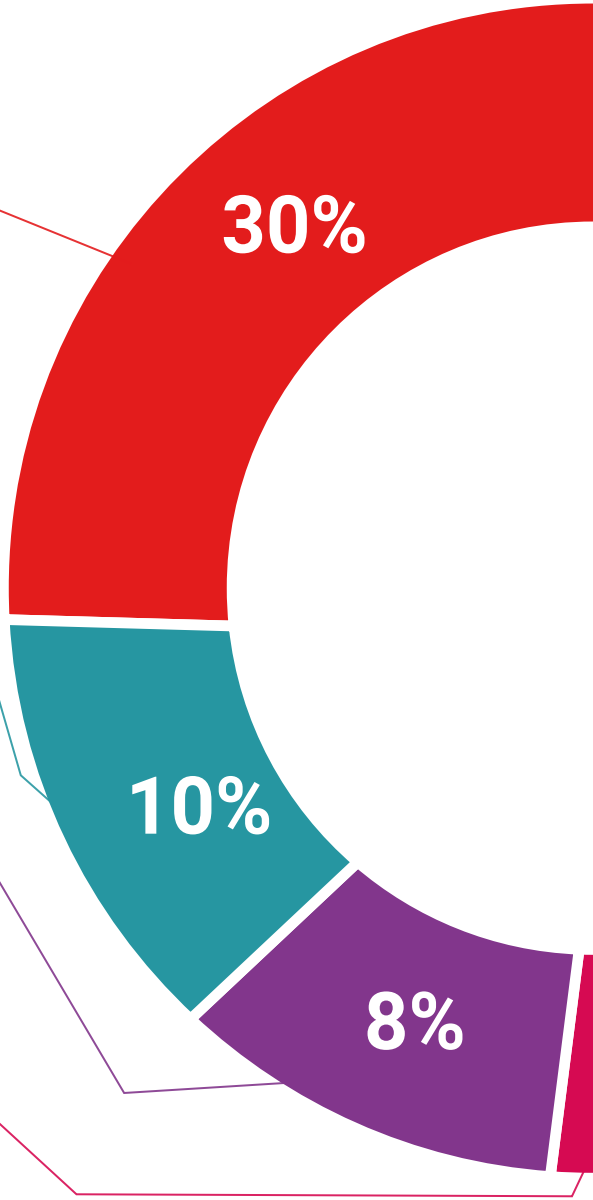
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

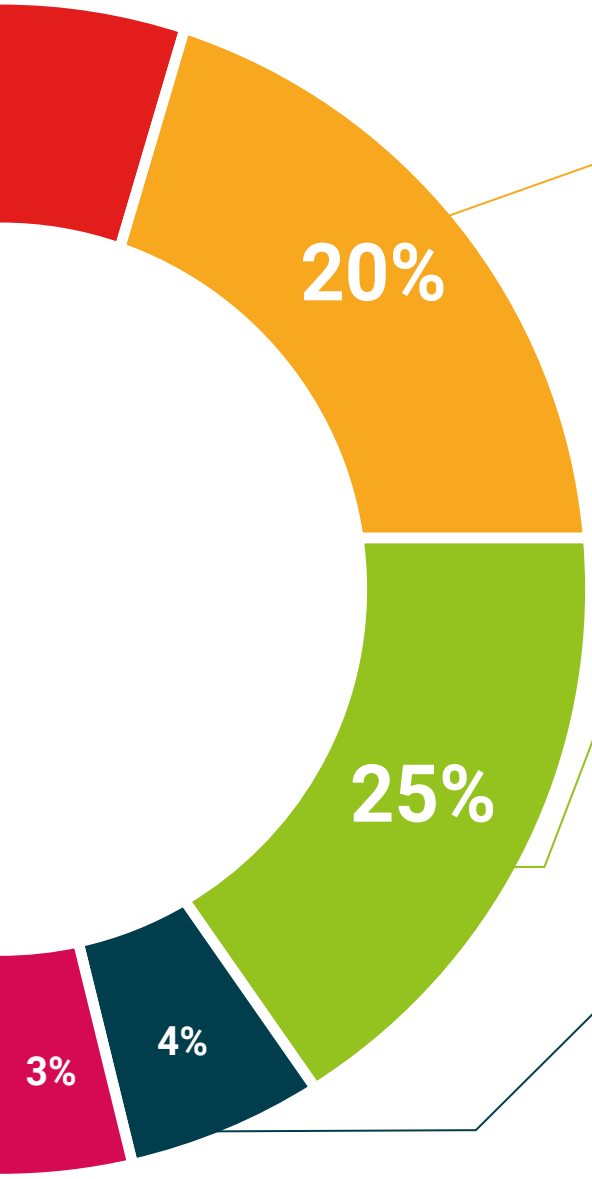
Practising Skills and Abilities

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.

06

Certificate

The Postgraduate Diploma in Industry 4.0 and Industry Solutions guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Global University.

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

This program will allow you to obtain your **Postgraduate Diploma in Industry 4.0 and Industry Solutions** endorsed by **TECH Global University**, the world's largest online university.

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

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

Title: **Postgraduate Diploma in Industry 4.0 and Industry Solutions**

Modality: **online**

Duration: **6 months**

Accreditation: **24 ECTS**


tech global university

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

Postgraduate Diploma in Industry 4.0 and Industry Solutions

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

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

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

Dr. Pedro Navarro Illana
Chancellor

Unique TECH Code: AFWORD23S techtitute.com/certificates

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

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Postgraduate Diploma
Industry 4.0 and Industry Solutions

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Postgraduate Diploma

Industry 4.0 and Industry Solutions

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