Internship Program
Digital Transformation and Industry 4.0

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Introduction

The Fourth Industrial Revolution is transforming manufacturing and services on a global scale, enabling institutions to improve their competitiveness through digitalization and intelligent automation. In this regard, a recent study by a prestigious consulting firm reflects that 85% of industrial companies are actively investing in Industry 4.0 technologies with the aim of improving their operational efficiency and product quality. Faced with this scenario, it is essential that engineers incorporate into their praxis the most innovative techniques in areas such as Artificial Intelligence, Blockchain or Big Data to offer high quality services. For this reason, TECH presents a program consisting of a practical stay in an institution specialized in Digital Transformation.

Thanks to this exclusive Internship Program, you will design automated systems that optimize both the efficiency and accuracy of production processes"

Digital Transformation and Industry 4.0 are profoundly reshaping the industrial landscape, driving the adoption of advanced technologies such as the Internet of Things, Artificial Intelligence or advanced robotics. These innovations are not only optimizing efficiency and productivity in industrial operations, but are also opening up new opportunities for product customization, quality improvement and the creation of disruptive business models. In this context, engineering professionals need to acquire advanced skills to integrate these technologies effectively and successfully navigate this new paradigm.

For this reason, TECH launches a cutting-edge 120-hour Internship Program in Digital Transformation and Industry 4.0. For 3 weeks, engineers will join a renowned company specialized in this field, where they will be surrounded by a team of professionals in the field. In this way, the graduates will work actively with these experts in tasks such as Data Mining, Neural Network training or implementation of Virtual Assistants, among others. Thanks to this itinerary, students will acquire skills that will allow them to experience a significant leap in quality in their careers.

In addition, throughout this practical stay, the graduates will have the support of an assistant tutor. This professional will be in charge of ensuring compliance with all the requirements for which this Internship Program has been designed. Therefore, students will handle the most advanced technology in Digital Transformation and Industry 4.0 in a safe environment.

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Why Study an Internship Program?

Digital Transformation and Industry 4.0 has become a highly demanded field by companies during the last few years. This is due to the adoption of advanced technologies and the restructuring of traditional processes. As such, organizations demand the incorporation of professionals capable of optimizing their production processes, reducing operating costs and improving accuracy. In view of this, experts need to stay at the forefront of advances in this area in order to provide excellent quality services. With this idea in mind, TECH presents an itinerary that will allow engineers to enter a real working environment, where they will delve into the most innovative techniques in subjects such as Artificial Intelligence, Deep Learning or Big Data.

You will handle the most cutting-edge simulation and modeling software to optimize the different industrial processes"

1. Updating from the latest technology available

New technologies are playing a significant role in the field of Digital Transformation and Industry 4.0, revolutionizing the way industries operate and creating opportunities to improve efficiency, productivity and innovation. An example of this is Big Data, which allows companies to identify patterns, predict trends and make more informed strategic decisions. With this in mind, TECH is developing an Internship Program that will allow engineers to handle the most sophisticated technological tools in this field.

2. Gaining in-depth knowledge from the experience of top specialists

During the course of their practical stay, graduates will be supported by a working group composed of professionals in Digital Transformation and Industry 4.0. These specialists will be in charge of transmitting to the students all the knowledge they need to optimize their daily practice and boost their trajectory as Engineers. Likewise, students will be guided by a tutor who will ensure that they get the most out of this itinerary.

3. Entering first-class professional environments

TECH carries out a meticulous process to choose the institutions available for this Internship Program. Thanks to this effort, Engineering professionals will gain access to a reference entity in the field of Digital Transformation and Industry 4.0. In this way, they will be part of a work team made up of professionals with extensive experience in this area.

4. Putting the acquired knowledge into daily practice from the very first moment

The academic market is full of university degrees that are limited to offering theoretical knowledge. However, TECH creates a disruptive teaching model that is eminently practical, which will provide engineers with the opportunity to access a real working environment specialized in Digital Transformation and Industry 4.0 for 3 weeks to get up to speed with the latest procedures in this sector.

5. Expanding the boundaries of knowledge

TECH grants engineers the possibility to carry out this Internship Program in internationally prestigious institutions. In this way, graduates will be able to update their knowledge in Digital Transformation and Industry 4.0 from the hand of authentic references in this field.

You will have full practical immersion at the center of your choice"

03
Objectives

Through this revolutionary Internship Program, Engineering professionals will gain a solid understanding of the emerging technologies driving Industry 4.0. In this way, graduates will have a comprehensive understanding related to tools such as Artificial Intelligence, the Internet of Things, Big Data or Augmented Reality. Similarly, experts will acquire leadership skills to lead digital transformation projects, coordinating multidisciplinary teams and managing organizational change. In addition, students will implement strategies that will optimize the operational efficiency of industrial processes through digitization.

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

Specific Objectives

- 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

- 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

- 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

- 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

- 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

- 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 specialized to perform in complex and challenging environments

- 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

- 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

- 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

- Define cross-cultural management strategies and their relevance in diverse business environments

- Evaluate strategies for financial planning and obtaining business financing

- Evaluate strategies to improve corporate communication and the digital reputation of the company

You will use Big Data to make strategic decisions and develop innovative business models"

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Educational Plan

The Internship Program of this program in Digital Transformation and Industry 4.0 is composed of a practical stay in a prestigious entity specialized in this field, lasting 3 weeks, from Monday to Friday with 8 consecutive hours of practical teaching alongside a joint specialist. In this way, students will learn first-hand the most innovative techniques in areas such as Blockchain, Quantum Computing or Artificial Intelligence, among others.

In this training proposal, of a completely practical nature, the activities are aimed at developing and perfecting the skills necessary for the provision of Digital Transformation and Industry 4.0 services, and which are oriented towards specific knowledge for the exercise of the activity.

Undoubtedly, engineers are facing an ideal opportunity to stay at the forefront of this subject while working in a sector highly demanded by entities, which requires continuous updating to provide top quality services.

The practical teaching will be carried out with the active participation of the student performing the activities and procedures of each area of competence (learning to learn and learning to do), with the accompaniment and guidance of teachers and other learning partners that facilitate teamwork and multidisciplinary integration as transversal competencies for the practice of the course.

The procedures described below will be the basis of the practical part of the program, and their implementation will be subject to the center's own availability and workload, the proposed activities being the following:

| Module	Practical Activity
Blockchain Technology	Create and deploy applications that run on a blockchain network, enabling secure and transparent transactions without intermediaries
	Develop digital identity and verifiable systems using blockchain to protect both privacy and security of personal data
	Manage tokens representing physical or digital assets, facilitating the buying, selling and trading of these assets in a transparent manner
	Execute solutions for fast payments and money transfers using cryptocurrencies and other forms of digital cash
Large Volumes of Data	Build data pipelines for collecting, processing and storing large volumes of data from a variety of sources
	Perform advanced analytics with the goal of discovering patterns, trends, or correlations within the data that can aid in strategic decision-making
	Train Machine Learning models for prediction, classification and anomaly detection
	Design dashboards and interactive visualization tools that present complex data in a clear and understandable way
Smart Production	Implement IoT devices to collect real time data from machines and industrial processes
	Program automated control systems in order to improve the efficiency and accuracy of manufacturing processes
	Use simulation software to create digital models of industrial processes to help optimize production and reduce costs
	Employ advanced technologies to improve traceability and efficiency in the supply chain, from raw material procurement to final product delivery
Virtual Reality Techniques	Create realistic and detailed virtual environments using 3D design software
	Design user-friendly, immersive user interfaces and experiences within virtual environments
	Improve the efficiency and performance of Virtual Reality applications to ensure a smooth experience
	Perform both maintenance and upgrades required for Virtual Reality systems, ensuring their optimal performance

Where Can I Do the Internship Program?

TECH's main objective is to offer top quality degrees, which is why it selects exhaustively all the available institutions where its students will carry out this Internship Program Thanks to this, the graduates will carry out their practical stay in internationally renowned organizations. In this way, the engineers will be integrated into a work team made up of real experts in Digital Transformation and Industry 4.0. Undoubtedly, an opportunity that will allow students to get up to date in this field and develop new skills to improve their job prospects significantly.

You will be part of a prestigious company highly specialized in Digital Transformation and Industry 4.0"
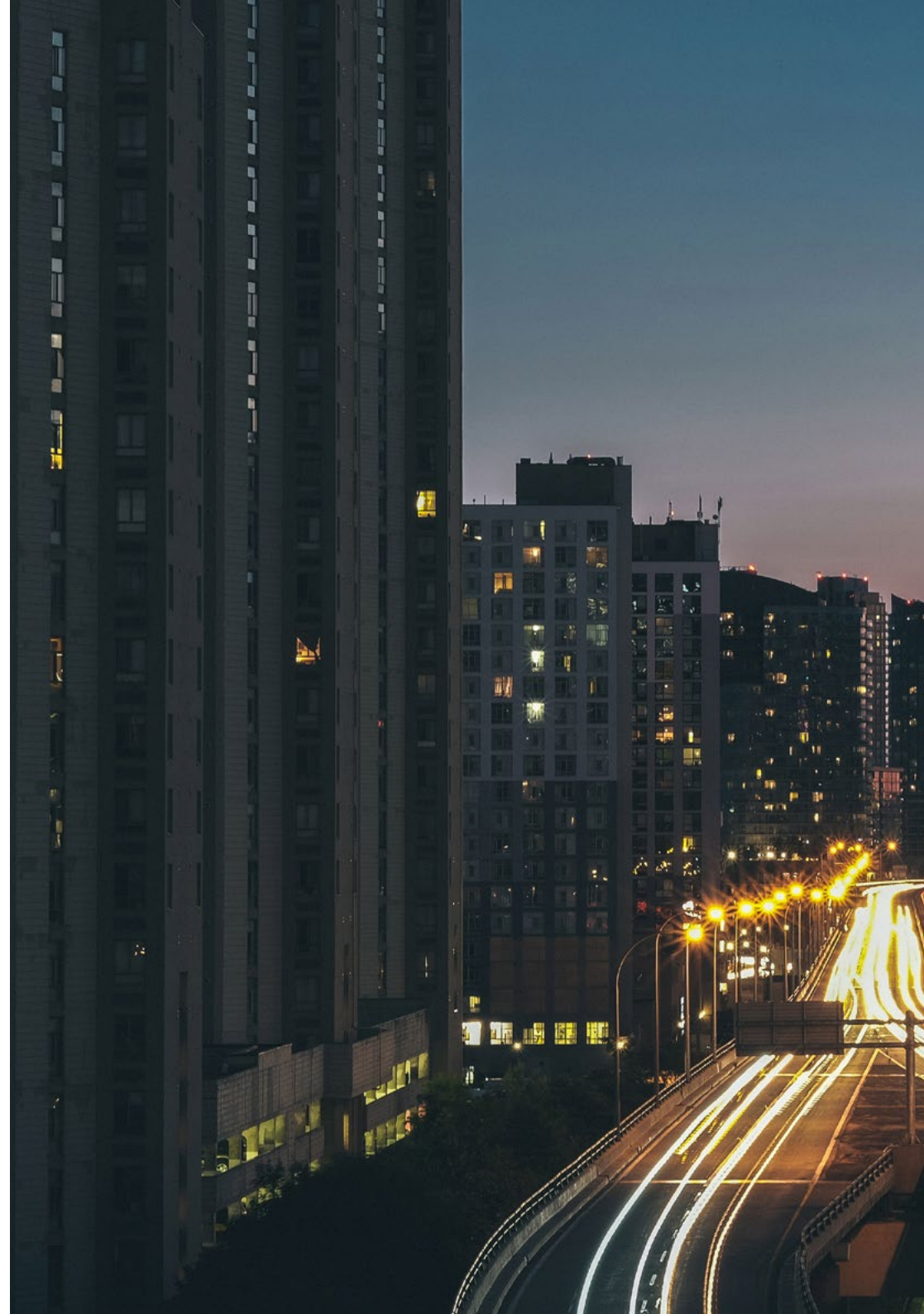
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The student will be able to do this program at the following centers:

Engineering

Captia Ingeniería

Country
Spain

City
Madrid

Address: Av. de las Nieves, 37, Bloque A Planta 1
Oficina E, 28935, Móstoles, Madrid

IT company dedicated to providing advanced technological
solutions to industries.

Related internship programs:
- Visual Analytics and Big Data
- Software Development

06
General Conditions

Civil Liability Insurance

This institution's main concern is to guarantee the safety of the students and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this entity commits to purchasing a civil liability insurance policy to cover any eventuality that may arise during the course of the internship at the center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. That way professionals will not have to worry in case of having to face an unexpected situation and will be covered until the end of the internship program at the center.

General Conditions of the Internship Program

The general terms and conditions of the internship agreement for the program are as follows:

1. TUTOR: During the Internship Program, students will be assigned with two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned with an academic tutor, whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.

2. DURATION: The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.

3. ABSENCE: If the students does not show up on the start date of the Internship Program, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

4. CERTIFICATION: Professionals who pass the Internship Program will receive a certificate accrediting their stay at the center.

5. EMPLOYMENT RELATIONSHIP: The Internship Program shall not constitute an employment relationship of any kind.

6. PRIOR EDUCATION: Some centers may require a certificate of prior education for the Internship Program. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.

7. DOES NOT INCLUDE: The Internship Program will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed.

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.

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Certificate

This private qualification will allow you to obtain an **Internship Program's diploma 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: **Internship Program in Digital Transformation and Industry 4.0**

Duration: **3 weeks**

Attendance: **Monday to Friday, 8-hour shifts, consecutive shifts**

Credits **4 ECTS**

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

Internship Program in Digital Transformation and Industry 4.0

This is a private qualification of 120 hours of duration equivalent to 4 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
Dean

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country.   Unique TECH Code: AFWORD23S   techtitute.com/certificates

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