Postgraduate Certificate
Digital Twins

tech technological university

Postgraduate Certificate
Digital Twins

- » Modality: **online**
- » Duration: **6 weeks**
- » Certificate: **TECH Technological University**
- » Dedication: **16h/week**
- » Schedule: **at your own pace**
- » Exams: **online**

Website: **www.techtitute.com/in/information-technology/postgraduate-certificate/digital-twins**

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01
Introduction

You will acquire knowledge of Digital Twins constitutes a field with increasing demand and for which there is a very high shortage of qualified profiles. The control and monitoring of the status of production plants from a Digital Twin offers a countless number of advantages and the possibilities of integration with other IT systems multiplies its exploitation possibilities. This degree, under a 100% online modality without face-to-face classes or fixed schedules, analyzes real cases of Digital Twins in different fields so that the computer scientist acquires a detailed vision of their influence on the future development of products and services.

Bridging the physical and virtual worlds through Digital Twins enables comprehensive information analysis"

The consolidation of the Internet of Things (IoT) in Industry 4.0, coupled with new advances in high-volume storage techniques and machine learning through Big Data Analytics, has enabled the development of new concepts within the industry, such as Digital Twins.

These technologies would not be fully effective if they did not allow continuity of the model in order to evolve, monitor or readapt it to a changing reality. Having a model identical to the physical model, but fully digitized, gives graduates full control of the system. In this Postgraduate Certificate, students will the implementation of a Digital Twin, will be able to simulate and perform unlimited tests before taking their project into production and operation.

Over the course of 6 weeks, students will deepen their understanding of the scope of Digital Twins, understanding the competitive advantages they bring, so they will be positioned at the forefront of technology and will be able to lead ambitious projects in the present and in the future. Additionally, this program has the best 100% online study methodology, which eliminates the need to attend classes in person or have to comply with a predetermined schedule.

This **Postgraduate Certificate in Digital Twins** contains the most complete and up-to-date educational program on the market. Its most notable features are:

- Practical cases presented by experts in digital Twins
- 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 self-assessment can be used to improve learning
- Its special emphasis on innovative methodologies
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection

You will be able to test new business opportunities, plan future scenarios through simulations and customize production from Digital Twins"

" *Digital Twins are especially useful for maintaining connected machines and equipment that generate and analyze large volumes of data"*
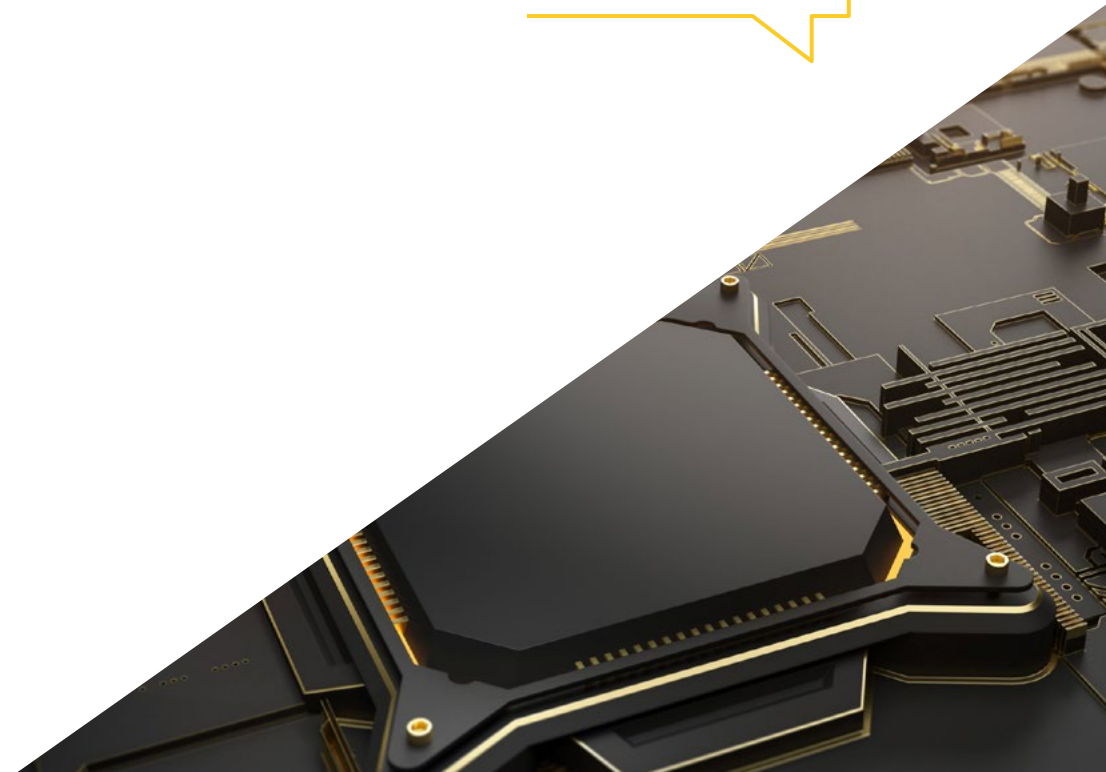
By having a virtual replica you will be able to get immediate feedback of the activity in progress and apply possible corrections in record time.

You will have a virtual copy where it is possible to experiment without taking risks, something very beneficial for the manufacturing processes.

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

Its multimedia content, developed with the latest educational technology, will allow professionals to learn in a contextual and situated learning environment, i.e., a simulated environment that will provide immersive education programmed to prepare in real situations.

The design of this program focuses on Problem-Based Learning, by means of which professionals must try to solve the different professional practice situations that are presented to them throughout the course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

02
Objectives

This degree focuses on the subject of Digital Twins in order to propose application scenarios for the derived technologies. Everything from a practical point of view and focused on engineering, to generate a sense of security in the student that will allow him to be more effective in his daily practice. The direct application of the knowledge acquired is an added professional value that very few EXPERT scientists specialized in information and communication technologies can offer.

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*You will get a safe and secure environment for experimentation, being able to detect problems before they occur"*

General Objectives

- Analyze the current landscape of Digital Twins and associated technologies
- Determine the main applications of the Digital Twins
- Establish a framework for the study of its use
- Propose application scenarios for technologies derived from the Digital Twins

You will have the guarantee of specializing at an international level in a booming sector that will catapult you to professional success"
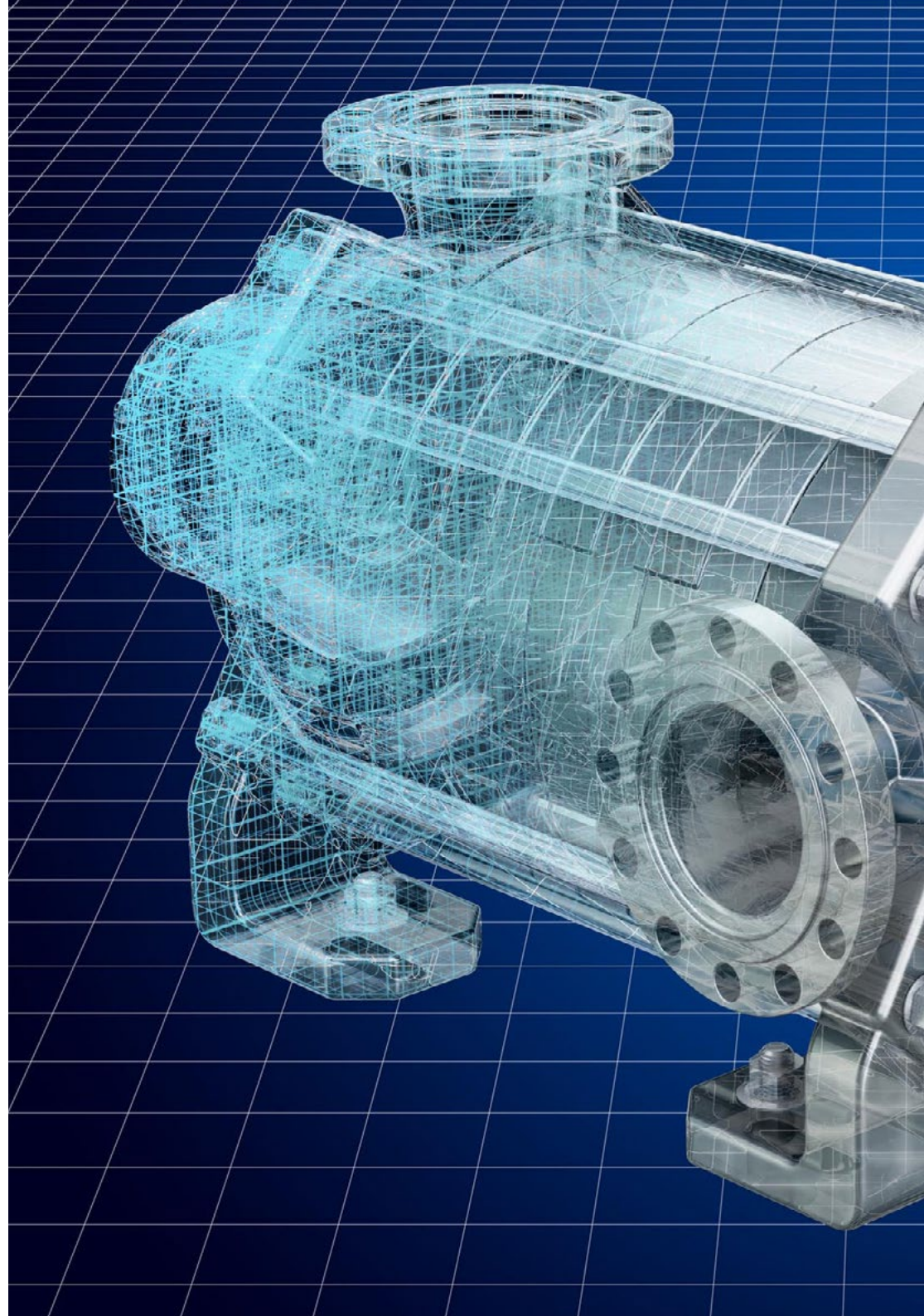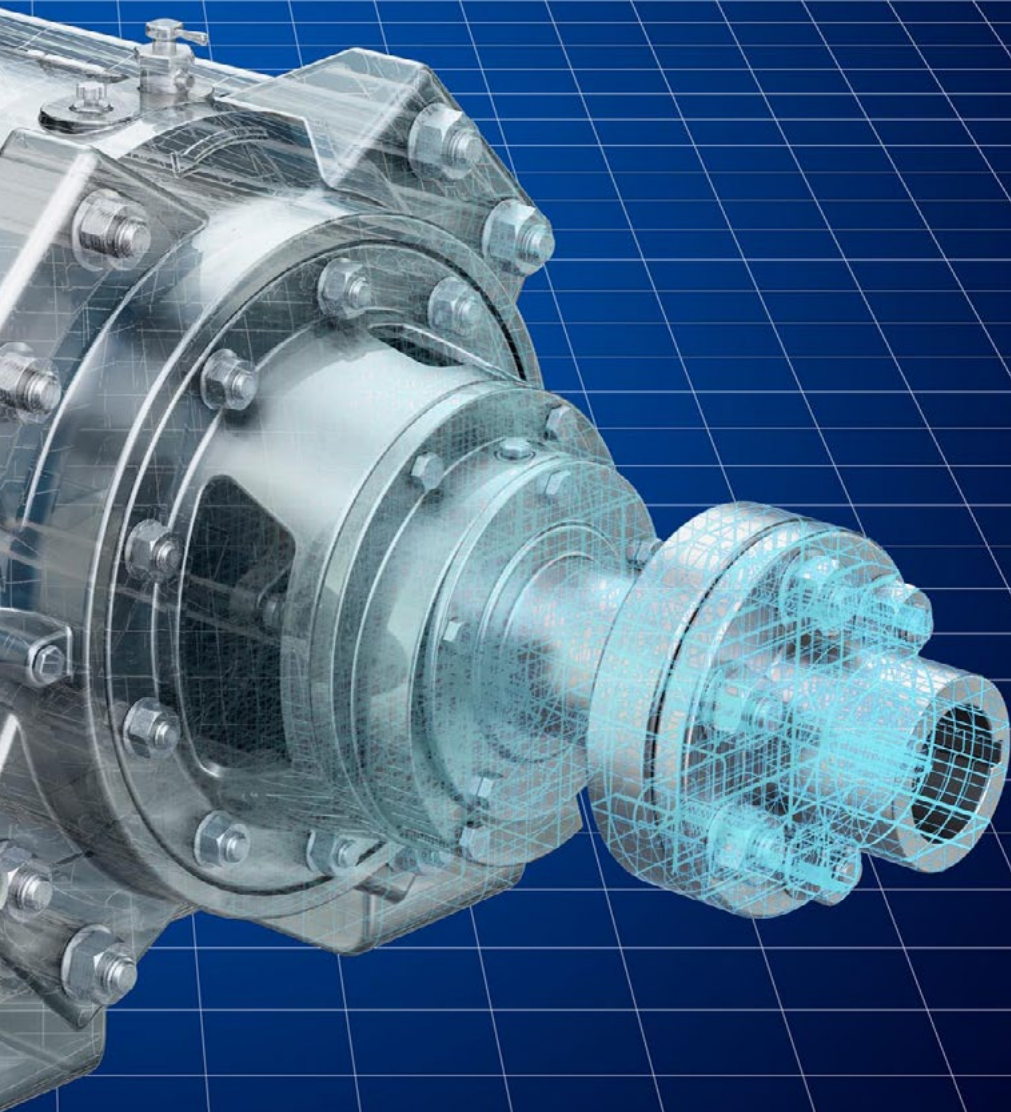
Specific Objectives

♦ Acquire a detailed view of the influence of the Digital Twins on the future of product and service development

♦ Pinpoint the applications of the Digital Twins

♦ Demonstrate the utility of Digital Twins in the value chain

♦ Determine specific uses of Digital Twins

♦ Assess the feasibility of implementing a Digital Twin

♦ Identify concrete cases of application of the Digital Twins

♦ Justify uses and models of the Digital Twins

♦ Generate interest in the implementation of models

03
Course Management

Having been trained by accredited professionals who use them in their daily work, professionals who successfully complete this program will have a global vision of the application of the Digital Twins, the protagonists of global digitalization, and the ability to apply them. This University Course brings together a highly qualified team with extensive experience in the sector. These will offer the best content for the computer specialist during the course.

"
To be able to work with this technology it is important to have the recommendations of computer engineers who have been applying it for some time"

Management

Mr. Molina Molina, Jerónimo

· Head of the Artificial Intelligence Department at Ibermática

· IA Engineer & Software Architect at NASSAT - Internet Satellite in Motion

· Senior Consultant at Hexa Ingenieros. Introducer of Artificial Intelligence (ML and CV)

· Expert in Artificial Intelligence Based Solutions, in the fields of Computer Vision, ML/DL and NLP

· Expert in Business Creation and Development at Bancaixa - FUNDEUN Alicante

· Computer Engineer from the University of Alicante

· Master's Degree in Artificial Intelligence from the Catholic University of Avila

· Executive MBA (European Business Campus Forum)

Professors

Dr. Villalba García, Alfredo

◆ Industrial Engineer with specialization in Domotics and Inmotics

◆ Director of Fractalia Smart Projects

◆ CEO and Founding Partner of INMOMATICA

◆ Director of Technology and Operations at BBVA

◆ Industrial Systems Director at Alcatel

◆ Ph.D. in La Computer Science from the University of Fontainebleau

◆ Professional Master's Degree in Domotics and Industrial Automation, Polytechnic University of Madrid

◆ Member of the Board of Directors of Spanish Association of Home Automation

04
Structure and Content

A curriculum that offers a broad perspective of the Digital Twins has been established to generate specialized knowledge in graduates. The syllabus is covered in depth and with support material oriented to experienced computer scientists with a great interest in the topics of study. This means that the professional level is high, an important differential element of the University Course. In this way, and with the support of a team of experts, students will be able to update their knowledge, which will enable them to develop professionally.

You will be empowered to lead the global digitization process and become a major player in this litigation"

Module 1. Digital Twins Innovative Solutions

You will acquire in-depth knowledge of the scope of application of the Digital Twins, understanding the competitive advantages it brings"

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.

01 learning from evidence

02 relearning from evidence

03 testing

04 learning from an expert

05 neurocognitive context dependent learning

06 Von-Restorff effect

07 case based learning through storytelling

08 competencies testing (retesting)

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

30%

10%

8%

20%

25%

4%

3%

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.

Certificate

The Postgraduate Certificate in Digital Twins guarantees students, in addition to the most rigorous and up-to-date education, access to a qualification issued by TECH Technological University.

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

This **Postgraduate Certificate in Digital Twins** contains the most complete and up-to-date program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Certificate in Digital Twins**

Official Nº of Hours: **150 h.**

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Awards the following

CERTIFICATE

to

Mr./Ms. _____, with identification number _____.
For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Digital Twins

This is a qualification awarded by this University, equivalent to 150 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

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

June 17, 2020

Tere Guevara Navarro
Dean

Unique TECH Code: AFWORD23S   techtitute.com/certificates

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

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