Postgraduate Diploma
Smart City Projects

tec**h** global university

Postgraduate Diploma
Smart City Projects

- » Modality: **online**
- » Duration: **6 months**
- » Certificate: **TECH Global University**
- » Credits: **18 ECTS**
- » Schedule: **at your own pace**
- » Exams: **online**

Website: **www.techtitute.com/us/engineering/postgraduate-diploma/postgraduate-diploma-smart-city-projects**

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01
Introduction

The world's cities are facing unprecedented growth that challenges the current development model, making it essential to adopt technological measures to manage this growth and provide adequate services to its citizens. The creation of Smart City projects is the perfect solution to respond to the needs of citizens, but this requires specialized professionals. If you want to give a boost to your profession and specialize in this field, you should not hesitate. TECH offers specific training with a completely innovative academic program and an exceptional team of teachers backed by their professional experience. A successful program for professionals looking for further training.

> " *Smart City projects are increasingly in demand and, therefore, it is necessary to have trained professionals for their development"*

Cities constitute a new paradigm in the 21st century, facing great challenges of humanity such as overpopulation of cities, important technological transformations and greater citizen accessibility to all services.

Within this Postgraduate Diploma, digital platforms and their impact on different application areas, such as industry, energy, education and cybersecurity, will be discussed first hand, to end up focusing on their use within public services: Smart Cities.

The international approach to smart cities, the most practical aspects of the implementation of Smart City projects or the specific features of working with the public administration in an intrinsically complex environment are just some of the topics covered in this training, with special emphasis on the characteristics of the public sector and the different actors (Stakeholders) of the city ecosystem, and the need to integrate them for the achievement of successful projects.

In this area, it is also important to know the future challenges that cities will gradually face in digital transformation, not only technologically, but also in terms of governance, security, sustainability and alignment with the 2030 Agenda.

To achieve the objective of professional improvement and specialization, TECH offers cutting-edge training adapted to the latest developments in this field, with an up to date syllabus developed by experienced professionals who are willing to put all their knowledge at their students' disposal. It should be noted that as this is a 100% online Postgraduate Diploma, the student is not conditioned by fixed schedules or the need to move to another physical location, but can access the contents at any time of the day, balancing their work or personal life with their academic life.

The **Postgraduate Diploma in Smart City Projects** contains the most complete and up-to-date educational program on the market. The most important features include:

- Case studies presented by experts in Smart Cities
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Practical exercises where the self assessment process can be carried out to improve learning
- Special emphasis on innovative methodologies in Smart Cities
- 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

The completion of this Postgraduate Diploma will place engineering and architecture professionals at the forefront of the latest developments in the sector"

This Postgraduate Diploma is the best investment you can make in the selection of a refresher program in the field of Smart Cities. We offer you quality and free access to content"

This program comes with the best educational material, providing you with a contextual approach that will facilitate your learning.

This 100% online Postgraduate Diploma will allow you to combine your studies with your professional work. You choose where and when to train.

Its teaching staff includes professionals from the fields of engineering and architecture, who contribute their work experience to this program, as well as renowned specialists from prestigious universities and leading societies.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive training programmed to train in real situations.
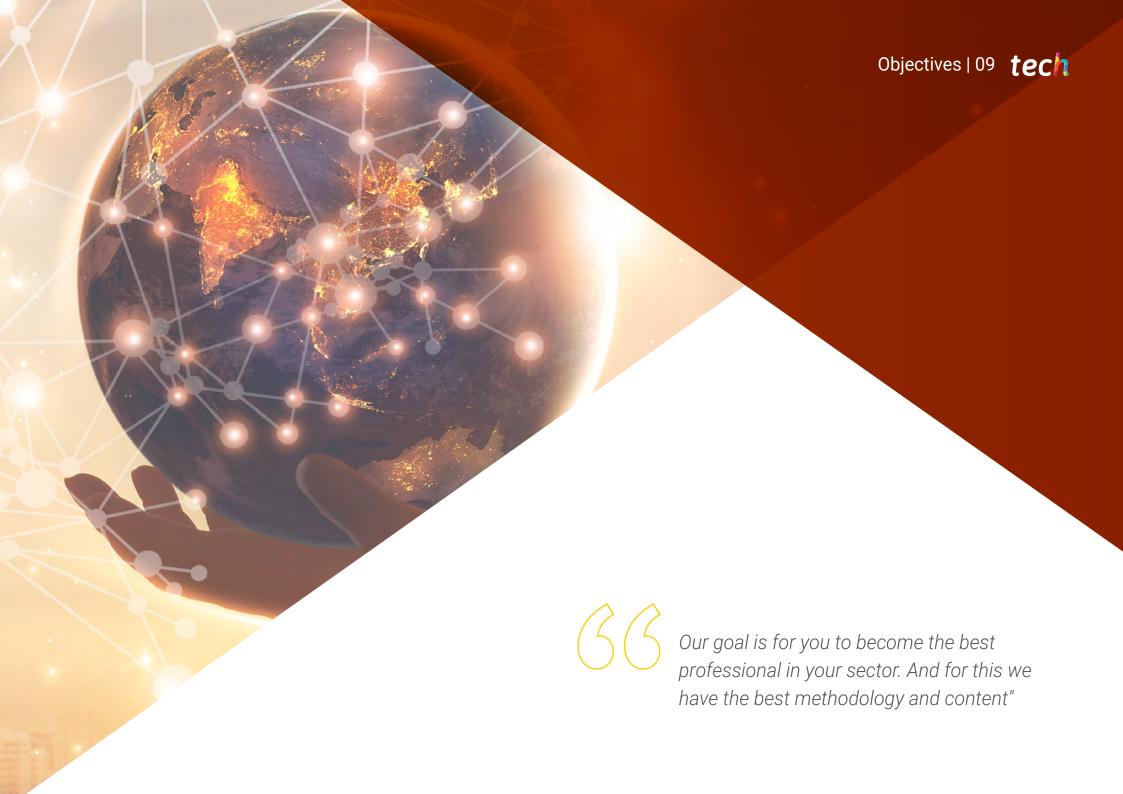
This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year. To do so, the professional will be assisted by an innovative interactive video system created by recognized experts in Smart City Projects and with great experience.

02
Objectives

The program in Smart City Projects is aimed at facilitating the performance of the professional to acquire and learn the main developments in this field, which will allow them to practice their profession with the highest quality and professionalism.

Our goal is for you to become the best professional in your sector. And for this we have the best methodology and content"

General Objectives

- Recognize Smart City projects as particular use cases of digitalization projects through platforms, to know their main particularities and the state of the art of these projects in an international context

- Value the two essential elements in any smart city project, data as the main asset and the citizen as the main motivator of such projects

- Analyze the different technologies and models to address the digital transformation of cities in depth and understand the advantages and opportunities that a model based on integration platforms offers

- Delve into the general architecture of Smart Cities Platforms and the applicable reference legislation, using international standards

- Identify the role that new digital technologies play in the construction of the smart city model: LPWAN, 5G, Cloud and Edge Computing, IoT, Big Data, Artificial Intelligence

- Know the functionalities of the different layers that constitute the digital platforms for cities in detail: support layer, acquisition layer, knowledge layer and interoperability layer

- Differentiate between digital government services and Smart city services, the possibilities of integration between the two worlds and the resulting new services for citizens, public administration services 4.0

- Differentiate between the two types of solutions offered within the Smart Cities smart services layer: vertical solutions and transversal solutions

- In depth breakdown of the main vertical solutions applied in cities: waste management, parks and gardens, parking, public transport management, urban traffic control, environment, security and emergencies, water consumption and energy management

- Know the transversal solutions of the smart services layer that can be implemented in smart city projects in detail

- Delve into the difference between city management and nation management, and identify their main challenges and lines of activity

- Acquire the skills and knowledge necessary for the design of technological solutions in the fields of tourism, home care, agriculture, ecosystemic spaces and urban service provision

- Have a global perspective of Smart Cities projects, identifying the most useful tools in each phase of the project

- Recognize the keys to success and how to deal with the possible difficulties that a Smart City project may present

- Identify the main trends and paradigms that will serve as leverage for the future transformation of Smart Cities

- Conceptually design plans and solutions aligned with the Sustainable Development Goals of the 2030 Agenda

Specific Objectives

Module 1. The Smart Cities Paradigm

- Delve into the evolution of Smart Cities, what have been the main changes that have led to the need to create Smart Cities and what are the challenges we face
- Understand how digital platforms work, and their different fields of action (industry, education, energy, etc.)
- Perform an exhaustive analysis of two of the key axes in the definition of Smart Cities projects: data as a lever and the citizen as a motivating element of the projects
- Differentiate, according to the size of impact, smart city, nation and campus projects
- Have an overview of the status and differences in the approach to Smart Cities projects around the world

Module 2. Smart City Projects

- Identify the existing ecosystem of stakeholders in cities and the need for their integration in Smart City projects
- Delve into the different sources of funding for Smart City projects, from the most classic to the public-private partnership (PPP) models
- Perform a comprehensive analysis of the most useful tools in the implementation of Smart City projects at different stages of the project
- Recognize the keys to success and how to deal with the possible difficulties that a Smart City project may present

Module 3. The Future of Smart Cities

- Identify the state of maturity and level of service transformation in the cities
- Understand the value of data and the importance of establishing a Data Governance Strategy through a Public Management Entity
- Analyze different city management models based on the generation of an ecosystem of solutions and use cases from the combination of multiple sectorial platforms
- Define new use cases that help cities become more agile, flexible and resilient to chronic stresses or acute shocks that may weaken their structure
- Conceptually design plans and solutions aligned with the Sustainable Development Goals of the 2030 Agenda

Join us and we will help you achieve professional excellence"

Course Management

TECH has professionals specialized in each area of knowledge, who pour their work experience into their training. A multidisciplinary team with recognized prestige that has come together to offer all their knowledge in this area.

Our university employs the best professionals in all areas who share their knowledge to help you"

International Guest Director

Ravi Koulagi is an outstanding leader in the **technology sector** and his excellent resume has earned him a number of senior positions, including **Global Director** of **Cloud Solutions** at **Cisco, Atlanta**. In this position, he has led the development and go-to-market strategy for **multi-cloud solutions**, focusing on integrating key capabilities in **computing, connectivity** and **security** into a comprehensive **cloud transformation** solution, strengthening the company's position in a highly competitive market.

He has also served as **Chief Technology Officer (CTO)** for the **Global Public Sector Segment**, where he has developed sales strategies in areas such as **intent-based networking, cybersecurity, multicloud data centers, collaboration** and **IoT portfolios** for global public sector customers. Likewise, his expertise in **Smart Cities** and **Internet of Things** architectures and platforms has been instrumental in the creation of **Cisco's IoT platform** for **Smart Cities**, as well as in leading **business development** in this area.

In addition to his responsibilities at **Cisco**, Ravi Koulagi has been a **member** of the **Smart City Expo USA Advisory Board**, where he has contributed to the evolution of the leading industry event in the **United States** focused on **urban transformation** through **technology** and **Smart Cities**, consolidating his position as an international expert in **urban technology** and **cloud innovation**. He has also contributed significantly to the industry with his **book** on **unified communications**, published by **Cisco Press**, and with his **three patents** related to **voice messaging and telephony systems**.

In this context, his experience ranges from the creation of **reference architectures in IoT** and **Smart Cities**, to the development of sales strategies and **technology partnerships**, positioning him as a key figure in the evolution and adoption of **t**.
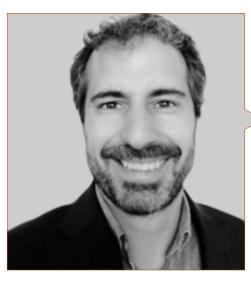
Mr. Koulagi, Ravi

- Global Director of Cloud Solutions at Cisco, Atlanta, United States
- Member of the Advisory Board at Smart City Expo USA
- Chief Technology Officer (CTO) for Global Public Sector Segment at Cisco, Bangalore, India
- Global Head of IoT and Smart City Solutions at Cisco, Bangalore, India
- IoT and Smart City Solutions Architect at Cisco, Bangalore, India
- Manager, Advanced Services and Collaboration Technologies, Cisco, Bangalore, India

- Manager of Software Development, Systems Engineering and VoIP Solutions at Cisco, California
- Technical Leader in IP and UC, and Integrated Services Routers at Cisco, California
- Technology Advisor for the World Bank's Smart Cities Investment Program at the International Finance Corporation (IFC)
- AI Applications for Growth at Kellogg Executive Education

"
Thanks to TECH, you will be able to learn with the best professionals in the world"

Management

Mr. Garibi, Pedro

- Technical Electronic Engineer from the University of Deusto
- Telecommunications Engineer by the University of Deusto
- Master's Degree in Mobile Communication from the Polytechnic University of Madrid
- Professional with more than 20 years of experience in project management
- Solutions architect in the fields of Smart & Safe Cities, (Indra, Huawei, T-Systems)
- Manager of Smart City projects, both in the R&D and production areas
- Independent Smart Cities Consultant
- Co-chair of the United Nations U4SSC group for the elaboration of a framework for Artificial Intelligence in Smart Cities
- Speaker at several Smart Cities congresses in Spain and Europe
- Author of several articles on the use of intelligent platforms for the improvement of citizen security
- Member of the Official College of Telecommunication Engineers of Spain (COIT)

Professors

Ms. Domínguez, Fátima

- Consultant and area manager of Business Development for Public Administrations in the field of Smart Cities (Indra-Minsait)
- Degree in Civil Engineering from the Polytechnic University of Leiria (Portugal)
- ThePowerMBA Business Expert - Business Management and Administration
- Responsible for the Caceres Smart Heritage Project
- Product owner of solutions for the intelligent management of tourist destinations
- Expert in smart solutions in the fields of agribusiness, urban services and tourism destination management

Mr. Koop, Sergio

- Expert in smart solutions in the fields of urban resilience, mobility, urban services and tourism destination management
- Degree in Industrial Technologies Engineering from Carlos III University of Madrid
- Master's Degree in Business Management from Carlos III University of Madrid
- More than 4 years of experience as a Smart Cities consultant (Indra - Minsait)
- Author of several reports focused on the use of disruptive technologies for the transformation of public administrations
- Collaborator of the S3 HIGH TECHFARMING group of the EU for the development of technologies to improve agricultural productivity

Mr. Budel, Richard

- Project management professional in the public sector
- Diploma in Medical Anthropology from Trent University (Canada)
- Managing Director of Simplicities Ltd
- Managing Partner of the Public Sector Department at Sullivan & Stanley
- Chairman of the Digital Government Advisory Board at Huawei
- Former Chief Information Officer (CIO/CTO) at IBM and Huawei
- Former IT Director, Department of Public Safety and Justice, Government of Ontario, Canada
- Thought leader and speaker at events in more than 70 countries around the world.
- Collaborator in UN4SSC, EIP-SCC, Smart Cities Council and other multinational organizations

Mr. Bosch, Manuel

- Member of the Big Data and Artificial Intelligence Cluster of the Madrid City Council in the Interoperable Projects working group
- Graduate in Mining Engineering from the Polytechnic University of Madrid
- Consultant in Smart Cities and Nations, (Indra - Minsait)
- Expert in Smart Solutions in the fields of sustainability and circular economy
- Expert in the integration of eGovernment solutions in Smart Cities environments
- Extensive experience in Smart City projects
- Collaborator of the thematic group "City Platforms" of the U4SSC (United for Smart Sustainable Cities) initiative coordinated by ITU
- Author of several reports focused on the modernization of public administration through the use of new technologies

04
Structure and Content

The structure of the contents has been designed by leading professionals in the intelligent infrastructure sector, with extensive experience and recognized prestige in the profession, and aware of the benefits that the latest educational technology can bring to higher education.

We have the most complete and up to date academic program in the market. We strive for excellence and for you to achieve it too"

Module 1. The Smart Cities Paradigm

1.1.   The Smart City
    1.1.1.   Evolution of Smart Cities
    1.1.2.   Global Changes and New Challenges
1.2.   Digital Platforms
    1.2.1.   Big Data and IoT
    1.2.2.   Origin, Present and Future of Platforms
1.3.   Use Cases of Digital Platforms
    1.3.1.   Niche Platform
    1.3.2.   Platform of Platforms
1.4.   Smart Cities: A Digital Platform Use Case
    1.4.1.   New Challenges in the Cities of the 21st Century. The Functional City
    1.4.2.   Technology as an Essential Part of the Solution to the Challenges
1.5.   The Citizen at the Center of the Smart City
    1.5.1.   Objective of Smart Cities
    1.5.2.   Smart Cities at the Service of the Citizen
1.6.   From Data to Information and from Information to Knowledge
    1.6.1.   The City: The Largest Data Repository
    1.6.2.   Smart Cities as a Tool for Information Exploitation
1.7.   Smart Cities, an Example of Global Work
    1.7.1.   Cities: a Complex Environment with Many Actors
    1.7.2.   Shared Management Model in the Cities
1.8.   From Smart Cities to Smart Nations
    1.8.1.   Territorial Challenges
    1.8.2.   Solution to the Challenges of the Territory
1.9.   From Smart Cities to the Smart Campus
    1.9.1.   Campus Challenges
    1.9.2.   Solution to the Campus Challenges
1.10.   Smart Cities in the World
    1.10.1.   Technological Maturity
    1.10.2.   Geography of Smart City Projects

Module 2. Smart City Projects

2.1.   The Public Sector in Different Countries
    2.1.1.   Public Sector Particularities
    2.1.2.   Working with the Public Sector
2.2.   Relevant Actors in Cities
    2.2.1.   The Managing Entity and the Indicators
    2.2.2.   The Digital Transformation of Contractors and Service Providers
2.3.   Cooperation Between the Public and Private Sectors
    2.3.1.   From the Traditional Model to the PPP Model
    2.3.2.   Project Collaboration Stages
2.4.   Sources of Funding for Smart City Projects
    2.4.1.   Cities' Own Sources of Funding
    2.4.2.   Sources of External Funding
    2.4.3.   Self Funded Projects
2.5.   Pre-Project Execution Stage
    2.5.1.   Collaborative Work Tools
    2.5.2.   Co-Creation and Design Thinking
2.6.   Project Execution Stage
    2.6.1.   Global Governance Model
    2.6.2.   Attributions and Success Factors in Governance: Public Part
    2.6.3.   Attributions and Success Factors in Governance: Private Part
2.7.   Post-Project Execution Stage
    2.7.1.   Smart City Project Maintenance Model
    2.7.2.   Technical Operations Office
2.8.   Complexity in Smart City Projects
    2.8.1.   The Search for a Purpose
    2.8.2.   IT Leadership
    2.8.3.   Financing

Module 3. The Future of Smart Cities

A comprehensive and multidisciplinary training program that will allow you to excel in your career, following the latest advances in the field of Smart Cities"

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"
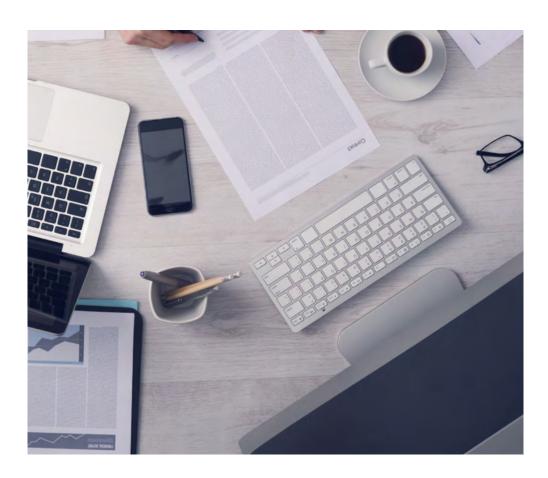
Case Study to contextualize all content

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.

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.

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

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.

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.

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.

06
Certificate

The Postgraduate Diploma in Smart City Projects 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 Smart City Projects** 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 Smart City Projects**

Modality: **online**

Duration: **6 months**

Accreditation: **18 ECTS**

tech global university

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

Postgraduate Diploma in Smart City Projects

This is a program of 450 hours of duration equivalent to 18 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

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

*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.

![TECH global university logo]

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