

INDUSTRY 4.0 MASTER OF SCIENCE

< **BUILD** THE FUTURE />

**IoT SOLUTION ARCHITECT
ROBOTICS ENGINEER
INDUSTRY 4.0 CONSULTANT
CHIEF TECHNOLOGY OFFICER**

Master the skills needed to navigate the complexities of industries of the future. Equip yourself with cutting-edge knowledge and hands-on experience for a successful career in the fourth industrial revolution.

Gain hands-on experience:

Our **project-based learning** concept with well known international companies will boost your career after graduation.

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Studio Babelsberg



www.xu-university.com

MASTER EXPLAINED

WHAT SKILLS YOU WILL GAIN

HARD & SOFT SKILLS

Strategic Insight

You will gain skills in strategy, technology, organizational and industrial development to successfully lead on IoT and Cyber-Physical Systems.

Leadership 4.0

Learn about leadership 4.0 centered on human-technology interactive ecosystems that blend Advanced Virtual technologies, IoT and AI.

Smart Services and Smart Product Design

Create intelligent, user-centric solutions and innovative products by blending technology with design thinking

Mastering Advanced Multi-Technology Applications

Explore advanced applications of multi-technologies within the industry 4.0 and IoT framework.



Prof. Dr. Filipe de Castro Soeiro

Professor for Industry 4.0

"In an era where technology and connectivity redefine industries, our M.Sc. in Industry 4.0 stands at the forefront, empowering the next generation of tech innovators and leaders to design and manage smart connected systems that can autonomously monitor, communicate and improve harnessing data, driving efficiency and sustainability to shape the future of smart cities, smart manufacturing, services automation and other smart industrial applications."

CHOOSE YOUR SPECIALIZATION

BECOME A LEADER IN SMART CITIES AND INTELLIGENT MANUFACTURING



INDUSTRY 4.0 FOR SMART CITIES

Explore opportunities in creating sustainable, digital smart cities through this module, which covers sustainable development and Industry 4.0 technologies. Key areas include Smart Mobility, Smart Living, and Smart Governance, along with the application of IoT, smart manufacturing, and intelligent resource management in urban settings.

ELECTIVE COURSES:

- **SUSTAINABLE MODELS FOR SMART CITIES**
- **ADVANCED TECHNOLOGIES FOR SMART CITIES**
- **MANAGING SUSTAINABLE DEVELOPMENT GOALS IN SMART CITIES**

ROBOTICS, AUTOMATION, AND INTELLIGENT MANUFACTURING

Dive into Robotics and Automation in Intelligent Manufacturing. This module provides essential knowledge on robotics, modular prototyping, and automation aimed at improving production and logistics. It includes practical applications in advanced robotics and automated manufacturing initiatives.

ELECTIVE COURSES:

- **INTRODUCTION TO ROBOTICS AND AUTONOMOUS SYSTEMS**
- **ADDITIVE SUSTAINABLE MANUFACTURING**
- **ADVANCED TOPICS IN ROBOTICS, AUTOMATION, AND INTELLIGENT MANUFACTURING**



INDUSTRY 4.0 SMART INDUSTRIAL APPLICATIONS

Learn to apply Industry 4.0 technologies to industrial challenges through project-based learning. The module covers smart services, AI, automation, and clean technologies, aiming to enhance industrial competitiveness and sustainability.

ELECTIVE COURSES:

- **MOBILE AND WEB APPLICATIONS FOR SMART SERVICES**
- **MODERN TECHNOLOGY APPLICATIONS IN SMART INDUSTRIES**
- **INDUSTRY 4.0 SUSTAINABILITY AND OPTIMIZATION INCLUDING RENEWABLE ENERGIES**

AFTER GRADUATION

FUTURE JOB OPPORTUNITIES

These are some of many jobs you can strive for after graduating with a Master of Science degree in Industry 4.0:



CHIEF TECHNOLOGIE OFFICER (CTO)

The Chief Technology Officer (CTO) is responsible for overseeing the company's technology strategy, driving innovation, and aligning technology initiatives with business goals. As a key leader, the CTO manages tech teams, develops solutions to optimize operations, and ensures the company stays at the forefront of technological advancements.

IOT SOLUTION ARCHITECT

You design and implement tailored IoT solutions, focusing on the architecture of connected devices, data flows, and network infrastructure. Your work ensures secure, scalable systems that enhance efficiency and foster innovation.

SMART FACTORY MANAGER

As a Smart Factory Manager (Industry 4.0), you drive the digital transformation and automation of production. You leverage technologies like IoT and AI to optimize processes, analyze data, and create an efficient, future-ready manufacturing environment.



Find more
Jobs on our
website



COURSE OF STUDIES

Semester 1	Semester 2	Semester 3	Semester 4
Technology Monitoring 4.0 5 ECTS	Industry 4.0 Strategy and Management 5 ECTS	1st Elective as per 1st specialization* 5 ECTS	2nd Elective as per 1st specialization* 5 ECTS
Smart Product Design 4.0 5 ECTS	Smart Services 4.0 5 ECTS	1st Elective as per 2nd specialization* 5 ECTS	2nd Elective as per 2nd specialization* 5 ECTS
Big Data Analytics & OPP** 5 ECTS	Smart Factory 4.0 5 ECTS	Advanced Virtual Environments 5 ECTS	Master Thesis Set-up 5 ECTS
New Leadership 5 ECTS	Research Skills 5 ECTS	Consulting Skills 5 ECTS	Master Thesis 15 ECTS
Descriptive Analytics 5 ECTS	Predictive Analytics 5 ECTS	Study Abroad or Internship 10 ECTS	
Impact Data Management 5 ECTS	Future Economics 5 ECTS		

● Core modules ● Interdisciplinary modules ● Electives

** = Object oriented Programming

*Specializations (2 out of 3):

- Industry 4.0 for Smart Cities,
- Robotics and Automation,
- Industry 4.0 Smart Industrial Applications

You will chose two areas of specialization to make your academic and professional profile even more distinct.

In each of your chosen areas, you will attend two modules to take a deep dive into the subject matter and learn about key concepts as well as practical application.

Period of study

4 semesters, 2 years



THIS IS XU

REAL PROJECTS

Our **project-based learning** concept with **well known international companies** will boost your career after graduation.



Watch
video



UNIVERSAL MUSIC GROUP

PORSCHE



SPECIAL ELECTIVES TAILORED TO BOOST YOUR EXPERTISE

These electives provide a **tailored learning experience** that equips you with the **knowledge and skills** needed to excel in **your chosen fields**. It's about **unlocking your full potential** and shaping a brighter future.

Our **XU Career Service** will guide you to find **internships, student jobs** and to enhance **your career opportunities** after graduation.



FUNDING OPTIONS



More
information

We offer a **bunch of possibilities** to **fund your study program** in collaboration with our partners. Enjoy the **full learning experience** **without** any **financial burden**.

STUDY IN POTSDAM NEARBY BERLIN

Enjoy the **metropolitan region of Berlin** and the **pristine city of Potsdam** and discover our campus at the area of Studio Babelsberg.

BEST IN CLASS

Discover our campus with the **latest tech equipment** for the best learning experience in the world of digitalization.

At XU University **you're not just a number, you'll be part of the XU family!**

More
information

