MSc Information technology / track
Architecture and engineering for the internet of things

Intakes
February 2023 intake
M1

Language
100% taught in English

Tuition fees
5,100 € Euros/year
Scholarships opportunities for: Excellent profiles, Alumni from our partner universities, European citizens...

Campus
Rennes

The Master of Science in IT - specialization in Architecture and Engineering for the Internet of Things lasts 2 years referred to as M1 and M2. This master is accredited by the French Ministry of Higher Education and Research and fully complies with the EHEA system.

KEYWORDS
Information Technologies / Internet of Things / Data Science / Computer Networking / Convergent Networks / Wireless Networks / Mobile Networks / Internet / Network Services / Network Solution Design / Network Planning and Design
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**Environnement**

Internet of Things (IoT) is the next revolution for the Internet. After the convergence with telephony, media distribution, the goal with IoT is to connect autonomous vehicle, manage process in industry 4.0, pilot a city to reduce pollution or monitor elderly people. There is a vast area of applications.

Nevertheless, IoT is a big technical and business challenge, which implies an entire network protocol redesign to integrate constrained objects and limited radio connectivity. Security must be revisited to protect vital processes managed by IoT. Energy consumption must be taken into account to guaranty several years autonomy on batteries. Protocols must be also reshaped to reduce their footprint and therefore equipment cost. Last but not least, IoT must find its place in the value chain and the integration with current processes must be carefully defined.

All theses challenges are currently discussed by the industry. As a major actor in standardization, in security with the cyber security chair and a pioneer in Fab Labs, IMT Atlantique covers all the main skills to enlighten the IoT revolution.

**Course aims**

The MSc program is aimed at future experts for the design and engineering of networks with a wide field of applications and a focus on IoT.

The class requires a good level in programming in different languages (C++, Python, Javascript) to design IoT devices and connect them to specifically designed networks (Sigfox, LoRAWAN, 5G ...). This helps to understand the constrained nature to IoT devices. This course allows also to understand how measurements can be transformed into valuable information than can be exploited by applications or cloud computing.

This master program also offers a gateway to PhD studies.

**Competencies acquired**

Thanks to IMT Atlantique’s expertise in postgraduate education and research, high-level competencies are acquired not only in technical/scientific fields but also in team working, written and oral communication, innovation and project management.

Last but not least, French language is also one of the competencies acquired, beneficial for working in France and other French-speaking countries or for French companies abroad.

**Academic in charge**

Dr. Laurent Toutain

**Testimonial**