



# IoTalentum Recruitment Process: Guide for Applicants



Innovative Training Networks (ITN)  
Marie Skłodowska-Curie Action  
H2020-MSCA-ITN-2020-953442

November 2020



IoTalentum is funded by the European Union Horizon 2020 research and innovation program within the framework of Marie Skłodowska-Curie Actions ITN-ETN with grant number 953442

## History of Changes

Date	Version	Author(s)	Comments
05/11/2020	1.0	Ramón J. Durán Barroso, Ignacio de Miguel, Joana Rubio, María Moncada	First version

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## 1 Offer Description

We are pleased to announce the opening of **15 Early Stage Researchers (ESRs) positions** to carry out **PhD thesis** within the **IoTalentum** project ([www.iotalentum.eu](http://www.iotalentum.eu)). IoTalentum is a European Training Network (ETN) funded by the European Commission under the Horizon 2020 Marie Skłodowska-Curie Action (MSCA). The MSCA ITN programme offers a **highly competitive and attractive salary and working conditions**.

The overarching objective of IoTalentum is **to provide high-level training in the field of next generation IoT** (Internet of Things) to a new generation of ESRs.

**The global research objective of IoTalentum is to develop the next generation of IoT** producing coordinated advantages in the area of infrastructures and cybersecurity and use it for the development of any application of next generation of IoT, and, in particular, those of smart grids. That global research objective is divided into three subobjectives:

- To develop an integral, autonomous and flexible control (assisted by artificial intelligence techniques) for a heterogeneous infrastructure for next generation of IoT based on 5G with an optical backhaul and equipped with the distributed computing and storage resources of the Multi-access Edge Computing (MEC) paradigm.
- To propose new cybersecurity solutions to keep the integrity of the highly-distributed infrastructure of IoTalentum by acting on different layers.
- To develop smart grids using the infrastructure and the services of the next generation of IoT. To test the breakthroughs on infrastructure and cybersecurity in the smart grids sector. The global and interdisciplinary approach of IoTalentum ensures that their outcomes can be used by other sectors.

IoTalentum establishes a well-balanced ITN of **ten beneficiaries** (six universities and four companies) and **four industrial partner organizations** from eight countries.

IoTalentum will train the recruited ESRs through an **outstanding training program** that includes coordinated research in different IoT fields. All ESRs will be enrolled in PhD programmes (applicants have to fulfil entry conditions of those programs). Moreover, **all ESRs will enjoy 10 months secondment** in the workplace of other consortium partners (ensuring that each ESR stays at least **eight months at industry**). Moreover, IoTalentum also offers a **continuous educational backbone** over the whole duration of the project.

Applications are invited from suitably qualified candidates **for full-time fixed-term positions (36 months)** as an Early Stage Researcher (ESR). 15 Early Stage Researchers (ESR/PhD) positions are available in highly reputed organisations, which include, Universidad de Valladolid (UVA), Technische Universiteit Eindhoven (TU/e), Alborg Universitet (AAU), Universidad de Salamanca (USAL), Instituto Superior de Engenharia do Porto (ISEP), Wind Tre SPA (WIND), Telefónica I+D (TID), Aarhus University (AU), Cryptera AS (CRYPTERA) and PH Energia LDA (PH ENERGIA, Simples Energia).

Applicants must follow the application procedure of each ESR positions (described in each particular call). For any question about a particular position, e-mail the Main Supervisor of that position. On the other hand, refer to "Additional Info" for application requirements. Incomplete and late submission shall not be considered.

**Any question can be sent to IoTalentum Project Management Team: [pmt@iotalentum.eu](mailto:pmt@iotalentum.eu)**

## 2 Available ESR Positions

List of available ESR positions with recruiting institution, main supervisor and e-mail:

- ESR 1: Full virtualization of 5G RAN towards white box open infrastructures. Recruiting Institution: [Technische Universiteit Eindhoven \(TU/e\)](#) – Netherlands. Main supervisor: Prof. Idelfonso Tafur Monroy. e-mail: [i.tafur.monroy@tue.nl](mailto:i.tafur.monroy@tue.nl) and [e.a.witteveen@tue.nl](mailto:e.a.witteveen@tue.nl)
- ESR 2: Improving the flexibility of 5G heterogeneous networks by slicing. Recruiting Institution: [Technische Universiteit Eindhoven \(TU/e\)](#) – Netherlands. Main supervisor: Prof. Idelfonso Tafur Monroy. e-mail: [i.tafur.monroy@tue.nl](mailto:i.tafur.monroy@tue.nl) and [e.a.witteveen@tue.nl](mailto:e.a.witteveen@tue.nl)
- ESR 3: AI-based control method for the optical backhaul of IoTalentum. Recruiting Institution: [Universidad de Valladolid \(UVA\)](#) – Spain. Main supervisor: Dr. Ramón J. Durán Barroso. e-mail: [rduran@tel.uva.es](mailto:rduran@tel.uva.es) and [ignacio.miguel@tel.uva.es](mailto:ignacio.miguel@tel.uva.es)
- ESR 4: Fast instantiation of VNFs in a real 5G deployment. Recruiting Institution: [WINDTRE SPA](#) – Italy. Main supervisor: Maria Rita Spada. email: [mariarita.spada@windtre.it](mailto:mariarita.spada@windtre.it)
- ESR 5: SDN for network virtualization in IoTalentum infrastructure. Recruiting Institution: [Universidad de Valladolid \(UVA\)](#) – Spain. Main supervisor: Dr. Ramón J. Durán Barroso. e-mail: [rduran@tel.uva.es](mailto:rduran@tel.uva.es) and [ignacio.miguel@tel.uva.es](mailto:ignacio.miguel@tel.uva.es)
- ESR 6: Resilient self-Learning software-defined 5G-ready transport network. Recruiting Institution: [Telefónica Investigación y Desarrollo S.A \(TID\)](#) – Spain. Main supervisor: Dr. Oscar González de Dios. email: [oscar.gonzalezdedios@telefonica.com](mailto:oscar.gonzalezdedios@telefonica.com)
- ESR 7: Cognitive orchestrator of MEC and network resources. Recruiting Institution: [Universidad de Valladolid \(UVA\)](#) – Spain. Main supervisor: Dr. Ramón J. Durán Barroso. e-mail: [rduran@tel.uva.es](mailto:rduran@tel.uva.es) and [ignacio.miguel@tel.uva.es](mailto:ignacio.miguel@tel.uva.es)
- ESR 8: Privacy-by-design compression, sharing, and processing of IoT data in IoTalentum architecture. Recruiting Institution: [Aarhus University \(AU\)](#) – Denmark. Main supervisor: Dr. Daniel Enrique Lucani Rötter, email: [daniel.lucani@eng.au.dk](mailto:daniel.lucani@eng.au.dk) or Dr. Qi Zhang, email: [qz@eng.au.dk](mailto:qz@eng.au.dk)
- ESR 9: Cybersecurity for IoT at hardware level in IoTalentum infrastructure. Recruiting Institution: [Cryptera AS \(Cryptera\)](#) – Denmark. Main supervisor: Bo Rosenkilde, email: [bor@cryptera.com](mailto:bor@cryptera.com)
- ESR 10: Quantum secured data communication for IoTalentum control plane. Recruiting Institution: [Technische Universiteit Eindhoven \(TU/e\)](#) – Netherlands. Main supervisor: Prof. Idelfonso Tafur Monroy. e-mail: [i.tafur.monroy@tue.nl](mailto:i.tafur.monroy@tue.nl) and [e.a.witteveen@tue.nl](mailto:e.a.witteveen@tue.nl)
- ES 11: Security in thing-to-cloud IoTalentum architectures for IoT ecosystems. Recruiting Institution: [Aalborg Universitet \(AAU\)](#) – Denmark. Main supervisor: Prof. Knud Erik SKOUBY, email: [skouby@cmi.aau.dk](mailto:skouby@cmi.aau.dk) and [sok@cmi.aau.dk](mailto:sok@cmi.aau.dk)
- ES 12: Blockchain applications in the IoTalentum infrastructure. Recruitment Institution: [Universidad de Salamanca \(USAL\)](#) – Spain. Main supervisor: Prof. Juan Manuel Corchado. email: [corchado@usal.es](mailto:corchado@usal.es) and [martaplaza@usal.es](mailto:martaplaza@usal.es)
- ESR-13: Smart Grids: IoT for smart homes in the context of smart grids. Recruitment Institution: [Instituto Superior de Engenharia do Porto \(ISEP\)](#) – Portugal. Main supervisor: Prof. Zita Vale. email: [zav@isep.ipp.pt](mailto:zav@isep.ipp.pt)

- ESR-14: Smart Grids: Secured management of energy resources in smart neighbourhoods by mean of IoT devices. Recruitment Institution: [Universidad de Salamanca \(USAL\)](#) – Spain. Main supervisor: Prof. Juan Manuel Corchado. email: [corchado@usal.es](mailto:corchado@usal.es) and [martaplaza@usal.es](mailto:martaplaza@usal.es)
- ESR-15: Smart Grids: Designing new aggregation models for Smart Grids. Recruitment Institution: [PH Energia LDA \(PH Energia – Simples Energia\)](#) – Portugal. Main supervisor: Aleksandra Krivoglazova, email: [aleksandra.krivoglazova@energiasimples.pt](mailto:aleksandra.krivoglazova@energiasimples.pt) and [manuel.azevedo@energiasimples.pt](mailto:manuel.azevedo@energiasimples.pt)

### 3 Who Can Apply (Eligibility Criteria)?

The applicants must, **at the date of the call deadline**, comply with the following eligibility criteria:

- **To hold a MSc degree (or equivalent)** in Engineering, Mathematics, Physics or a related field.
- **To have not been awarded a doctoral degree.**
- At the time of recruitment by the host organization, **you should be in the first four years (full-time equivalent research experience<sup>1</sup>) of your research career.**
- You must comply with the European Commission's **mobility rule**, meaning at the time of recruitment by the host organization, they **must not have resided or carried out their main activity** (work, studies, etc.) **in the country of the host organization for more than 12 months in the 3 years immediately before the starting employment contract date.** Compulsory national service and/or short stays such as holidays are not taken into account. The positions are open to all nationalities.
- To be **proficient in English** language.

For all recruitments, the eligibility of the researcher will be determined at the **date of the recruitment<sup>2</sup>** in the action.

### 4 Why Apply?

IoTalentum is financially supported by the European Commission under the Marie Skłodowska-Curie Actions (MSCA). The benefits of being an ESR of IoTalentum include:

- You will work in a **stimulating, creative and internationally learning environment** through an unique **interdisciplinary research training** program.
- You will be enrolled in **top-quality PhD programs.**
- IoTalentum training program offers **unique, leading edge infrastructure and expertise**, which is not available at a single place.
- You will be **advised by excellent group leaders** – they are all outstanding in their research and trainings.

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<sup>1</sup>Full-time equivalent research experience is measured from the date when you obtained the degree entitling you to embark on a doctorate (either in the country in which the degree was obtained or in the country in which you are recruited or seconded), even if a doctorate was never started or envisaged. Part-time research experience will be counted pro-rata.

<sup>2</sup> **Date of recruitment** means the first day of the employment of the researcher for the purposes of the action

- The IoTalentum consortium was generated with the firm purpose of training ESRs so that you can **enter the labour market** both in academic and non-academic environments.
- You will be **exposed to very different and complementary research environment** in both academia and industrial participating organisations.
- **You will spend 30% of their recruitment time in different institutions** of the network. While ESRs recruited at a university will enjoy secondments of at least **eight months at industrial beneficiary** or partner organization, those recruited by industrial beneficiaries will take part in secondments in academic beneficiaries to participate in PhD training as well as working with other PhD students.
- **Strong involvement of industrial partners** in training activities.
- You will have the opportunity to acquire outstanding **complementary training in transferable skills** (e.g. presentation techniques, networking, publishing, and outreach activities) as well as **leadership, innovation and entrepreneurial skills**.
- You will have the opportunity to **acquire lifetime skills** and optimum opportunities to build and extend your international network available to you throughout your professional career.

## 5 Work Conditions

The MSCA ITN programme offers a **highly competitive and attractive salary and working conditions**. The successful candidates will receive a salary in accordance with the MSCA regulations for ESRs.

Selected candidates will **have a fulltime employment contract for the duration of 3 years** (36 months).

**The ESR will be contracted according the national rules of the country with full social security benefits.**

Selected candidates will receive a salary in accordance with the MSCA regulations for ESRs, constituted by a generous living allowance, a mobility allowance and a family allowance (depending on family situation) as shown in Table 5.1 (note that the following figures are the funding received from EC but it also include taxes, social security, health insurance,... and that depends on country regulations. Therefore, check the gross salary with the recruitment beneficiary):

- **Living Allowance**, fixed amount (gross) that depends on the country of the recruitment beneficiary. To be paid as salary in the currency of the host country to all ESRs recruited.
- **Mobility allowance**, fixed amount of 600€/month to be paid to all ESRs recruited.
- **Family allowance**<sup>3</sup> of 500€/month, depending on family situation.

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<sup>3</sup> 'Family' means persons linked to the researcher by marriage (or a relationship with equivalent status to a marriage recognised by the legislation of the country where this relationship was formalised) or dependent children who are actually being maintained by the researcher.

Country	Living Allowance (per month)	Mobility Allowance (per month)	Family Allowance (per month)
Spain	3,119.58 €	600.00 €	500.00 €
Netherlands	3,528.33 €	600.00 €	500.00 €
Denmark	4,414.50 €	600.00 €	500.00 €
Portugal	2,753.34 €	600.00 €	500.00 €
Italy	3,413.88 €	600.00 €	500.00 €

Table 5.1: Allowance per month (H2020 Work Programme 2018-2020) for countries involved in IoTalentum

**All ESRs will be duly informed of their rights and obligations as MSCA researchers, and will receive the IoTalentum Grant Agreement (in particular the Description of Action).**

## 6 Recruitment Procedure

IoTalentum established a coordinated recruitment process coordinated by the Recruitment Board (same as Training Board). The process is not centralized but each beneficiary has its own internal procedure. However, there are common aspect in the process that will be followed by all the beneficiaries.

All ESR positions are published in Euraxess in a common call () and IoTalentum webpage (<http://www.iotalentum.eu/vacancies>). Then, each beneficiary has also published its particular positions in Euraxess. You can access each individual position info from both the Euraxess common call or IoTalentum webpage.

**Each applicant can submit applications for as many positions as desired.** For the application for different positions in a beneficiary, one application is enough.

**All application must be done using IoTalentum application form in English.** In that application, each applicants must show her/his merits. **Merits will be assessed if there is a documentary evidence of them** (when it is possible).

**The submission of both the application form and the evidences of merits must be submitted following the procedure indicated for each beneficiary.**

**The applications do not selected in a recruitment process will be shared between IoTalentum beneficiary and other beneficiary can contact the applicant for offering her/him a position.**

Applicants can contact main supervisor at any moment for solving any doubt. Moreover, they can also **contact IoTalentum Project Management Team for answer to any question ([pmt@iotalentum.eu](mailto:pmt@iotalentum.eu)).**

**Each vacancies has its own deadline, check the position call to discover that deadline.**

All vacancies are internationally announced in:

- European Commission's EURAXESS Jobs and Funding portal
- IoTalentum Webpage



## 7 Selection and Evaluation Criteria

The recruitment process will be open, transparent, merit-based, efficient, supportive of equal opportunities (i.e. unbiased by gender), nationality, etc., internationally comparable, and in accordance with the European Charter for Researchers and Code of Conduct for the Recruitment of Researchers. This guaranteed worldwide access and a fair and competitive selection of fellows by the host institutions in accordance to gender equality and minority rights.

Thus, official acceptance e-mails/letters will be sent by the **supervisors of each position to the selected candidates**, on behalf of the whole Evaluation Committee. In the same way, rejection e-mails will be sent personally to all ineligible and not selected candidates for each ESR position.

### 7.1 Eligibility Check

All applications will be checked according to the eligibility criteria shown in Section 3.

### 7.2 Selection Procedure

The evaluation of the applications will be carry out by the **recruitment committee (RC)** for the evaluated position. The recruitment committee which will be composed of three members: two members of the recruitment beneficiary and other from different beneficiary/partner organization that participates in the secondments of that ESR. Recruitment committee will ensure the participation of both academy and industrial sectors. Table 7.1: Recruitment committees composition shows the beneficiary of the chair in each recruitment committee.

	Recruiting beneficiary	1 <sup>st</sup> chair in RC	2 <sup>nd</sup> chair in the RC	3 <sup>rd</sup> chair in the RC
RB (ESR1)	TU/e	TU/e	TU/e	Mellanox
RB (ESR2)	TU/e	TU/e	TU/e	Mellanox
RB (ESR3)	UVa	UVa	UVa	TID
RB (ESR4)	WIND	WIND	WIND	UVa
RB (ESR5)	UVa	UVa	UVa	WIND
RB (ESR6)	TID	TID	TID	UVa
RB (ESR7)	UVa	UVa	UVa	CHOCOLATE CLOUD
RB (ESR8)	AU	AU	AU	CHOCOLATE CLOUD
RB (ESR9)	CRYPTERA	CRYPTERA	CRYPTERA	AAU
RB (ESR10)	TU/e	TU/e	TU/e	CRYPTERA
RB (ESR11)	AAU	AAU	AAU	CRYPTERA
RB (ESR12)	USAL	USAL	USAL	DIGITEL TS

RB (ESR13)	ISEP	ISEP	ISEP	USAL
RB (ESR14)	USAL	USAL	USAL	DISCOVERGY
RB (ESR15)	PH ENERGIA	PH ENERGIA	PH ENERGIA	USAL

Table 7.1: Recruitment committees composition

Eligible candidates will be ranked by the recruitment committee according to the following Recruitment Criteria (Table 7.2):

Criteria	Weight	Explanation
Academic Formation	40 %	Evaluated from applicant CV (included in application form) and certificates/evidence of merits. The participation of the applicant in European mobility programs (e.g. ERASMUS+) will be positively considered.
Professional and/or research experience	30 %	Evaluated from applicant CV (included in application form), certificates/evidence of merits and (sometimes) face-to-face interview.
Languages	10 %	Evaluated from applicant CV (included in application form), certificates/evidence of merits and (sometimes) face-to-face interview.
Letter of motivation	10 %	Each applicant has to submit a letter of motivation showing the interest in the project and indicating her/his research interest. The letter of motivation is included in the application form.
References	10 %	Each applicant can indicate two references and submit a letter of support from them. Selection committees can contact references.
<b>TOTAL</b>	<b>100 %</b>	

Table 7.2: Recruitment criteria