

CALL FOR PROPOSALS FOR 12 EARLY-STAGE RESEARCHERS WITHIN MARIE SKŁODOWSKA-CURIE COFUND PROJECT “SDGine for Healthy People and Cities”

SDGine is a 60-month COFUND project partially funded by the European Union under a Marie Skłodowska-Curie (MSCA) grant agreement. The project, with an overall budget of 1,952,640 € co-financed 50% by the European Union (976,320 €) and financial partners (976,320 €), runs from 1 October 2020 to 31 September 2025. The partner organizations that have joined this initiative are Iberdrola, Repsol, Telefónica I+D, Ecoembes, Optiva Media, and Fundación Tatiana Pérez de Guzmán el Bueno.

SDGine project will finance 36-month contracts for twelve (12) Early Stage Researchers (ESRs) who will carry out PhD theses that will be awarded "International" and "Industrial" mentions. During the contract period, ESRs will spend part of their time in the partner organizations to ensure the Industrial Mention. They will also complete an international stay (minimum length three months) outside Spain, leading to the International Mention.

Candidates must necessarily comply with the following mobility rule: **"Early-Stage Researchers (ESRs) of any nationality and age, who have not resided in or carried out their main activity in Spain for more than 12 months in the 3 years immediately prior to the call deadline"**.

The selection process for the twelve (12) ESRs is set out in the Grant Agreement No 945139 signed with the European Commission, and consists of the following steps with the estimated timeline:

1. Call launched: **21 June**.
2. Call deadline: **21 August**
Candidates submit their applications through the Applicants' Portal of the COFUND SDGine website (<https://sdgine.eu/>). Applicants can choose among 22 PhD Thesis Projects. Twelve (12) candidates will be awarded contracts.
3. The evaluation and selection of the candidates is coordinated by UPM. The selection process comprises the following phases:
 - i. Eligibility of candidates, verification of administrative requirements (qualifications; English level; compliment with mobility rule).
 - ii. Notification to candidates: **24 August**. Redress procedure (10 days)
 - iii. Evaluation of the eligible candidates by Selection Committees external to UPM. All members of the Selection Committees are academic and industrial experts.
 - iv. Candidates selected in the Selection Committees evaluation attend personal interviews: **25 October to 12 November**. Interviews are carried out by the PhD academic and industrial supervisors.
 - v. Notification to candidates of provisional results: **19 November**. Redress procedure (10 days).
 - vi. Lists of selected and reserve candidates are published in the SDGine webpage (<https://sdgine.eu/>). (**December 6**). Candidates are notified.
 - vii. Incorporation of ESRs. Between **13 December** and **13 March**.

viii.

Purpose and number of positions

The purpose of this call for proposals is to regulate the international call, the selection and contract terms of 12 Early-Stage Researchers (ESRs) within the COFUND SDGine project.

Conditions

The contracts will follow the model “Contrato Predoctoral” regulated under Spanish law by the “Ley 14/2011, de 1 de junio de la Ciencia, la Tecnología y la Innovación (LCTI)” and the “RD 103/2019”.

The gross salary for researchers with family responsibilities (i.e. spouse, children) will be **32.590,82€** per year. The gross salary for researchers with no family responsibilities will be **27.810,71€**, per year.

Researchers will receive a yearly Research Budget that will cover any cost that may arise from his/her research (equipment, conference attendance, open access fees, seminar registrations etc).

Employment conditions will be aligned with the “*Charter & Code*” for researchers, Spanish and UPM regulations.

Eligibility criteria

All applicants must comply with the following eligibility criteria:

- **Research experience - Early-Stage Researcher (ESR):** on the date of recruitment, candidates must be in the first four years (Full-Time Equivalent Research Experience) of their research careers and not yet have been awarded a doctoral degree.
- **Mobility criterion (MSCA Mobility rule):** Applicants may not have resided or carried out their main activity in Spain for more than 12 months in the 3 years prior to the call deadline.
- **Degree:** candidates must have completed the studies that lead to an official university degree from any country of the European Higher Education Area (EHEA) awarding 300 ECTS, of which, at least 60 ECTS must correspond to master level. Or they must have completed a degree in a University not adapted to the EHEA that gives access to doctoral studies.
- **Language:** candidates must have a demonstrable level of English (B2 or higher).

Applications

The central portal for information is the SDGine website (<https://sdgine.eu/>) where the Applicants’ Portal can be accessed. The SDGine web provides all the necessary information and documents for candidates. **The electronic submission will be done through the Applicants’ Portal** (<https://sdgine.eu/applicants-portal/>)

The application for a specific research line, as described in Annex I of this call, must be accompanied by the following documents, in line with the specific instructions of the “Guide for Applicants”:

- **Application form** (filled-in online), requiring the candidate to provide overview information and evidence: name and surname, personal data, contact details, degree(s) obtained, transnational mobility rule compliance, and English skills.
- **Curriculum Vitae** (3 DIN-A4 pages maximum): personal, academic, professional information, and scientific production, if any.
- **Expression of interest** (1 DIN-A4 page maximum): candidates must express their interest for one of the proposed PhD topics, explaining their choice.
- **Declaration of absence of conflict of interest.**
- **Supporting academic documents:** scanned documents supporting the application required by the call, such as university degrees (BSc, MSc), academic stays, certificates (languages, courses, and seminars), and research production (if any).
- **Supporting personal documents:** scanned documents such as Spanish National Identity Card (DNI) or passport, children's birth certificates, certificate of marriage, disability certificate, documents supporting the compliance of the mobility rule (city registrations, employment contracts, and/or university fees) etc.

All the documents and forms must be submitted in English. All the supporting documents will be uploaded in PDF format.

The deadline for applications is the 21st of August 2021 at 14.00 CET Time (Brussels time). Support service will be available during the application period via email: sdgine@upm.es

Time for allegations is established following the Spanish Regulations of Public Calls. Applicants will have 10 working days after the date of notification to query the results and rectify their application (redress procedure). After the abovementioned period, the applicants will receive definitive notification by e-mail indicating whether they have entered the selection process or not and the definitive list of eligible applicants. Details of further procedures and deadlines will be notified to eligible applicants and published online.

Selection process

The selection process comprises three stages. After each of them, provisional ranked lists of candidates for each PhD thesis topic will be available online, and candidates will be notified by e-mail. Applicants will have 10 working days for allegations (redress procedure) before the definitive ranked lists of candidates for each PhD thesis topic is published.

REMOTE (ONLINE) EVALUATION OF ELIGIBLE CANDIDATES BY THE SELECTION COMMITTEES – EVALUATION 1

In order to ensure the highest levels of transparency, the remote evaluation will be carried out by Madri+d Foundation. UPM will at no time access to the evaluators' database, thus guaranteeing the anonymity of the process. Upon completion of the evaluation of candidatures, all the documents generated in the process (ranked lists, Evaluation Summary Reports...) will be transferred to UPM.

Each application will be evaluated independently and individually by the members of the Selection Committee in line with the "Evaluation criteria" described in the "Guide for Applicants".

INTERVIEW OF ELIGIBLE CANDIDATES BY PhD SUPERVISOR, PhD CO-SUPERVISOR, AND INDUSTRY STAFF – EVALUATION 2

Candidates who received a score above 85% in Evaluation 1 will be invited to an interview organized and conducted by the PhD supervisor, PhD co-supervisor, and industry staff, according to the evaluation criteria described in the “Guide for Applicants”. All interviews will be internet-based using video calls and will be held in English.

RANKED LIST WITH CANDIDATES BY THE UPM RESEARCH COMMISSION - EVALUATION 3

The UPM Research Commission will calculate and revise the average scores (Evaluation 3) of the candidates, considering both remote evaluation and interview (50/50, %) equally weighted:

$$\text{Evaluation 3} = (\text{Evaluation 1} + \text{Evaluation 2}) / 2$$

The **12 selected ESRs** will be the ones with the best scores for each pair of research lines (for example, 1A and 1B).

Resolution

Funded positions will be granted in a Resolution of the Rector, which will finalize the administrative process of evaluation and selection of candidates. Should one of the selected applicants decline a position, the next candidate with the highest score will be invited.

The selected ESRs will be notified individually, they will sign the contract and join UPM no later than three months after the notification. Exceptions can be made with due justification, provided they are authorized by the Vice-Rector for Research, Innovation and Doctoral Studies.

Appeals

The interested parties may appeal against the administrative acts deriving from this call for applications in the instances contemplated in Law 39/2015, of 1 October, on the Common Administrative Procedure for Public Administrations, insofar as the procedures to be followed in the Institutional Public Sector are not regulated by the competent body. Pursuant to Article 117 of the aforementioned law, the lodging of any appeal will not suspend the execution of the contested act.

The time limit for submitting allegations is always five (5) working days from the date of publication.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 945139

ANNEX I: PARTNER ORGANIZATIONS AND RESEARCH LINES

| PARTNER ORGANIZATION | RESEARCH LINE | DESCRIPTION |
|----------------------|---------------|---|
| TELEFÓNICA I+D | 1A | Design of novel network functions, architectures and protocols based on programmable data planes |
| | 1B | Intent based programmable data planes for disaggregated architectures |
| REPSOL | 2A | Deep Learning research and development for the extraction, analysis and synthesis of latent information applied to the development to soft-sensors, soft-analyzer, signal disaggregation and prediction in general |
| | 2B | Reinforcement Learning research and development for the control, optimization and automation of industrial assets, plants, robots and decision making for improving operations |
| | 3A | Simulation model for the CO ₂ conversion process in an e-fuels production scheme |
| | 4A | Develop an eco-driving solution that recommends the optimal speed so that vehicles can pass through successive traffic lights at the appropriate instants to save time and energy. One of the main problems to solve is the accurate prediction, in real time, of the future state of dynamically managed traffic lights under different traffic conditions and uncertainty. The solution should be oriented to a practical implementation where technologies such as V2I or V2V are not fully deployed |
| | 4B | Develop an eco-routing solution that recommends the most optimal route to reach a point, taking into account total distance, time and CO ₂ emissions. The route should also consider refueling/recharging stops in a way that possible queues in service stations are minimized |
| IBERDROLA | 5A | Electric power demand. Applicability of new solutions in the decarbonization of the industrial energy model |
| | 6A | Heat electrification. Electrification potential of domestic thermal installations on a national level. |
| | 6B | Heat electrification. Electrification potential of the public administration by means of a combination of electrical technologies (heat pump, solar, etc.) |
| | 7A | Digitalization. Metrics for measuring the return of digital investments in the electric power sector |
| | 7B | Digitalization. Potential for application of digital technologies in the value chain of the electrical industry and its regulatory framework in Europe |
| | 8A | Metrics and SDGs. SDG ambition needed for the next 10 years to achieve the targets 7 and 13 (they have been selected as priorities for Iberdrola). We would like to study the interconnection among SDG 7.1, 7.2, and 7.3 with the SDG 13 and its social impact |

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| | 8B | Metrics and SDGs. SDG impact measurement: new tools to be developed to assess SDGs impact (social and environmental). We would like to study the balance among the first activity impact (negative by definition) and the positive impact we create |
| ECOEMBES | 9A | Chemical recycling of complex packaging solutions |
| | 9B | Food contact grade on recycled non-PET packaging materials |
| FUNDACIÓN TATIANA PÉREZ DE GUZMÁN EL BUENO | 10A | Development of a model for the university-city collaboration towards sustainable transformation. Application to the city of Madrid |
| | 10B | Universities as test beds and living labs for social and technical innovations for urban transformation towards sustainability. Application to the city of Madrid |
| | 11A | The natural border area of the urban area: Valuation of the ecosystem services of the natural spaces bordering the urban area |
| | 11B | The natural space bordering the urban area: Observation base to know the functioning of natural ecosystems |
| OPTIVA MEDIA | 12A | AI-based conceptual content modelling and advanced user profiling for an emotionally safe TV experience |
| | 12B | Contribution to mental wellbeing at home via smart and hyperpersonalised content-based recommendations |



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