

## Call for Bids for:



## Third edition

### Article 1 - Subject

NEXT ENERGY 3 is an initiative promoted by Terna S.p.A. and the Cariplo Foundation and is organised by Cariplo Factory S.r.l., a key company of the Cariplo Foundation, and the Terna Campus. The aim of the initiative is to support and promote talented individuals and encourage the growth of teams with innovative projects based around the theme of **“Interaction between electricity infrastructure and the region”** and environmental sustainability, aimed at optimising Terna's assets and their sustainable integration and interaction with the region and, more generally, developing solutions and technologies designed to promote innovation in the energy sector.

The NEXT ENERGY 3 Call for Bids is divided into three distinct and separate parts:

1. **Call for Talents**, aimed at new graduates in the fields of Engineering, Mathematics, Physics, Statistics and Economics, who will join Work Groups focused on the development and management of innovative projects.
2. **Call for Ideas**, aimed at established teams and/or start-ups proposing innovative projects, which will be supported through an entrepreneurial empowerment programme.
3. **Call for Growth**, aimed at established and post-seed start-ups able to offer innovative solutions to suit Terna's specific fields of activity.

### Article 2 - Areas of interest

**The world of energy is undergoing a period of intense change. In response to this, Terna is aiming to facilitate the transition to a more efficient, safe and sustainable system.**

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This phase of energy transition brings with it new challenges, such as managing the decarbonisation process and the need to guarantee a secure supply and affordable energy service for businesses and families.

Sustainability is the key element in these new challenges and energy system scenarios, and consequently represents the ideal basis for the third edition of NEXT ENERGY.

In light of this, the areas of interest for the three Calls for Bids can be described as, but are not limited to, the following.

### Call for Talents

- Innovation and Energy Solutions
- Innovation - Factory Transmission
- Innovation - Factory System Operator

### Call for Ideas

- Green Technologies
- E-mobility
- Energy storage
- Sensors and the Internet of Things
- Smart solutions for asset maintenance
- Electricity system solutions/technologies (electricity production, transmission and distribution, infrastructure maintenance)
- Energy harvesting
- Meters, sensors and tools to measure and analyse pollution (CO<sub>2</sub>, noise, electromagnetic fields, etc.)
- Monitoring and predictive analysis of vegetation growth

### Call for Growth

- **Power System Modernisation**
  - Solutions and devices aimed at further safeguarding the environment, environmentally friendly technologies, innovative energy generation solutions

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based on renewable resources (energy harvesting) and their integration into the Italian electricity system.

- Innovative methods to increase stakeholder engagement and encourage public approval of electricity system development works.
  - Optimum grid design, smart asset management models and methods, and predictive infrastructure maintenance.
  - Hardware and software solutions which can automatically process geo-positioned images and data taken from helicopter surveys, visual on-the-ground inspections and meter readings in order to identify possible critical areas. Survey images are taken using LIDAR equipment and are produced as visual and thermal images.
  - Monitoring methods to confront short circuit risk related to the presence of branches in close proximity to electrical cables.
  - Sensors for online monitoring, such as small, reliable and low energy sensors. The solutions must be aimed at monitoring the electrical and environmental parameters of equipment and components used in electrical substations, electricity cables and high-voltage cables, and be suitable for use in the Italian National Transmission Grid.
- **Security and System Stability**
    - Solutions and technologies aimed at improving the resilience and secure management of the transmission grid.
    - Hardware and software solutions able to support the acquisition and management of the increasing volumes of data that Terna manages on a daily basis, with particular reference to adapting to new resources, mainly distributed throughout the country and connected to the distribution grids, and the provision of flexible services. Solutions must be aimed at real-time data management, with a view to providing information to support the monitoring and management of the Italian National Transmission Grid, both in terms of data analysis during the planning phase and the settlements usually performed by Terna.
  - **Power System Flexibility**
    - Development and use of algorithms and advanced weather forecasting tools.
    - Solutions and technologies for the interaction/coordination of the electricity grid with other networks (gas, EV charging stations, etc.).

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- **Digitalisation, Data Management and Analytics**

- Development of models, systems, technologies, tools and digital platforms to support processes used by all company departments on a daily basis (apart from core business activities), able to enable Terna to implement new tools and services.
- Hardware and software solutions for assessing the status of Terna's assets (pylons, equipment and structural works), and to produce photorealistic and geo-positioned polygon mesh models which can be used with CAD/CAM systems, the classification of elements, components and systems and the identification of interferences, faults and/or anomalies, improving activities in the field thanks to back-office support and, therefore, facilitating maintenance and inspection activities.
- Hardware and software solutions to be integrated with the tools used to support Terna's Security Operations Centre (SOC) and able to provide information of Cyber Threat Intelligence relevant to Terna, based on sources and data from the Deep/Dark Web. These solutions must be based on Big Data and Analytics and must provide technical evidence (e.g. data, mechanisms, modes, Indicator of Compromise - IoC, etc.) with reference to emerging or existing threats in the context of Terna's Cyber Security.
- Hardware and software solutions for supporting the acquisition and management of the increasing volumes of data that Terna manages on a daily basis, with particular reference to innovative data storage, big data management and data analytics technologies. The solutions must be capable of supporting both the management of data in real time and the analysis of annual data.

### Article 3 - Requirements for the call for bids and application deadline

The **Call for Talents** is aimed at young, new graduates who, at the time of application:

- Have earned a degree in Engineering, Mathematics, Physics, Statistics or Economics in the last 12 months.
- Have received a score of no less than 110/110 or 100/100.
- Are under 28 years old.

The **Call for Ideas** is aimed at existing teams of innovators and/or start-ups who, at the time of application:

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- Are developing projects based on initiatives and/or technologies with a TRL (Technology Readiness Level) of 2 to 5, as defined in the Annex of Horizon 2020 - Work Programme 2014-2015 produced by the European Commission<sup>1</sup>.
- Are able to present a scientific publication, a comprehensive technical description or another kind of presentation on their innovative idea.
- Include at least one member who is under 35 years old.

The **Call for Growth** is aimed at start-ups who, at the time of application:

- have already developed a client portfolio and/or have successfully tested at least one prototype and/or have a marketable product/service.
- Work mainly in the EU.
- Are developing projects based on initiatives and/or technologies with a TRL level of 5 to 8, as defined in the Annex of Horizon 2020 - Work Programme 2014-2015 produced by the European Commission.
- Are able to present a scientific publication, a comprehensive technical description or another kind of presentation on their technological solution.

The final deadline for applications to the Call for Talent, Call for Ideas and Call for Growth, through the completion of the respective Application Form available on the NEXT ENERGY website (<https://nextenergy.cariplofactory.it/>), is **23:59 on 23/11/2018**.

Cariplo Factory S.r.l. reserves the right, should it deem necessary, to change the application methods and/or to extend the application deadline, publishing an announcement to this effect on the NEXT ENERGY website.

Please note:

- Participation is free and does not represent any binding agreement or commitment of any kind beyond the conditions of the Call for Bids.
- All documents submitted as part of the application may be written in Italian or English.

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<sup>1</sup> [http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014\\_2015/annexes/h2020-wp1415-annex-g-trl\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014_2015/annexes/h2020-wp1415-annex-g-trl_en.pdf)

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- By submitting their application and the relative documents, applicants declare that the information provided is accurate and that all decisions of the Selection Committee, the Panel and the Terna Committee shall be accepted unconditionally.
- Employees of Terna S.p.A., the Cariplo Foundation or their subsidiaries may not take part in the NEXT ENERGY 3 initiative.

### Article 4 - Prize

#### Call for Talents

**Ten new graduates** will be selected for a six-month internship with Terna S.p.A., which involves:

- an initial training course at the Terna Campus at Via Della Marcigliana 911 – 00138 Rome, Italy.
- On-the-job training at one of Terna's offices, as part of an innovative project management team.

The selected new graduates will be awarded a grant of € 1,500 per month, before tax and social security contributions, to cover expenses.

The new graduates who successfully complete the internship may be entered seamlessly into a **Graduate Programme**, a specialised internal course aimed at developing future careers.

#### Call for Ideas

**Up to a maximum of ten teams of innovators and/or start-ups** will be selected for a three-month incubation programme at an accelerator/incubator selected by Cariplo Factory S.r.l. according to the needs of each team and/or start-up and their location.

As per Article 5, at the Final Event the best project will be awarded a **€ 50,000 voucher** which can be spent exclusively on services provided by the Cariplo Factory S.r.l. and its chosen accelerator to develop the project's acceleration and go to market process.

The voucher is non-refundable and may not be exchanged for cash.

Terna, at its sole discretion, reserves the right to acquire, with an exclusive right of first refusal, one or more of the projects according to the provisions of Article 12.

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### Call for Growth

A maximum of five start-ups will be selected for access to the GrowITup platform managed by Cariplo Factory S.r.l. as part of a course aimed at defining potential areas for synergy between the start-up and Terna.

The course described above (**Engage**), which will run for a maximum of four months, will aim to define a pilot project and testing activities which may eventually be implemented through a specific agreement with Terna.

### Article 5 - Programme phases and deadlines

The programme will be structured as follows:

#### I. Application submission:

For all sections: until 23:59 on **23/11/2018**.

#### II. Assessment of applicants:

- a. **“Call for Talents”**: by **07/12/2018** a maximum of **120** candidates will be shortlisted for the final selection process (see below).
- b. **“Call for Ideas”**: by **21/12/2018** a maximum of 20 projects will be shortlisted for the final selection process (see below).
- c. **“Call for Growth”**: by **21/12/2018** a maximum of 10 candidates will be shortlisted for the final selection process (see below).

#### III. Final selection:

- a. **“Call for Talents”**: the **120** candidates shortlisted by the Selection Committee will be invited, according to their location, to one of the two “Selection for Talents” events (**11/12/2018 in Milan; 18/12/2018 in Rome**), during which ten new graduates will be selected for the internship.
- b. **“Call for Ideas”**: the 20 best projects will be evaluated by the Panel (according to Article 7) during the three-day “Selection for Ideas” programme (**from 22 to 24 January 2019**), after which the 10 best projects will be selected for entry to the acceleration programme.
- c. **“Call for Growth”**: the 10 best projects will be evaluated by the Terna Committee (according to Article 7) during a “Selection for Growth” (**by 16 January 2019**), which

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will select up to five start-ups to go through to the “Engage” phase, subject to the signing of the relevant confidentiality agreements to protect all those involved.

#### IV. **Operational stage:**

- a. “Call for Talents”: from **14/01/2019** to **15/07/2019**.
- b. “Call for Ideas”: from **04/02/2019** to **04/05/2019**.
- c. “Call for Growth”: from **04/02/2019** to **04/06/2019**.

#### V. **Final Event:** for the “Call for Ideas” by **31/05/2019**.

Terna S.p.A. and Cariplo Factory S.r.l. reserve the right, where deemed necessary, to change these programme phases and deadlines and, therefore, the application submission methods, and/or to extend one or more of the submission deadlines, publishing an announcement to this effect on the NEXT ENERGY website (<https://nextenergy.cariplofactory.it/>).

### Article 6 - Submission of applications

Candidates must submit their applications by completing the Application Form available on the NEXT ENERGY website (<https://nextenergy.cariplofactory.it/>).

The application involves:

#### **For the Call for Talents:**

- a. Completion of the online Application Form (personal data and fields concerning motivational aspects)
- b. CV and academic record
- c. Video presentation (max. 3 minutes)
- d. Any attachments (dissertation, project work, etc.)

#### **For the Call for Ideas:**

- a. Completion of the online Application Form, indicating the project and the members of the team (each application must provide a reference).
- b. Upload of attachments such as:
  1. CVs of team members

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2. Slide deck of the project presentation in free text format (max. 30 slides)
  3. Scientific publications or other industry publications, proceedings papers, etc.
  4. Any technical annexes, tables or other useful documents (optional, max. 10 pages)
- c. URL of a video pitch uploaded to a free platform (YouTube, Vimeo), in which the team presents and describes the project (4/7 minutes), including through the use of animation and demos. If the video is password-protected, the access code must also be provided.

### For the Call for Growth:

- a. Completion of the online Application Form, indicating the project and the members of the team (each application must provide a reference).
- b. Upload of attachments such as:
  1. CVs of management/team members
  2. Slide deck of the project/product presentation in free text format (max. 30 slides)
  3. Scientific publications or other industry publications, proceedings papers, etc.
  4. Technical annexes, any patents, product brochures already available on the market or any other relevant documentation
- c. Financial information and statements, with proof of any loans or grants already received.
- d. Current client portfolio

## Article 7 - Assessment of applicants

### Committee evaluation

With the exception of applications for the Call for Talents, which will be assessed by a panel composed solely of Terna S.p.A. personnel, applications will be examined by a Selection Committee of representatives chosen by Terna S.p.A. and Cariplo Factory S.r.l., who will make the selections for the:

- **Call for Talents:** up to a maximum of **120 new graduates** who will be invited to one of two “**Selection for Talents**” events (Milan and Rome), during which the **10** finalists will be selected for the internship.

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- **Call for Ideas:** up to a maximum of **20 teams of innovators and/or start-ups** who will be assessed by the Panel (see below).
- **Call for Growth:** up to a maximum of **10 post-seed start-ups** who will be assessed by the Terna Panel (see below).

### Panel

Applicants for the Call for Ideas chosen by the Selection Committee will be assessed by a Panel of nine representatives appointed equally by Terna, the Cariplo Foundation and Cariplo Factory S.r.l.

In particular, at the end of the **Selection for Ideas** the Panel will select up to 10 projects to be entered into the acceleration programme. At the end of the programme, the Panel will assess the results and will award the prize (see Article 4) to the best project at the Final Event (see Article 5).

### Terna Panel

For the Call for Growth only, the post-seed start-ups shortlisted by the Selection Committee will be assessed by a panel of Terna representatives who, during the **Selection for Growth**, will select up to a maximum of five start-ups to be entered into the Engage programme.

## Article 8 - Assessment criteria

### Call for Talents

- Academic career
- Motivation
- Training and/or professional experience in the fields of interest of the Call for Bids

### Call for Ideas

- Fulfilment of a need/necessity
- Innovativeness of the solution
- Technological impact
- Technical viability and economic sustainability
- Quality and competency of the team
- Scalability/reproducibility

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### Call for Growth

- Value of proposition presented by the start-up with regard to Terna's areas for strategic development
- Innovativeness of the technological solution, quality, skills and proof of team execution
- Scalability of the proposed solution/market potential
- Compatibility of the proposed solution with Terna systems

### Article 9 Protection of privacy and confidentiality

By submitting their applications, applicants consent to the processing of their personal data for the purposes of the activities related to this Call for Bids and its execution.

The independent data controllers are Cariplo Factory S.r.l. with registered offices at Via Daniele Manin 23 - 20121 Milan, Italy, and Terna S.p.A., with registered offices at Viale Egidio Galbani 70, 00156 Rome, Italy.

Pursuant to Article 13 of EU Regulation 2016/679, data provided by participants in this initiative will be processed in line with the legal provisions on personal data protection, as well as in accordance with the privacy policy that the participant accepts upon registration.

All persons involved in any stage of this Call for Bids and afterwards guarantee the confidentiality of the information concerning the ideas and projects presented.

In this regard, candidates selected for the Engage and Call for Growth programmes must sign a confidentiality agreement.

The projects selected for the Call for Ideas will be made public.

### Article 10 Limitation of liability

Terna S.p.A. and Cariplo Factory S.r.l. do not accept any responsibility for technical malfunctions, hardware or software faults, network connection failures, failed, incorrect, incomplete, inaccurate, illegible, damaged, lost, incorrectly addressed or intercepted registrations, or applications that, for any reason, were not received, delayed electronic or other communications, or any other technical issues concerning the registration and uploading of content in the context of this initiative.

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Terna S.p.A. and Cariplo Factory decline any form of partial or total reimbursement or compensation for any damages to property and/or persons caused by the participants or by third parties in the course of the various stages of the Call for Bids.

### Article 11 Guarantees, indemnities and liability

Participants in the NEXT ENERGY 3 initiative guarantee that the submitted content:

- Does not contain unlawful material which is prohibited by law or goes against the indications of this Call for Bids.
- Does not contain material in violation of the rights, positions or claims of third parties (with reference to copyright law, industrial property law and other applicable laws or regulations).
- is freely and legitimately usable in accordance with the provisions of this Call for Bids, as the participant is the owner of the rights to use them, or has acquired the appropriate consent from all other entitled parties, having ensured the full compliance and/or fulfilment of the rights, also of an financial nature, due to the authors of the contents and/or the works from which such contents are derived and/or extracted, or due to other entitled parties, or otherwise due as a result of the use of related rights pursuant to law.

Those taking part in the NEXT ENERGY 3 initiative declare that they are aware of the liability, including criminal liability, which they may be subject to in the case of non-veracity of the contents of the projects submitted and/or in the event of false declarations concerning the requirements of said project for the purposes of participation in the initiative regulated by the Call for Bids, indemnifying Terna S.p.A. and Cariplo Factory S.r.l. against any third party claim.

### Article 12 Intellectual property and confidentiality

The material and intellectual property presented with the applications submitted by participants remains the exclusive property of the respective owners. Terna S.p.A. and Cariplo Factory S.r.l. have the right to use said property exclusively in reference to the NEXT ENERGY 3 initiative.

If, at the end of the acceleration programme envisaged in the Call for Ideas or the Engage programme envisaged in the Call for Growth, patents which may be eligible for protection pursuant to current copyright laws should emerge (including but not limited to software, hardware, publications, etc.), Terna S.p.A. shall be granted first refusal for the exclusive purchase,

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until 31/12/2019, of the rights to the aforementioned industrial patents, if such right are subject to transfer/sale by the legitimate owners.

All participants in NEXT ENERGY 3 undertake to keep the information acquired as part of the initiative strictly confidential.

In any case, all start-ups and teams of innovators selected for the Call for Ideas and Call for Growth undertake to inform Terna of any relations with other parties, including if such relations concern activities and/or projects not included in the initiative regulated by this Call for Bids.

### Article 13 Acceptance of the Call for Bids

Participation in the initiative implies the total and unconditional acceptance of this Call for Bids and its annexes, which the participants declare to have read, understood and accepted.

Failure to accept the Call for Bids and/or the incomplete, inaccurate or false completion of the application form by the participants shall result in disqualification from the competition, the loss of all rights to any compensation and the waiver of any form of recourse against Terna S.p.A. and Cariplo Factory S.r.l.

### Article 14 Updates to the Call for Bids

Any updates to the Call for Bids shall be published on the website [nextenergy.cariplofactory.it](http://nextenergy.cariplofactory.it).

### Article 15 Applicable law and jurisdiction

This Call is governed and interpreted pursuant to Italian law. All disputes are under the exclusive jurisdiction of the Court of Milan.