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**FIFTH EDITION**

# **DIGITAL ENERGY CHALLENGE**

## **CALL FOR PROJECTS 2025**

Boosting digital innovation in the energy sector,  
by supporting start-ups and power utilities in Africa

#WorldInCommon



With the participation of



# DIGITAL ENERGY CHALLENGE

## CALL FOR PROJECTS 2025

The digital revolution is key to increase energy access, integrate renewable energy sources into the grid, decarbonize power systems and improve the performance of power utilities, especially in Africa. Public utilities, start-ups and technology providers can boost digitalization of electrical systems through innovation and demonstration of new technologies from the smart grid sector.

To support the digitalization of electrical power systems, the Digital Energy, a European Union financed programme managed by Agence française de développement (AFD), launched the Digital Energy Challenge in 2021 with an annual Call for Projects.

One of the aims of Digital Energy is to gather private and public players in the energy and innovation sectors to facilitate partnerships to address these topics. The creation of an online Digital Energy community and the Digital Energy Challenge support such synergies.

### APPLICATION PERIOD

10<sup>th</sup> March to 16<sup>th</sup> May 2025 included



### WHO CAN APPLY?

— **Start-ups** in seed or early-stage activities looking to scale up their digital innovations or digital transformation projects.

— **Innovative technology/service providers** who have already developed a solution to be tested.



### PROJECT ELIGIBILITY CRITERIA

All projects must be:

— **DIGITAL** i.e. have telecom, computer or cloud-based technology as a central element of the project ;

— **INNOVATIVE** either intrinsically or in relation to the local market/country ;

— **LOCAL** for the Start-ups category only, with management activities in the African country where the project is based.



### BENEFITS FOR AWARD WINNERS

An annual budget of € 1M will enable awardees to benefit from financial and technical support.

— The financial contribution can be a maximum of € 150K for a start-up and € 500K for the winning project in the Partnership Challenge. This contribution includes grant-based funding and technical assistance to support project management.

— All winners are invited to participate in a bootcamp with experts to support the implementation of their project.

In addition, winners can benefit from increased visibility through widespread communication campaigns driven by AFD.

### HOW TO APPLY?

1. Choose your category: Digital Energy Challenge for Start-ups or Digital Energy Challenge Partnership.

2. Participate in the information webinar on 1<sup>st</sup> April 2025.

3. Complete the application form and prepare the required documents.

4. Submit your complete application online by 16<sup>th</sup> May 2025 23:59 CET.

For more information or to be added to the Challenge mailing list please contact us:

[contact@afddigitalenergychallenge.com](mailto:contact@afddigitalenergychallenge.com)



## Digital Energy Challenge

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# START-UPS

# ARE YOU A START-UP

LOOKING TO SCALE UP YOUR DIGITAL INNOVATION OR TRANSFORMATION PROJECT IN THE ENERGY SECTOR IN AFRICA?

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Does your project contribute to increasing energy access through mini-grids or improving grid management and electrical systems? After checking the eligibility criteria, download the application pack and apply online.

## ELIGIBILITY CRITERIA FOR START-UPS

The start-up must:

- Be less than 10 years old.
- Be in the pre-seed/early-stage financing phase i.e less than € 1M raised.
- Have an annual turnover of less than € 1M.
- Employ between 1 and 99 people full-time.

## BENEFITS FOR START-UP AWARD WINNERS

The winning start-ups will each benefit from:

- **Project funding** of up to € 150K, which includes a **grant** to contribute to costs for equipment, software, training and recruitment. It also includes **technical assistance** awarded on a case-by-case basis, such as project management support, strategic/technical expertise and accounting or reporting assistance.
- A joint **bootcamp** with all winners from both categories and multisectoral experts to support project implementation and foster synergies between project winners.
- **Communication campaigns** driven by AFD during the selection, award and release of funds periods.

## HOW TO APPLY?

1. Download the Start-ups Application Pack
2. Participate in the information webinar on 1<sup>st</sup> April 2025
3. Complete the application form and prepare the required documents
4. Submit your complete application online by 16<sup>th</sup> May 2025 23:59 CET.



# THREE PROJECT THEMES FOR THE 2024 EDITION



## 1. UNIVERSAL ELECTRICITY ACCESS AND MINI-GRIDS

Digital innovations in the field of mini-grids to maximize their efficiency and impact:

- Energy management systems for the optimal use of clean and renewable energy.
- Software and hardware technologies for an efficient integration of productive use assets.
- Storage systems and algorithms minimizing the use of fossil fuel generators.
- Tools to facilitate interconnections with the main grid and with other mini-grids.
- Systems and algorithms for building-up nanogrids.
- Geospatial data analytics for power demand evaluation and/or credit risk assessment.



## 2. EFFICIENT GRID MANAGEMENT

Digital services and products ensuring a proper operation of the power grid, with a focus on:

- **Information availability and communication systems**
  - Grid data sharing, IT/OT integration ;
  - Grid mapping improvement (e.g. through satellite imagery, GIS database management and interfacing) ;
  - Adoption of cloud computing and IoT-enabled systems.
- **Streamlining Business-As-Usual grid operational management practices of the power system**
  - Optimisation of the assets' useful life through improved maintenance (digitized and remote maintenance):
    - Infrastructure inspection via drones and other new technologies ;
    - Active monitoring of the assets' condition via smart sensors ;
    - Data analytics to improve periodic and predictive maintenance ;
  - Implementation of Dynamic Line Rating (optimising thermal limits according to weather conditions) and analysis of the grid's risk profile and resilience to extreme events ;
  - Simulation tools for enhanced training and planning ;
  - Management and supervision of grid interconnections ;
  - Digitization of substations and feeders.

- **Increased power availability and service quality**
  - Technological developments allowing energy efficiency gains on transmission and distribution networks:
    - Reduction of technical losses and improved grid knowledge through grid data analysis ;
    - Reduction of non-technical losses through metering (big) data analysis ;
  - Improvement of power supply continuity:
    - Reduction of the number and duration of faults ;
    - Load shedding minimization ;
  - Enhanced customer relationship via service digitization.



## 3. RESILIENCE AND DECARBONIZATION OF POWER SYSTEMS

Digital-based solutions enabling the development of a greener and more resilient power infrastructure (encompassing generation systems as well as the grid):

- **Additional renewable capacity:**
  - Renewable power plant (including wind, solar, hydro, biogas) connection to the main grid ;
  - Renewable energy production maximization in hybridized systems ;
  - Renewable energy production forecast (leveraging on meteorological data) and monitoring to minimise curtailment and avoid grid outages ;
  - Other grid services needed for higher renewable energy penetration.
- **Grid stability and flexibility:**
  - Integration of ancillary resources and services, such as energy storage via batteries ;
  - Grid balancing and capacity firming ;
  - Virtual power lines ;
  - Renewable energy procurement through peer-to-peer trading.
- **Energy savings at the end-user level (Commercial & Industrial as well as households)**
  - Demand-response management ;
  - Smart metering solutions for improved consumption monitoring ;
  - Tools and applications to encourage and incentivize the adoption of energy-efficient appliances.



Digital Energy  
Challenge

**PARTNERSHIP**

## ARE YOU A TECHNOLOGY PROVIDER

LOOKING TO DEVELOP  
A DIGITAL INNOVATION  
PROJECT IN SENEGAL?

Could your project add value to Senelec's rural electrification programme?  
After checking the eligibility criteria, [download the application form](#) and apply online.



### PARTICIPATE IN SENEGAL'S RURAL ELECTRIFICATION PROGRAMME

— Senelec, Senegal's main energy supplier, has significantly increased its capacity over the last 10 years, with renewable energies now accounting for 29% of its energy mix. The company's efforts to improve the accessibility and resilience of the network have resulted in a significant increase in the customer base, which reached 2.19 million in 2022.

— As part of the optimisation and digitalisation of its processes, Senelec is looking for innovative solutions to improve demand management, customer mapping, optimisation of network works and connections and project monitoring.

### ELIGIBILITY CRITERIA FOR THE PARTNERSHIP CHALLENGE

The innovative technology or service provider must:

- Be a national or international registered company, less than 15 years old
- Have more than 5 full-time employees
- Generate a turnover of less than € 50M
- Have developed an innovative solution to be tested within the Challenge
- Be able to work in French, the working language of the energy provider partner, Senelec.

### BENEFITS FOR THE PROJECT WINNER

The winning project will benefit from:

- **Project funding** of up to € 500K in the form of a **grant** to support costs for equipment, software, products or services provided by the technology supplier and training. It also includes **technical assistance** for project management support, and strategic and technical expertise.
- A joint **bootcamp** with start-up winners and multisectoral experts to support project implementation and foster synergies between project winners.
- **Communication campaigns** driven by AFD during the selection, award and release of funds periods.

## HOW TO APPLY?

1. [Download the Partnership Challenge Application Pack](#)
2. Participate in the [information webinar](#) on 1<sup>st</sup> April 2025
3. Complete the application form and prepare the required documents
4. Submit [your complete application online](#) by 16<sup>th</sup> May 2025 23:59 CET.

Candidates can propose a solution for **each module**, for a **subset of modules** or for **all six identified needs**.



## THEME FOR THE PARTNERSHIP CATEGORY



The theme for the partnership with Senelec is **Identification and real-time census of connections**.

We invite technology supplier candidates to propose solutions adapted to the following needs (in six modules), while leaving room for flexibility in the methodological approaches and technologies used:

### 1. ENERGY DEMAND ASSESSMENT (BOTTOM-UP APPROACH)

— Development of a solution to assess energy demand evolution over a 10 to 15-year horizon, based on data from load curves and integrating macro-economic factors

### 2. CUSTOMER GEOLOCATION AND NEEDS ASSESSMENT

— Implementation of a Geographic Information System (GIS) to map customers (urban and rural), refine demand analysis in specific areas, and evaluate the necessary network reinforcements (MV and LV) along with cost estimations

### 3. WORK OPTIMIZATION

— Development of a tool for planning and optimizing works of network expansion, reinforcement and connections, considering financial constraints, execution capacities, and project timelines

### 4. DIGITAL PROJECT MONITORING

— Implementation of a digital project monitoring system, with the possibility of integrating (in addition) geo-satellite data for real-time work tracking

### 5. CUSTOMER CONNECTION MONITORING

— Development of a module to manage the customer connection works and process within projects

### 6. INTERFACE WITH THIRD-PARTY APPLICATIONS

— Implementation of an interconnection system with Senelec's existing tools (GIS, ERP, customer database, etc.) to ensure data consistency and smooth information flow.



# Digital Energy Challenge

## START-UPS

# Digital Energy Challenge

## PARTNERSHIP



## WORDS FROM A CHALLENGE WINNER

**Dina Rajaobelina** — Brand Director, ANKA Madagascar

**Gaetan Philippart** — Director of Sales and Partnerships, UPYA Technologies

**Project:** Creation of a digital platform that revolutionises the management of mini-grids and provides greater economic viability and extended coverage.

« Through our partnership with UPYA Technologies, we will be stepping up the digital transformation in Madagascar by deploying innovative tools designed for our teams in the field. This collaboration will also enable us to optimise our operations and considerably improve the efficiency of our processes, in the interests of making a lasting impact.

— **Dina Rajaobelina**, Brand Director, ANKA Madagascar



## NEXT STEPS

— **10<sup>th</sup> March 2025**

Call for Projects opens

— **1<sup>st</sup> April 2025**

Information webinar – enroll [here](#)

— **16<sup>th</sup> May 2025**

Deadline for receipt of applications. All applications must be uploaded via the respective [Start-ups](#) or [Partnership](#) online pages.

— **Autumn 2025**

Notification of award winners and bootcamp

— **End 2025**

Signature of contracts and release of funds

## ELIGIBLE COUNTRIES

The Digital Energy Challenge Call for Projects 2025 supports projects in the following countries:

Algeria, Angola, Benin, Botswana, Burundi, Burkina Faso, Cabo Verde, Cameroon, Central African Republic, Chad, Comoros, Congo Democratic Republic, Congo Republic, Côte d'Ivoire, Djibouti, Egypt, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, The Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Tanzania, Togo, Tunisia, Uganda, Zambia, Zimbabwe.

## CONTACT US

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## Towards a world in common

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AFD Group contributes to the implementation of France's policies for sustainable development and international solidarity. The Group includes Agence Française de Développement (AFD), which finances the public sector, NGOs, research and training; its subsidiary Proparco, which is dedicated to the private sector; and Expertise France, a technical cooperation agency. The Group finances, supports and accelerates the transitions needed for a fairer, more resilient world.

With our partners, we are building shared solutions with and for the people in more than 150 countries, as well as in 11 French Overseas Departments and Territories. As part of the commitment of France and the French people to achieving the Sustainable Development Goals, our teams are at work on 4,200 projects in the field. Our objective is to reconcile economic development with the preservation of common goods, from peace, the climate and biodiversity to health, education and gender equality. Towards a world in common.



[www.afd.fr](http://www.afd.fr)

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