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THIRD EDITION

# DIGITAL ENERGY CHALLENGE

## CALL FOR PROJECTS 2023

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

#WorldInCommon

# DIGITAL ENERGY CHALLENGE

## CALL FOR PROJECTS 2023

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 Facility, 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. The 2023 Call for Projects, co-financed by the European Union and the French Agency for Ecological Transition, (ADEME), will focus on Africa due to the high needs on the continent.

One of the aims of the Digital Energy Facility programme 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 in 2023 and the Digital Energy Challenge will support such synergies.



### WHO CAN APPLY?

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

— **Public utilities in partnership with innovative technology/service providers**, looking to implement innovative digital projects.

### APPLICATION PERIOD

1<sup>st</sup> March to 15<sup>th</sup> May 2023 included



### 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** with management activities in the African country where the project is based.



### BENEFITS FOR AWARD WINNERS

An annual budget of €1.8M will enable the 2023 awardees to benefit from financial and technical support.

- The financial contribution can be a maximum of €150K for a start-up and €500K for a public utility. 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 the category Digital Energy Challenge for Start-ups or Digital Energy Challenge for Utilities.
2. Participate in the information webinar in English on 14<sup>th</sup> March 2023 at 2pm CET.
3. Complete the application form and prepare the required documents.
4. Submit your complete application on [www.afd.fr](http://www.afd.fr) by 15<sup>th</sup> May 2023 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)



# ARE YOU A START-UP

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

Digital Energy  
Challenge

FOR **START-UPS**

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 public utilities 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.

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## HOW TO APPLY?

1. Download the Start-ups [Application Pack](#)
2. Participate in the [information webinar](#) in English on 14<sup>th</sup> March 2023 at 2pm
3. Complete the application form and prepare the required documents
4. Submit your complete application [online](#) by 15<sup>th</sup> May 2023 23:59 CET.

# ARE YOU A PUBLIC POWER UTILITY

LOOKING TO IMPLEMENT  
A DIGITAL INNOVATION  
PROJECT?

Digital Energy  
Challenge  
FOR **UTILITIES**

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 UTILITIES

— The project owner must be an **African public power utility or organisation** (includes public Independent System Operators, private companies under a public service concession, power pools, regional organisations, energy regulators and rural electrification authorities).

— The innovative technology or service provider must be a national or international registered company, less than 15 years old, with more than 5 full-time employees and a turnover of less than € 50M. In addition, the company must have developed an innovative solution to be tested within the Challenge and be in a business relationship with an African utility, supported by a signed (or near date for signature) memorandum of understanding.

## BENEFITS FOR UTILITY AWARD WINNERS

The winning utility and technology/service provider partnerships 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; and **technical assistance** for project management support, 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.

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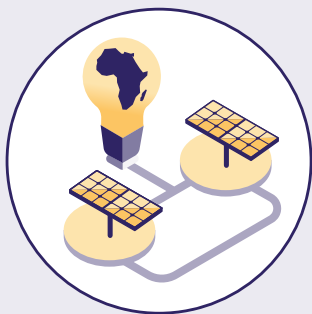


## HOW TO APPLY?

1. Download the [Utilities Application Pack](#)
2. Participate in the [information webinar](#) in English on 14<sup>th</sup> March 2023 at 2pm
3. Complete the application form and prepare the required documents
4. Submit your complete application [online](#) by 15<sup>th</sup> May 2023 23:59 CET.

# THREE PROJECT THEMES FOR THE 2023 EDITION

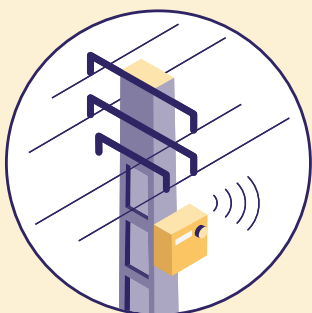
## 1. UNIVERSAL ELECTRICITY ACCESS AND MINI-GRIDS



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.

# THREE PROJECT THEMES FOR THE 2023 EDITION

## 3. RESILIENCE AND DECARBONATION 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.





## WORDS FROM A CHALLENGE WINNER

**Nawal SOILIH** – Project Lead  
Société Nationale de l'Électricité des Comores  
(SONELEC)

**Louise MULLER** – Project Lead  
Roseau Technologies

**Projet:** Distribution network mapping, modeling  
and simulation to optimize grid investments  
and supply quality.



Our partnership with Roseau Technologies and the financial support from the Challenge will enable us to map our network, train our teams on the modeling software Sirao and carry out studies and forecasts on the capacity of the grid.



**Nawal Soilih**  
Project Lead, SONELEC

## NEXT STEPS

### — 1<sup>st</sup> March 2023

Call for Projects opens

### — 14<sup>th</sup> March 2023 (2pm-3:30pm CET)

Information webinar in English  
[click here to enroll](#)

### — 15<sup>th</sup> May 2023 (23:59 CET)

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

### — Autumn 2023

Notification of award winners and bootcamp

### — End 2023

Signature of contracts and release of funds

## ELIGIBLE COUNTRIES

The Digital Energy Challenge Call for  
Projects 2023 supports projects in  
the following countries:

Algeria, Angola, Benin, Botswana, Burkina Faso,  
Burundi, 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, Niger, Nigeria,  
Rwanda, Sao Tome and Principe, Senegal,  
Seychelles, Sierra Leone, Somalia, South Africa,  
South Sudan, Sudan, Tanzania, Togo, Tunisia,  
Uganda, Zambia, Zimbabwe.

## CONTACT US

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

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## Towards a world in common

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Agence française de développement (AFD) implements France's policy on international development and solidarity. Through its financing of NGOs and the public sector, as well as its research and publications, AFD supports and accelerates transitions towards a fairer, more resilient world. It also provides training in sustainable development (at AFD Campus) and other awareness-raising activities in France.

With our partners, we are building shared solutions with and for the people of the Global South. Our teams are at work on more than 4,000 projects in the field, in the French Overseas Departments and Territories, in 115 countries and in regions in crisis. We strive to protect global public goods – promoting a stable climate, biodiversity and peace, as well as gender equality, education and healthcare. In this way, we contribute to the commitment of France and the French people to achieve the Sustainable Development Goals (SDGs). Towards a world in common.



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

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