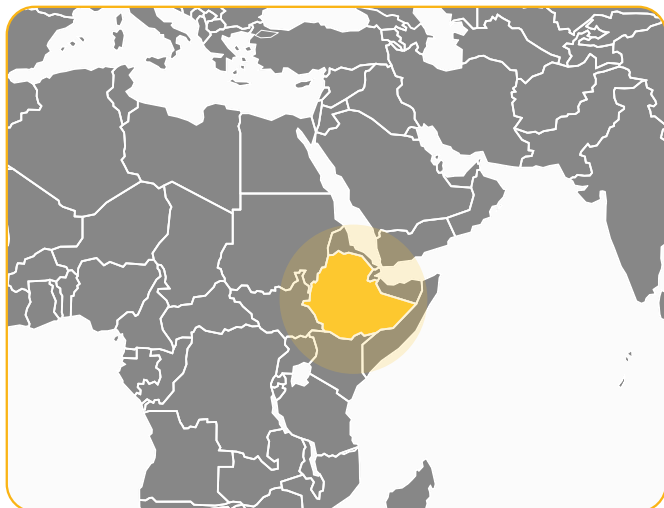


## RENEWABLE MINI-GRID DEPLOYMENT IN ETHIOPIA

### What it is about

Access to affordable and reliable energy is a prerequisite for development. UN SDG 7 explicitly targets “universal access to affordable, reliable and modern energy services” by 2030, but more than 730 million people still lacked access to electricity in 2020. In Ethiopia, the lack of electricity is a major obstacle to development and often leads to conflict and instability. Renewable mini-grids provide a viable solution in the area, but the World Bank and their government counterparts need reliable information to be able to identify and prioritise rural communities to be electrified.

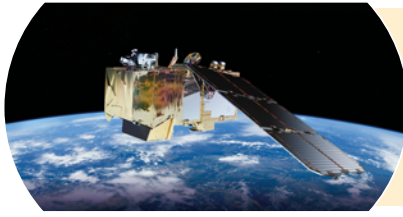
Munich-based EO company Village Data Analytics (VIDA) has developed a geospatial intelligence platform that uses free and open satellite imagery from the EU's Copernicus Sentinel fleet (and for some features, from commercial data providers) that help these operations, reducing planning time and costs. This also helps to understand local conditions and areas where investment could have a long-term, sustainable positive impact on development, by examining, for example, settlement size, agricultural activity and other key derived indicators.



### What we found

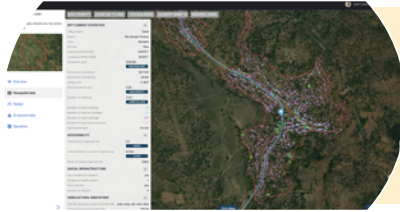
- The use of Sentinel-2 data provides a number of benefits to users by allowing a frequently updated understanding of the local conditions of potential investment areas.
- Sentinel-2 data can provide reliable and objective information across the country on a range of pre-defined parameters, allowing comparison and prioritisation of different areas of interest, where local data is often lacking or not harmonised.
- Users of the application benefit from an average cost and time saving of 70% compared to traditional methods of site identification and preparation.

## RENEWABLE MINI-GRID DEPLOYMENT IN ETHIOPIA



### The Satellite Data

Copernicus Sentinel-2 provides free-of-charge frequent wide-swath, high-resolution multispectral imagery with 13 spectral bands over Ethiopia.



### The Service Provider

VIDA helps development banks such as the World Bank invest in electrification projects in developing countries by analysing satellite imagery and deriving indicators that describe local conditions. The VIDA platform enables faster and better site selection and project planning.



### The Primary User

Both ESMAP, a World Bank programme, and government counterparts benefit from the use of a common platform, which has facilitated collaboration between ESMAP and national and regional authorities, and provided a common and objective basis for discussion on prioritising mini-grid project locations.



### Secondary Beneficiaries

Mini-grid manufacturers, other suppliers or related industries may be interested in gaining a better understanding of the market and potential opportunities through the use of the VIDA platform. It can provide them with global access to information where they can offer their products and services for the best return on investment. Similarly, NGOs and investment companies can use the platform to gain more objective and reliable insights into where they can most effectively channel their often limited (financial) resources.



### End User Beneficiary

Citizens and the general public will benefit from more efficient and faster deployment of energy facilities that supply them with electricity.

## About the project

Through a series of case studies, EARSC aims to gather quantitative evidence that the usage of Copernicus Sentinel data provides an effective and convenient support to various market applications. These studies are undertaken in the frame of the project "Showcasing the benefits brought by

the usage of Sentinels data to society, environment and economy: a bottom-up assessment based on traceable impacts along selected value chains", under an assignment from the European Space Agency (ESA) funded by the European Union as part of the Copernicus Programme.

Download the full report from the project website



<http://earsc.org/sebs>

