



Village
Data
Analytics

From Data to Decisions - Introducing Village Data Analytics (VIDA)

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Analytics (VIDA)

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PROBLEM

860 million people live without electricity.

Investment of > 400 bn is required

BUT, WE ARE WORKING IN THE DARK

Investors, planners and companies need better information

Lack of reliable evidence on rural household and business needs leads to long project development timelines, low operational margins and restricts access to finance.

Meanwhile... we are experiencing a data & digital revolution

- Data sets (incl. satellite imagery)
- Processing power
- Usage of mobile phones and internet
- AI techniques and algorithms
- Talent pool (global)



Figure 35 – Global internet traffic²⁰⁷



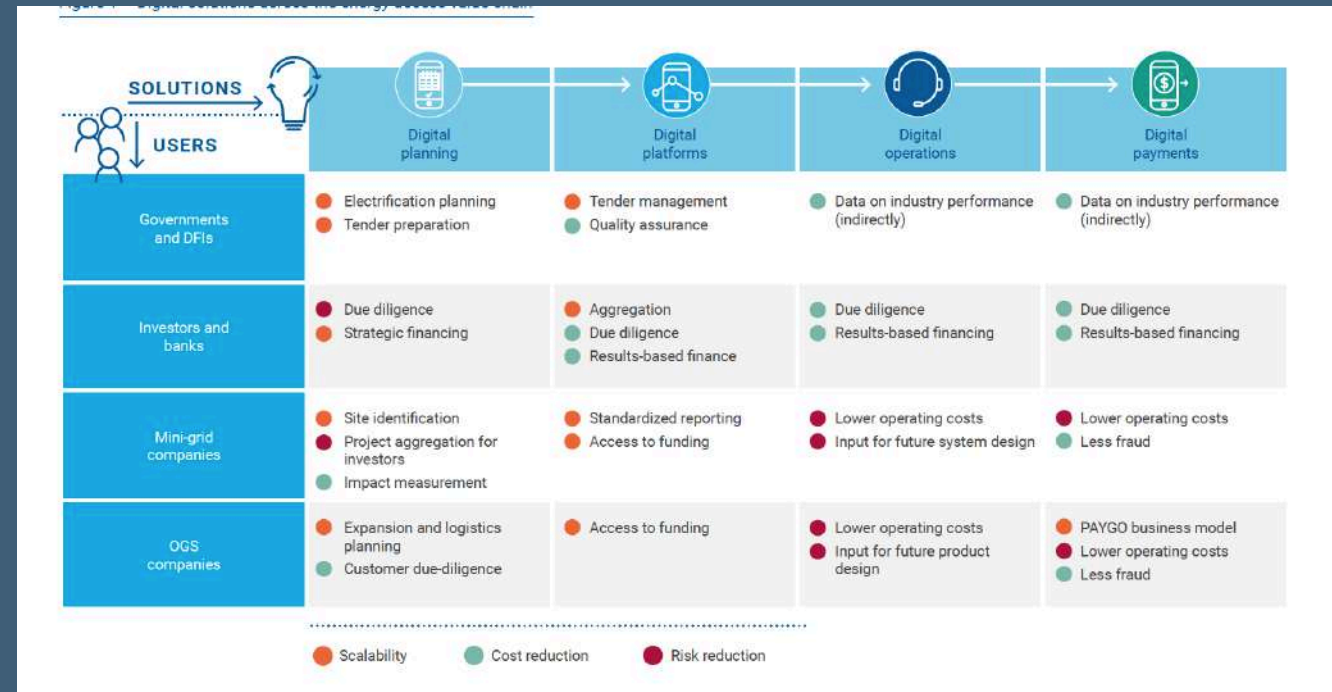
The amount of data that is generated and stored globally grows very rapidly.

A recent TFE Energy report looks at the digital transition in energy access in detail

- Digital planning tools
- Digital platforms
- Digital operations
- Digital payments

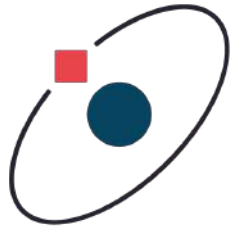


Energy Access, Data and Digital Solutions



Download report here:

→ <https://www.tfe.energy/project/Data4EnergyAccess/>



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From data to village-level decisions

VIDA is an AI-powered software that can analyze any village in the world and predict best electrification options.

1. Identify villages
2. Extract village level information (e.g. settlement structure, grid access, energy resource, road infrastructure, agriculture, etc.)
3. Use algorithms to predict energy demand and investment viability
4. Results are displayed for decision-making in VIDA's interactive user interface, tailored to each user

VIDA interactive user interface: country view

THE WORLD BANK | LEAST-COST MINI-GRID VILLAGES

Ethiopia

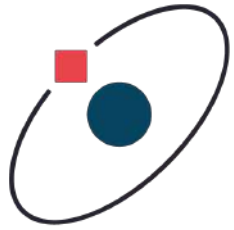
Region Distance to grid Building density ratio Number of buildings

Has a healthcare facility? Has a school? Priority Distance to closest EEU site

Showing all 1,836 villages in result

download share

	Village #1 Somali HIGH PRIORITY 280.3 KM TO GRID 11,869 BUILDINGS Rank: 1 / 1,836
	Village #2 Somali HIGH PRIORITY 238.0 KM TO GRID 11,252 BUILDINGS Rank: 2 / 1,836
	Village #3 Somali HIGH PRIORITY 371.5 KM TO GRID 7,669 BUILDINGS Rank: 3 / 1,836
	Village #4 Somali HIGH PRIORITY 65.9 KM TO GRID 9,423 BUILDINGS Rank: 4 / 1,836



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VIDA interactive user interface: village view

Nigeria, (400 villages)

Village #1, Kwara
★ 97/100 VIDA shortlist

Village statistics
3.36 km² area
High building density
186 large, 992 medium, 1675 small buildings
1251 kWh/day predicted demand
38 km to the grid

Accessibility
primary road access, 4 roads nearby
7 km to the closest town
3 similar villages nearby

Economic indicators
high level of agriculture
12 shops
hospital nearby
School nearby

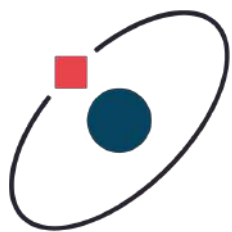
Environmental Factors
flat terrain
400 m to water, available throughout the year

Mini-Grid Layout
1800 connections
62 km total length of grid
\$930 per connection
297 poles

see all details

Add a note...

Comment on the data set or add a new data set



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Many data sources, no more excel sheets, all your information in one place

VIDA ingests data from several sources such as satellite imagery, on-ground data and third-party data (for example E-GUIDE data)

VIDA's algorithm analyzes these data-sets to conduct a detailed assessment to identify demand, distribution cost, predicted revenue and other viability factors.

Use-cases include analyses of a set of villages for our mini-grid customers like Africa GreenTec, BBOXX, PowerGen, PowerCorner, Nuru, etc. Or country-level analyses thousands of villages in e.g. Ethiopia, Kenya, Sierra Leone, Nigeria, or Myanmar for governments and donors.

Automated distribution layout generated by VIDA's algorithm





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For more information,
including case
studies on how VIDA
is used, see:

www.villagedata.io