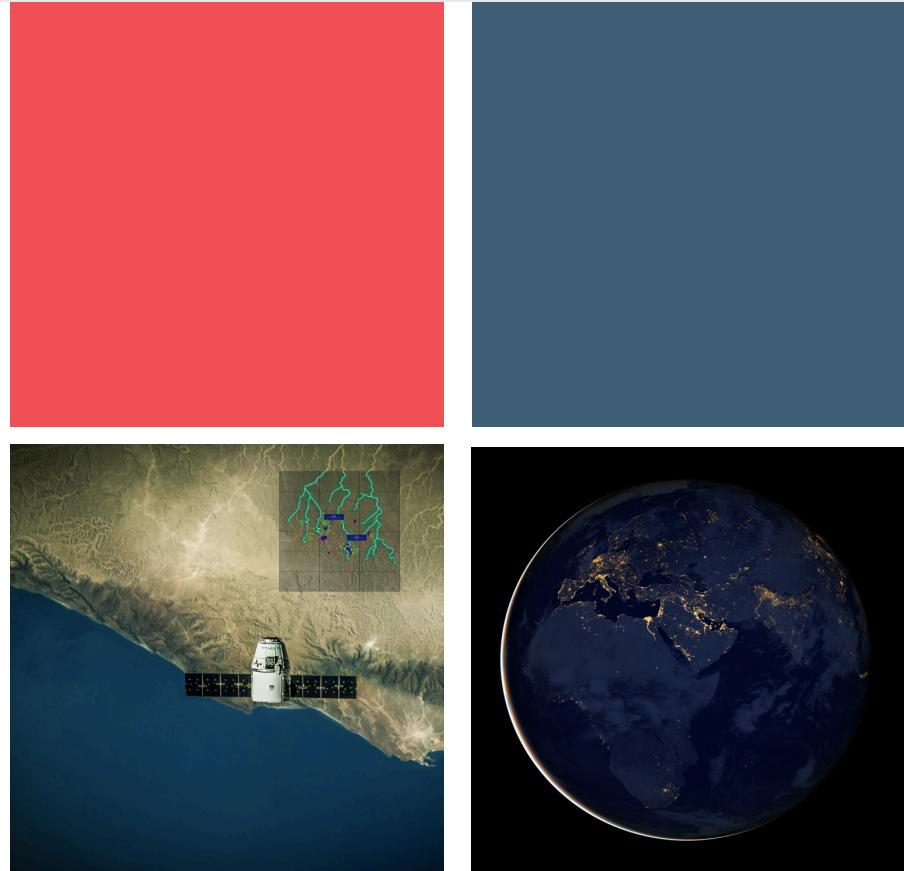


Village Data Analytics



Prioritizing health facilities for
electrification using Village Data
Analytics (VIDA)

October 2020

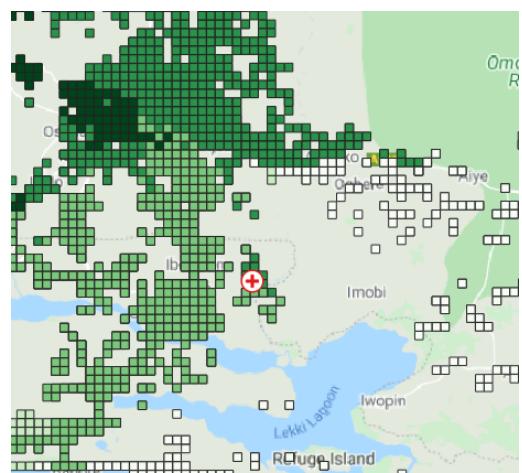
550 million people live more than 12h away from a health facility. 75% of Africa's health facilities do not have proper access to electricity.

COVID-19 PANDEMIC OFFERS A UNIQUE CHANCE TO BUILD A FUNCTIONING INFRASTRUCTURE OF ELECTRIFIED HEALTH CENTERS ACROSS AFRICA.

PROBLEM:

Identifying off-grid health facilities and gathering useful information about them is a key barrier.

Publicly available data are imprecise, and not consistently available. This does not allow stakeholder to plan electrification of health care facilities.



RELIABLE, UP-TO-DATE DECISION-MAKING INFORMATION FOR THE MINISTRY OF HEALTH IN ETHIOPIA

We can help identify and evaluate locations, populations, infrastructure and health requirements in rural Ethiopia to support the COVID response and other health initiatives.

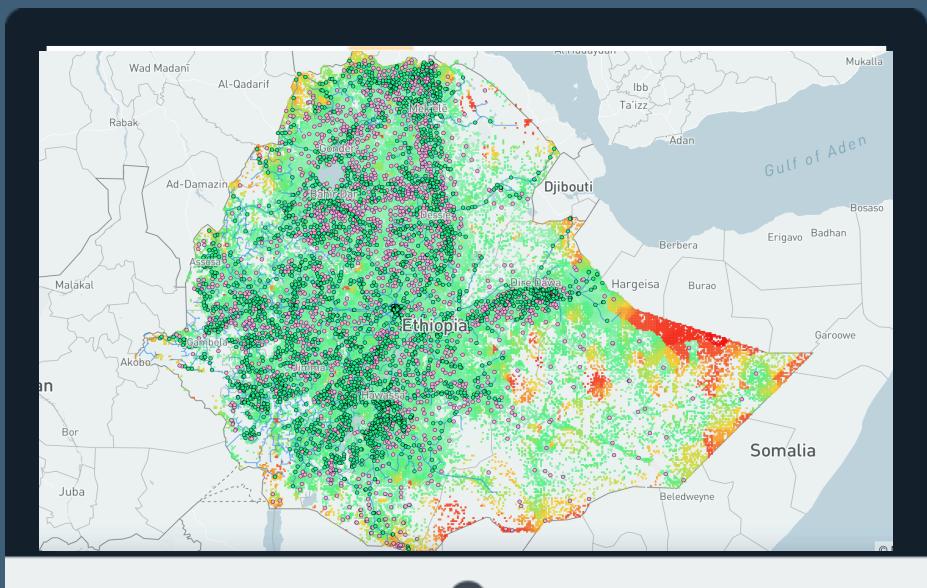


VIDA

VILLAGE DATA ANALYTICS

A custom software that uses earth observation, big data and artificial intelligence to reliably extract meaningful up-to-date information about rural health facilities and the communities around them.

VIDA enables data-based decision making for donors, government, companies and investors. VIDA uses technology and library of algorithms that are already tested in rural electrification markets.



VIDA Interactive UI



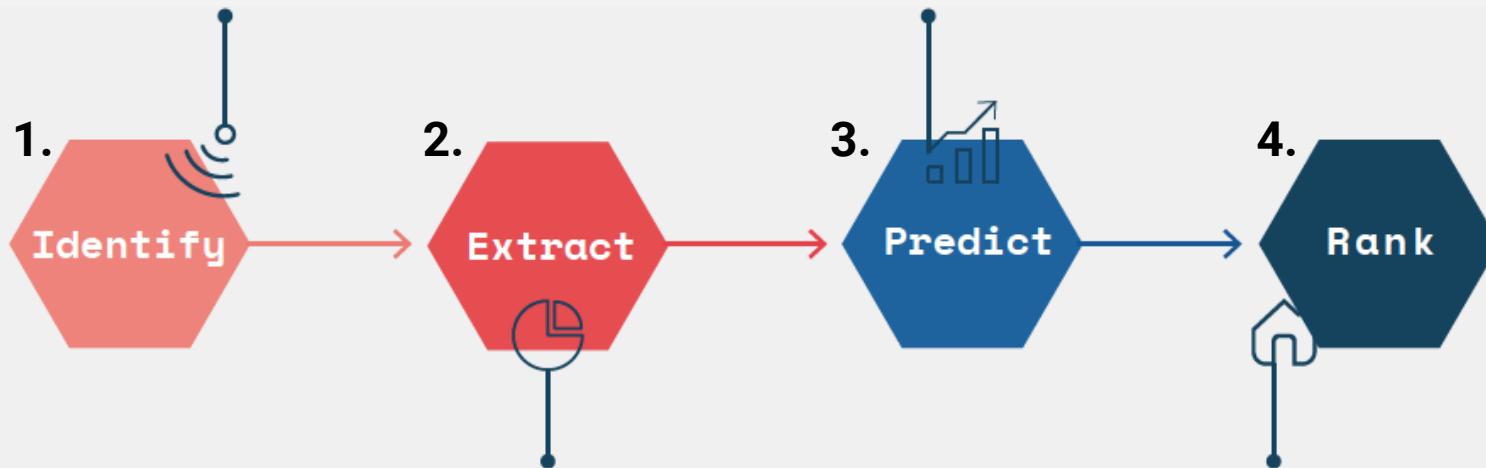
WORKFLOW MACHINE LEARNING ALGORITHMS IN VIDA

Health facilities

Identification of health facilities, type, capacity and other relevant data

Strategic importance of health facilities

VIDA's library of algorithms predicts population served by every facility, travel time to health care facility and the population that are underserved.



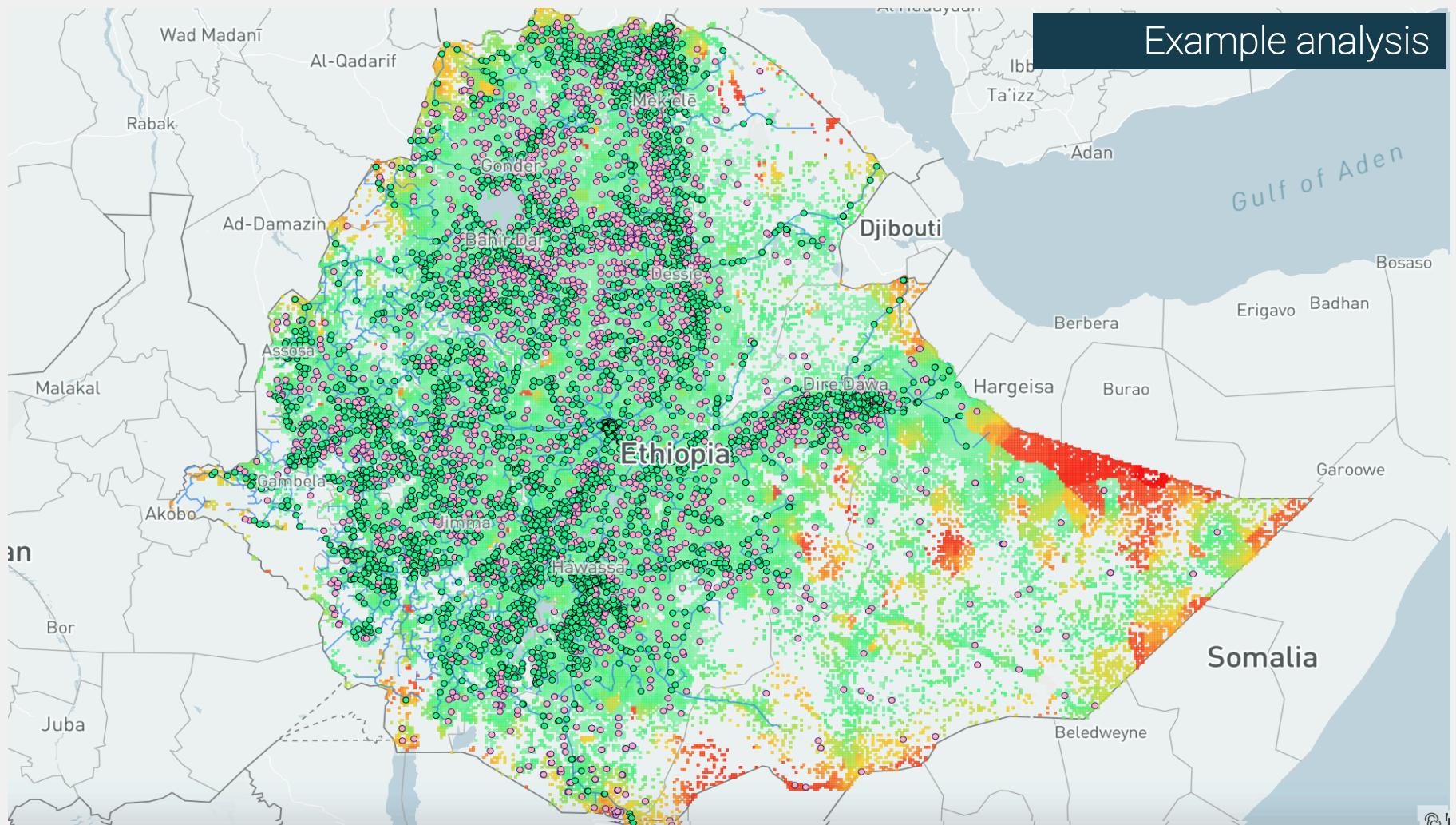
Meaningful information

For every identified health-facilities, VIDA automatically extracts meaningful information such as facility type, population of the community nearby, health data, electrification status, road access, socio-economic status, etc.

Prioritization

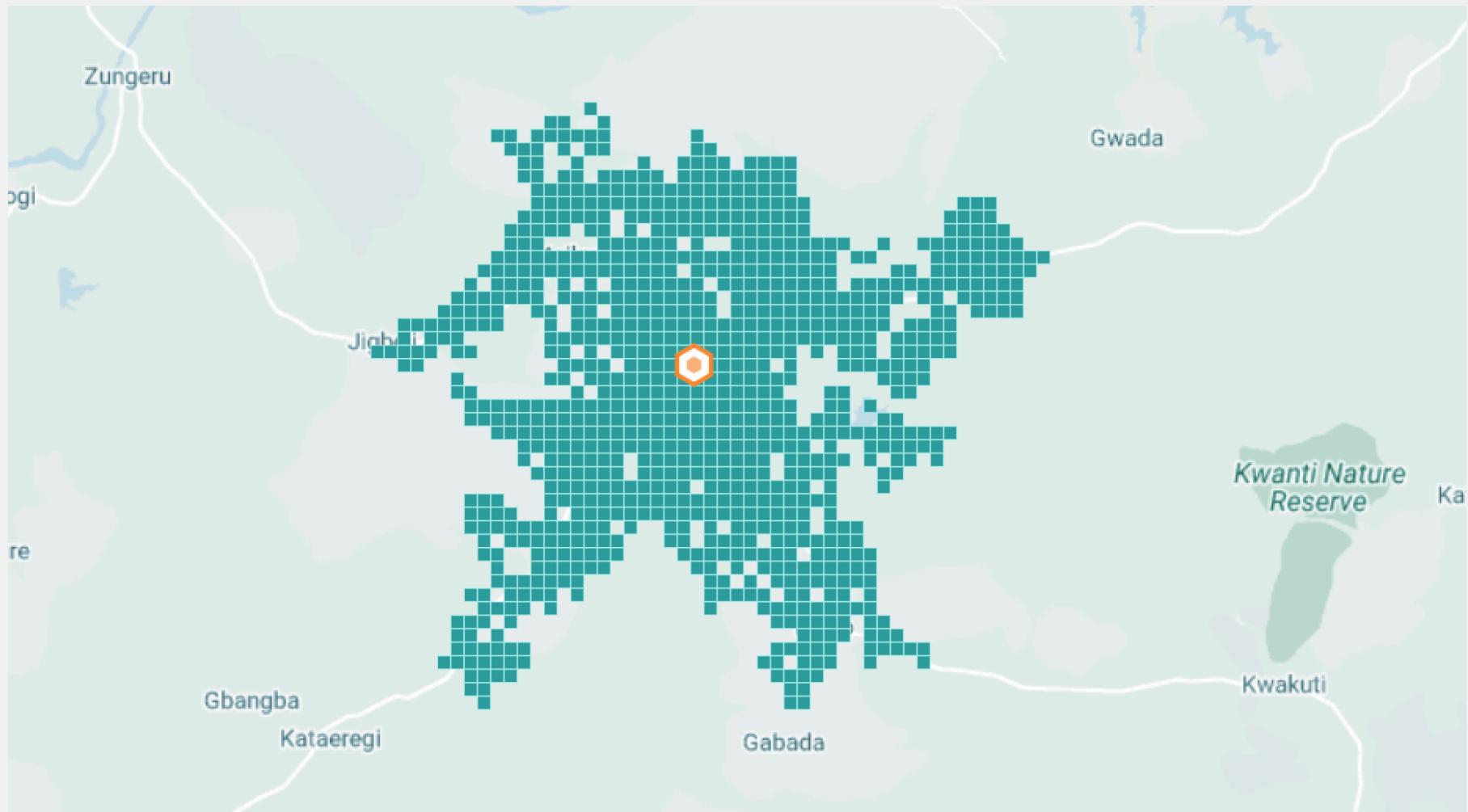
Based on the extracted information and predictions, VIDA prioritizes health center for e.g. electrification or expansion. It can also suggest where new facilities should be built.

Example analysis



IDENTIFY HEALTH FACILITIES

VIDA ingests public and private health facilities data to identify remote health facilities and collect information around them, such as type, capacity, service level, etc.



+

EXTRACT INFORMATION

For every identified health-facility, VIDA automatically extracts meaningful information such as the facility type, population served by the facility, population of the community/village next to the health facility, health data, electrification status, road access type, distance to nearby towns, socio-economic status, etc.

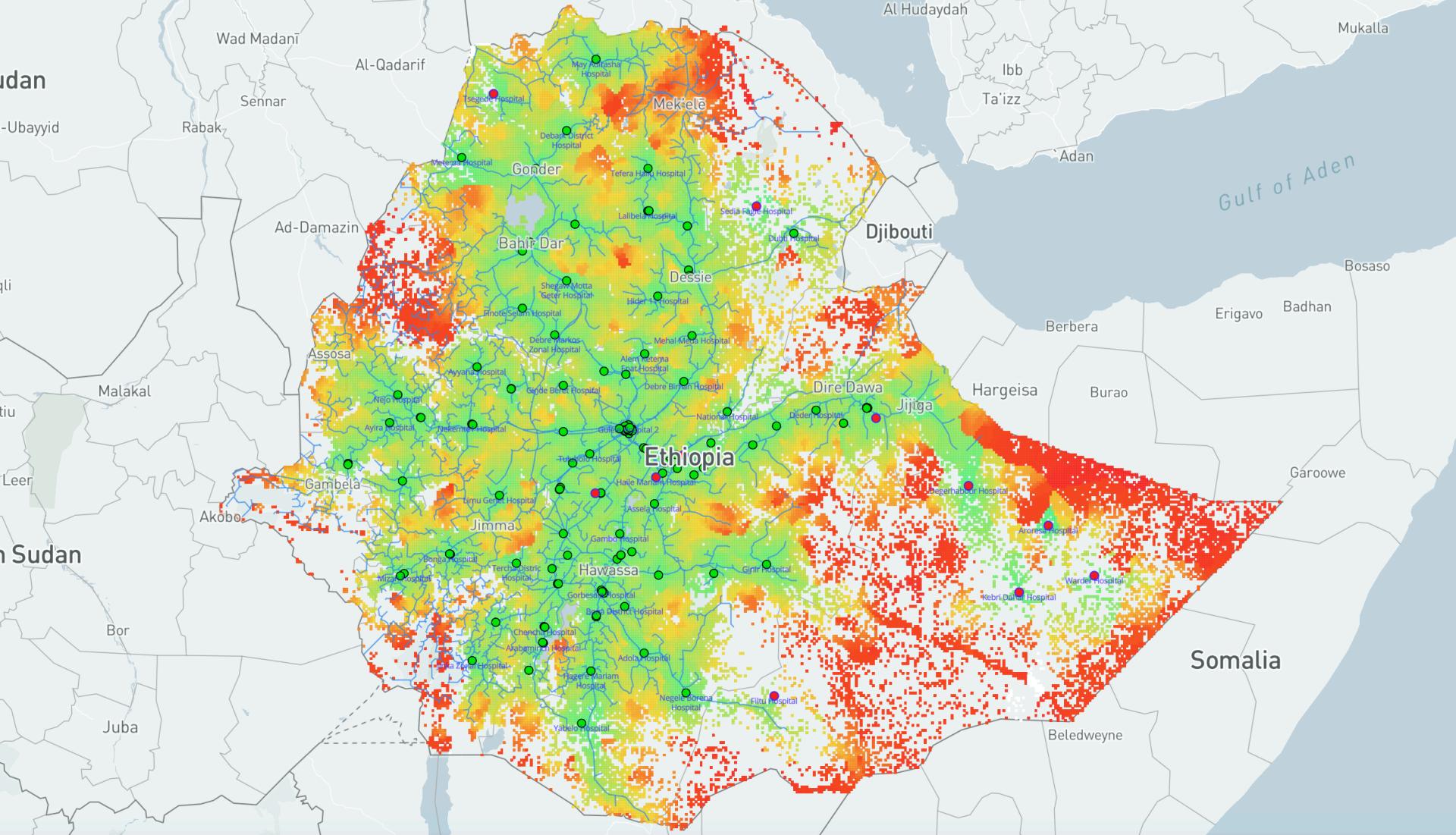
VIDA-Facility Type	VIDA-Electrification Status	VIDA-Distance To Grid	VIDA-Population Within 1km	VIDA-Population Within1km-Category	VIDA-Population Served	VIDA-Population Served-Category	VIDA-Rank	VIDA-Priority
PHC	Off-grid	9314	2253	Large nearby settlement	124873	Serves large population	1	High Priority
Clinic	Off-grid	38524	20219	Large nearby settlement	358740	Serves very large population	1	High Priority
PHC	Off-grid	20058	2345	Large nearby settlement	40134	Serves large population	1	High Priority
PHC	Off-grid	8396	1352	Small nearby settlement	49219	Serves large population	4	Medium Priority
PHC	Off-grid	1468	1351	Small nearby settlement	38678	Serves large population	4	Medium Priority
PHC	Off-grid	1464	1351	Small nearby settlement	38678	Serves large population	4	Medium Priority
PHC	Off-grid	12878	1183	Small nearby settlement	41645	Serves large population	4	Medium Priority
Health Post	Off-grid	26093	2997	Large nearby settlement	359385	Serves very large population	4	Medium Priority
PHC	Off-grid	5458	826	Small nearby settlement	70195	Serves large population	4	Medium Priority
Clinic	Off-grid	18740	10008	Large nearby settlement	85935	Serves large population	4	Medium Priority
Hospital	Off-grid	20537	0	Isolated	41070	Serves large population	4	Medium Priority
PHC	Off-grid	9702	1151	Small nearby settlement	75713	Serves large population	4	Medium Priority
Clinic	Off-grid	19652	1050	Small nearby settlement	49957	Serves large population	13	Medium Priority
PHC	Off-grid	23120	423	Isolated	41107	Serves large population	13	Medium Priority
Clinic	Off-grid	11387	1083	Small nearby settlement	54447	Serves large population	13	Medium Priority
Unknown health facility	Off-grid	11897	2164	Large nearby settlement	357506	Serves very large population	13	Medium Priority
Clinic	Off-grid	16333	1139	Small nearby settlement	61087	Serves large population	13	Medium Priority
PHC	Off-grid	12032	1078	Small nearby settlement	17397	Serves small population	13	Medium Priority
Health Post	Off-grid	14887	868	Small nearby settlement	61314	Serves large population	19	Low Priority
Health Post	Off-grid	11836	1245	Small nearby settlement	70574	Serves large population	19	Low Priority
PHC	Off-grid	9997	256	Isolated	2705	Serves small population	19	Low Priority
Health Post	Off-grid	11343	623	Small nearby settlement	14146	Serves small population	22	Low Priority
Health Post	Off-grid	10115	284	Isolated	120235	Serves large population	22	Low Priority
Unknown health facility	Off-grid	10377	692	Small nearby settlement	22791	Serves large population	22	Low Priority
Unknown health facility	Off-grid	19627	1255	Small nearby settlement	50849	Serves large population	22	Low Priority
Clinic	Off-grid	13356	126	Isolated	9631	Serves small population	22	Low Priority
Unknown health facility	Off-grid	14232	638	Small nearby settlement	17816	Serves small population	27	Low Priority



PREDICT AND RANK

VIDA's library of algorithms predicts demand for health sites based on population served, travel times and the supply side such as the capacity of the infrastructure, etc.

Based on the extracted and predicted information, VIDA prioritizes health centers for expansion, and suggests where new facilities should be built. VIDA also provide vaccination vulnerability index.



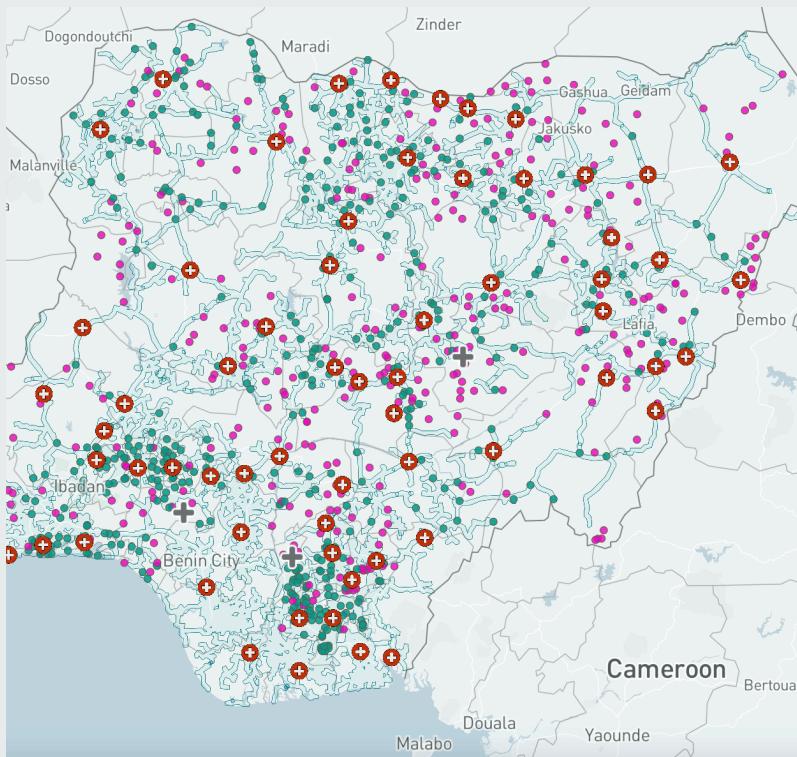
VACCINATION VULNERABILITY INDEX

One example output of our analysis of health facility is the Vaccination Vulnerability Index (VVI). VVI is a smart map enabled index that provides information on population's access, or the lack of, to health facilities for vaccination.



Past Projects

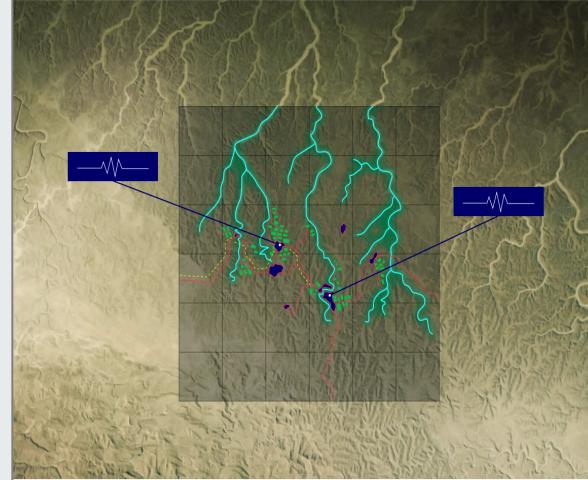
Prioritization of health facilities in Africa



Prioritization of health care facilities for electrification.
The user of this analysis is the World Bank and the
Government of Nigeria



Planning for COVID-19 in developing countries
using earth observation and data analytics



Analysis and visualization of health care
facilities in Ethiopia to understand the gaps
in health infrastructure. [Learn more...](#)





THE TEAM

INCUBATED BY EXPERTS – TFE ENERGY



VIDA is a TFE Energy initiative



The team brings together high impact technology and deep energy access market expertise in Africa and Asia.

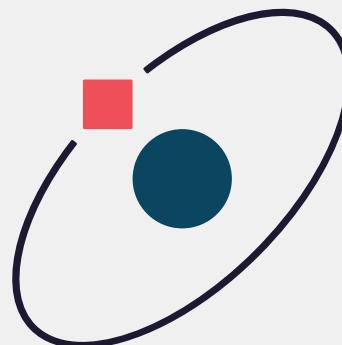
TFE Energy

Supported by



Technology partner

appliedAI is Europe's largest non-profit for the application of artificial intelligence and the only official partner of Google in Germany.



Village
Data
Analytics

www.villagedata.io