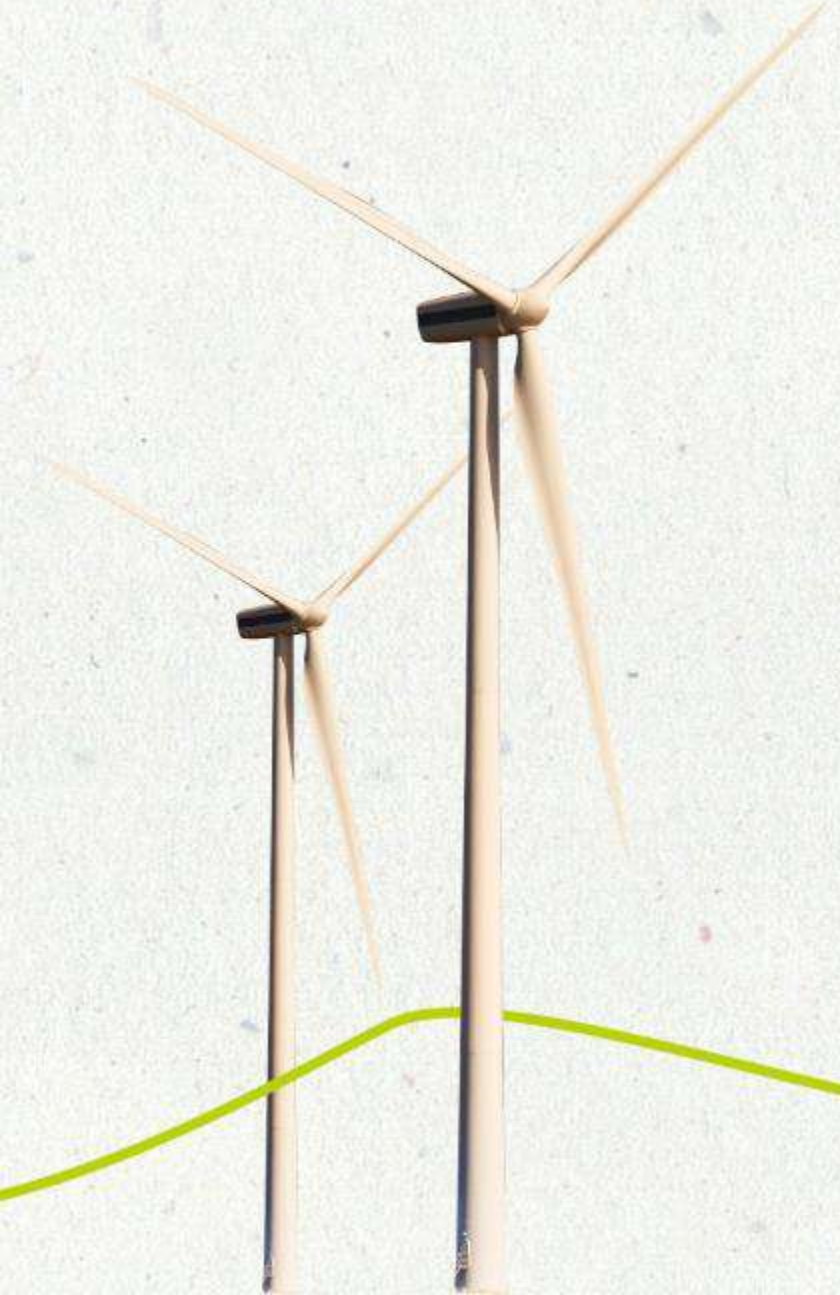


Missão Brasil-Canadá

Webinar Transformação Digital

Grupo Energisa

SUMMARY

01

Energisa at a glance

DEIN - Strategy, innovation and new business board

Energisa Group at a Glance – 11 distribution and 4 transmission concessions

Operations in all 05 regions of the country and relevant exposure to high growth markets

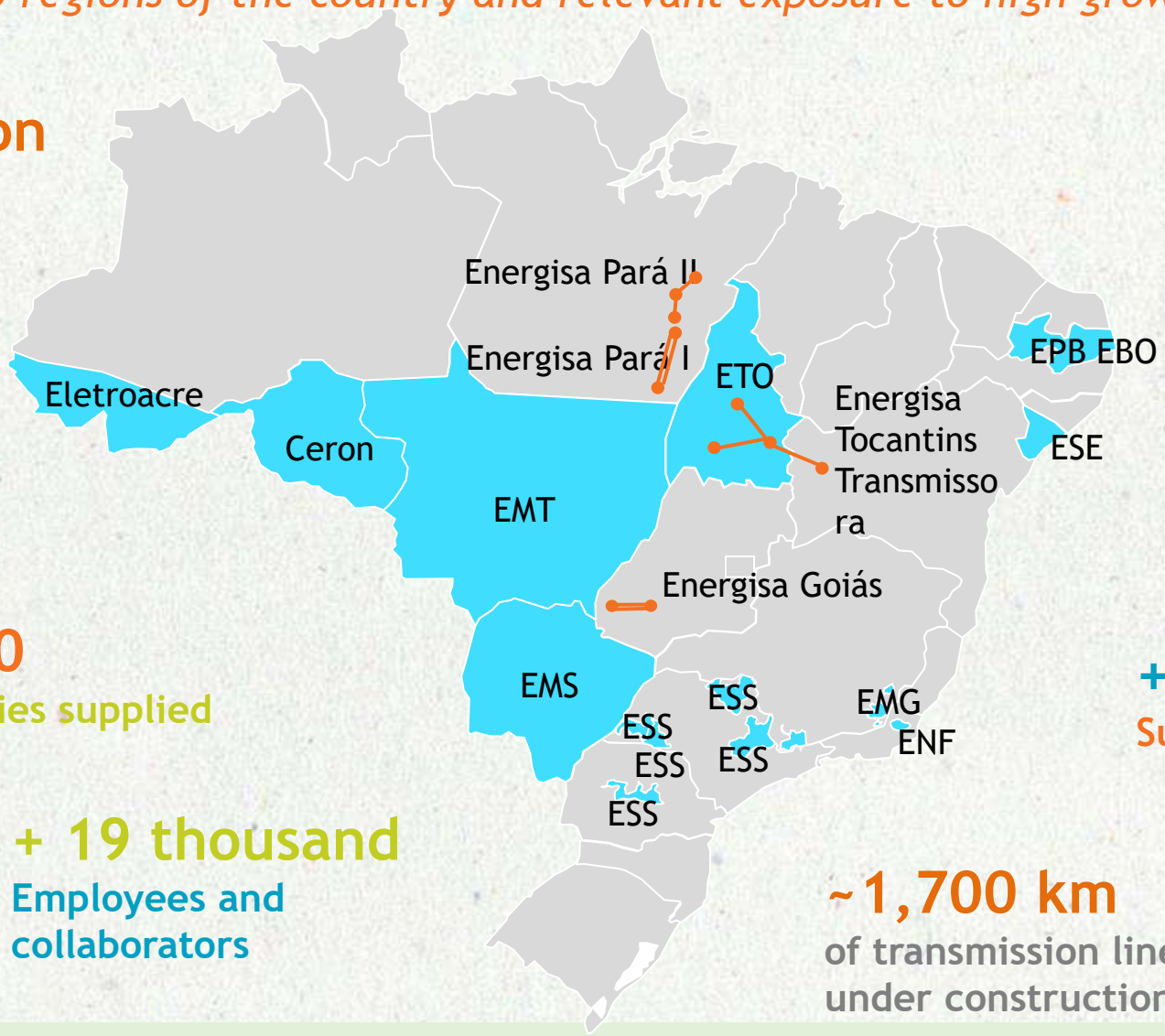
US$ 4,3 billion
In net revenues

7.8 million
Consumers

~20 million
People supplied

+860
Counties supplied

+ 19 thousand
Employees and collaborators



35 TWh
Yearly sales

+2MM Km²
Service territory

+680
Substations

~1,700 km
of transmission lines under construction

Energisa Market

More than
2 Millions Km²
Service Area

Energisa
Distribution

Energisa Solutions

Energisa Trader

Energisa Multi

Energisa Air Inspection Services

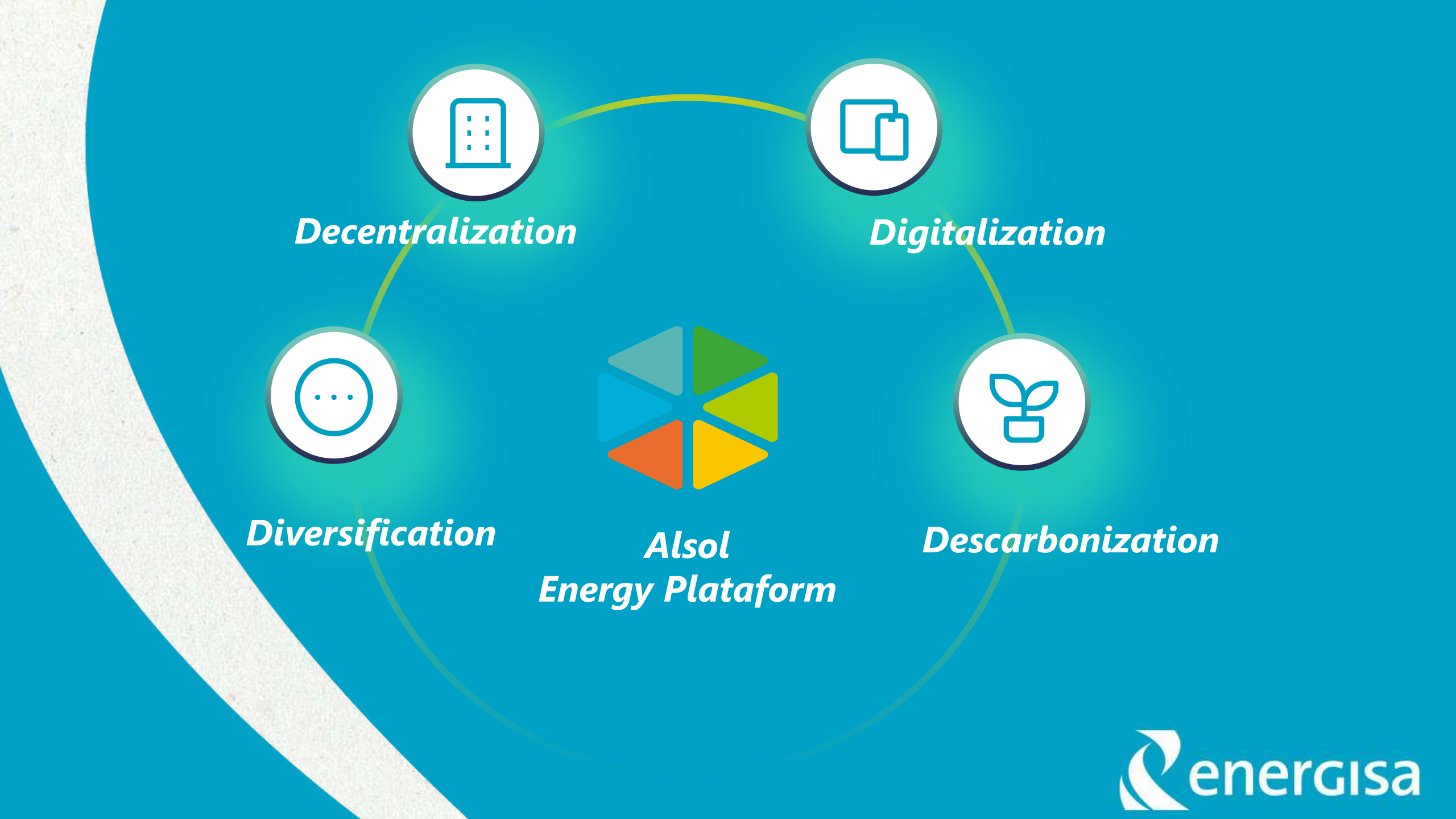
Energisa Services Center

Energisa Transmission

SOLUÇÕES
energisa

- Head office in Cataguases (MG) and commercial office in Rio de Janeiro (RJ)
- US$ +40 MM in revenue
- +1,200 employees
- 20 operational bases
- 01 electromechanical offices in MG
- 02 electrical offices MS and RN

Present in **18 states**


Decentralization
Digitalization
Diversification
Descarbonization
Alsol
Energy Plataform

02

Main goals

DEIN - Strategy, innovation and new business board

Main goals

Strategic Goal – *Core Business*

Adoption of cognitive technologies in service channels to improve the Customer Experience

Strategic Goal – Artificial Intelligence

Implementation of the data driven concept at Grupo Energisa to increase the operational efficiency of the grid and generate new business

Strategic Goal – *Emerging Business*

Implementation of an "Energy as a Service" trading model to attract customers with restrictions on the acquisition or installation of assets

03

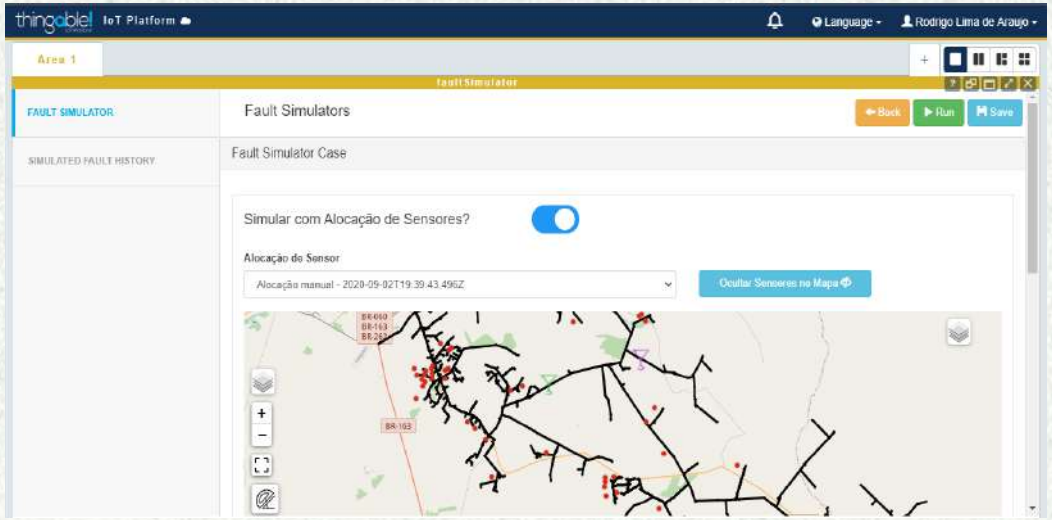
Success cases

Case 1: FLOCO – Fault location and Optmization Plataform

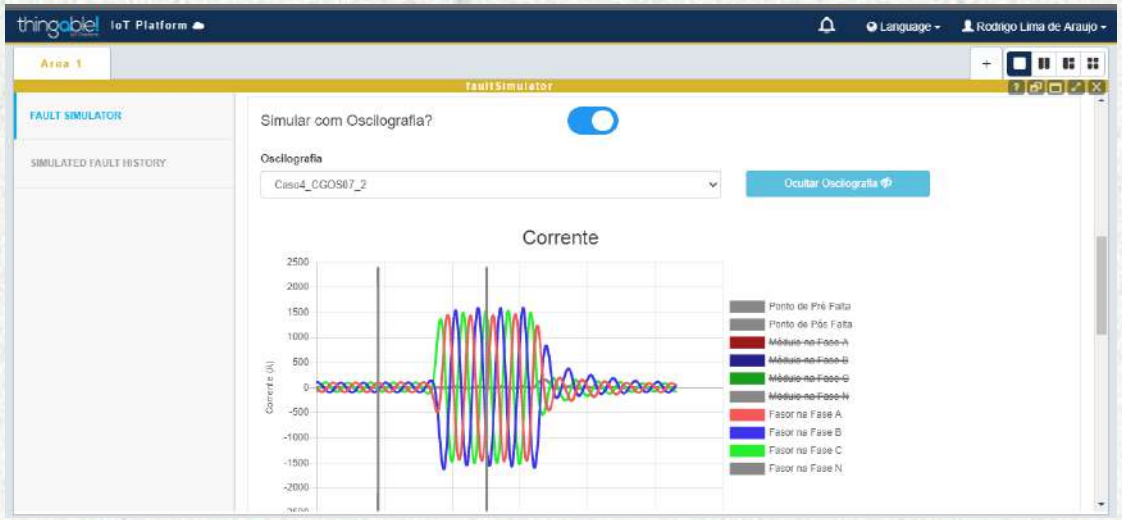
Intelligent platform and sensor to better locate faults

A system was developed to (i) detect, (ii) characterize and (iii) locate faults in the grid based on data sent by the multiple sensors integrated in a smart platform that supports the System Operator. The system has 03 main modules:

- Fault Location Module: allows to view the faults on the map
- Fault Simulator Module: allows to simulate the installation of sensors and evaluate the accuracy in fault events
- Sensor Allocation Module: indicates where new sensors should be allocated to extract the maximum benefits



Fault Location Module



Fault Simulator Module

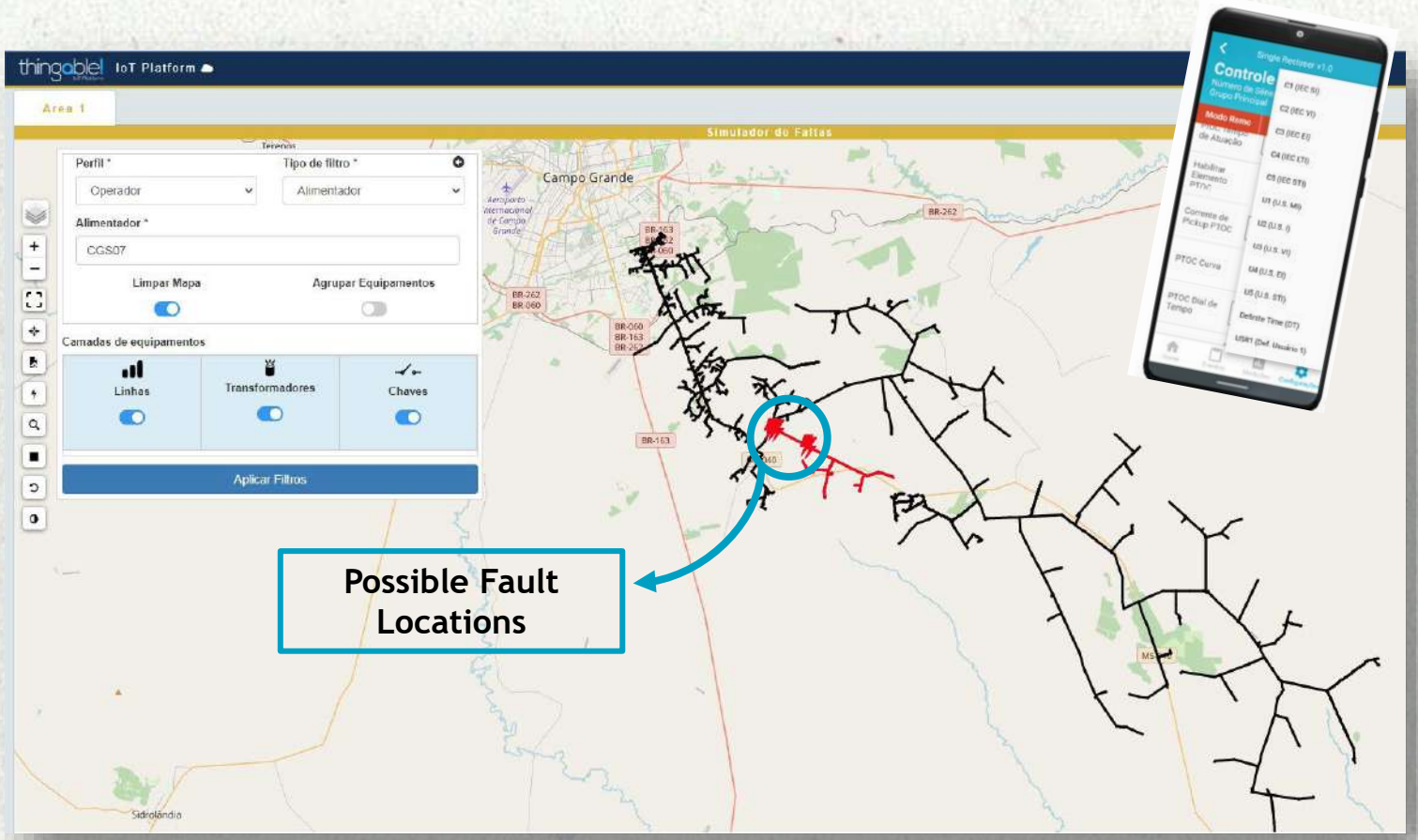
Case 1: FLOCO - Fault location and Optmization Plataform

Intelligent platform and sensor to better locate faults

Floco system and sensor are already operating with good results. The outage of the system is sent to the Platform and the responsible team receive the alert immediately, validating the success of the sensors installed.

Floco system receives the data such as current, Lat/Long and time stamp to calculate possible fault location with good accuracy

Floco sensor installed

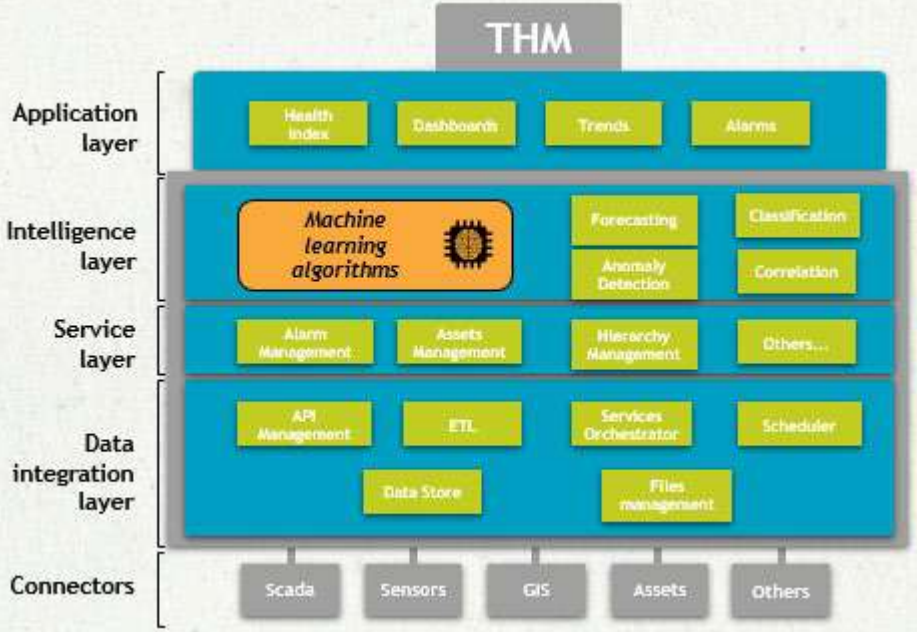


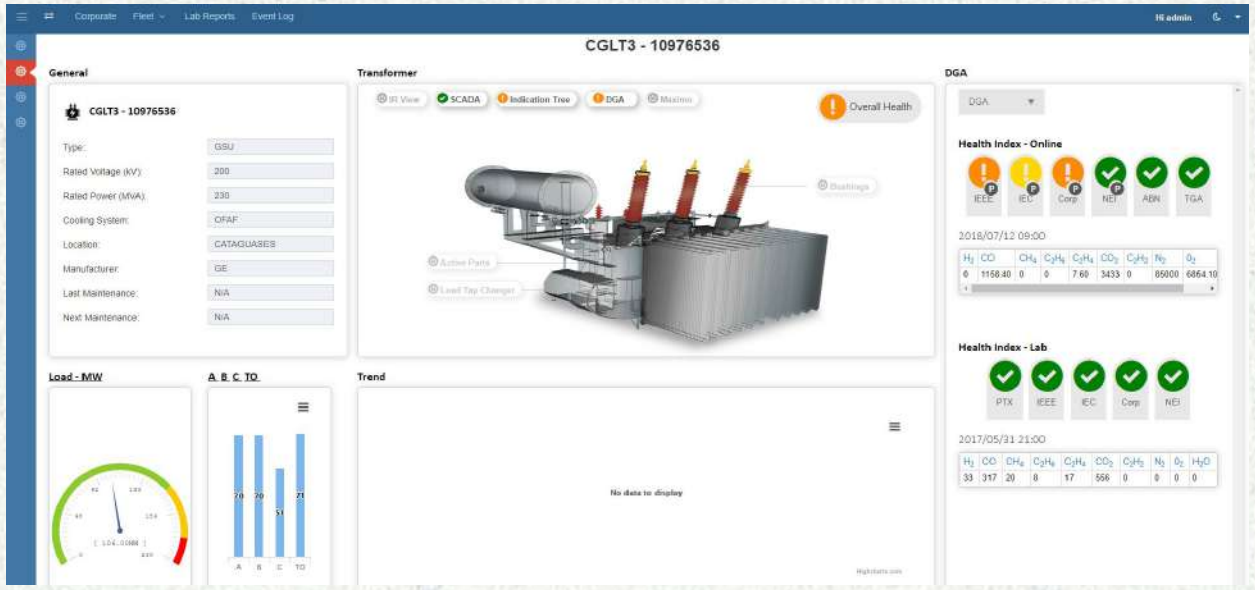
Floco platform locating the fault

Case 2: Asset Health Management Platform

Machine learning and AI solution applied to O&M – Substation transformer asset

Energisa Soluções and mPrest introduces an innovative monitoring and diagnostics application for cost-efective transformer health management, including predictive maintenance. Acting as a “system of systems”, the system excels in collecting data from multiple sensors, performing advanced analytics and providing timely information on the health and operational condition of transformers, cables and other assets.





Case 2: Asset Health Management Platform

Transformer Health Management - machine learning and AI solution Applied to O&M

Unique methodology for near-term failure detection
Detects short-term and subthreshold behavioral anomalies based on continuous monitoring and comparisons against historical data.

Accurate analysis for optimal fleet ranking and maintenance
mNTCS provides an accurate transformer condition assessment in real time. Its methodology and algorithms can recognize patterns in the transformer's behavior by focusing on recurrence, magnitude and cross dependencies of multiple sensor inputs.

Support for offline DGA samples
mNTCS supports the reading and analysis of oine DGA samples in parallel to the frequent monitoring of online DGA samples. This flexibility allows utilities to monitor the entire history of their transformer fleets in one application.

Energisa Group has been working with a vision of providing an **energy services platform**, using machine learning, artificial intelligence, sensors and intelligent systems to deliver **comfort and profitability to its customers**.

Questions…?


BEYOND ELECTRICITY
THINKING ON ENERGY, THINK
energisa