



Digital Transformation Brazil

Mar/21

Why Internalize our digitalization process?

- Flexibility
- Control
- Assertiveness



ANDRÉ FATALA, CTO DO MAGALU: “VOCÊ NÃO OLHA PARA A AMAZON OU O ALIBABA E PENSA: ‘QUAL É A FÁBRICA DE SOFTWARE FAZENDO ISSO AÍ?’”

Lúisa Miguereles - 5 MAR 2020



Fast Thinking Program – Digitalization

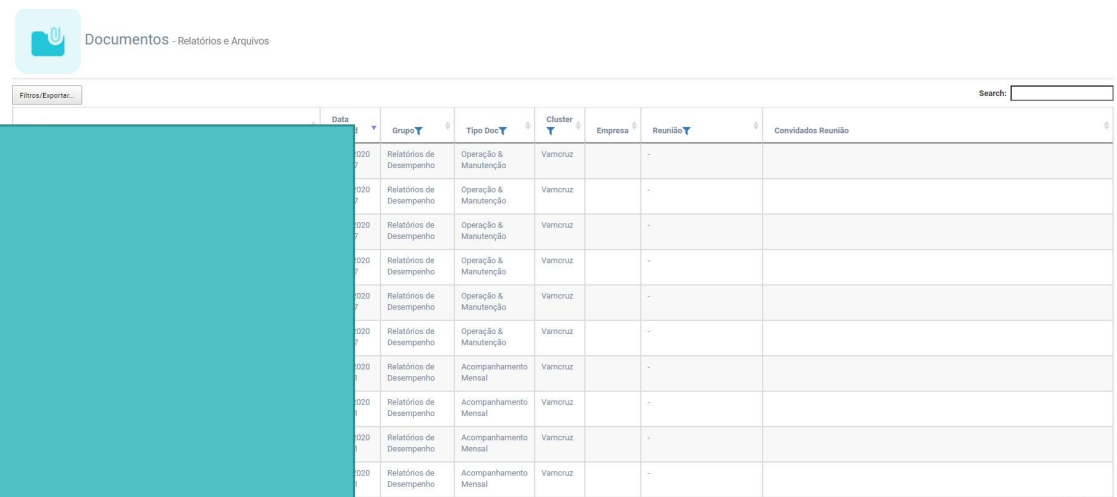
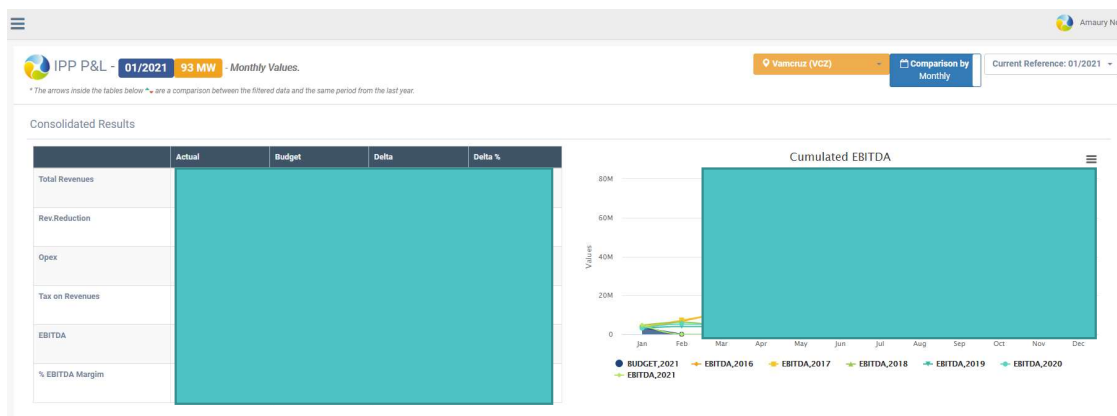
— **In-House Analytics** tools in order to integrate the different aspects of the assets

23 initiatives related to Operating Projects (21 in-house)



Getting to know: Partner +

Everything in one place – No more Attachments in the emails, no more forgetfulness



Prezados, boa tarde!

Segue link do Partner+ que dá acesso ao Relatório de Contingências atualizado:

Fico à disposição para sanar quaisquer dúvidas ou prestar quaisquer esclarecimentos.

Atenciosamente,

Melhores cumprimentos | Best regards | Cordialement

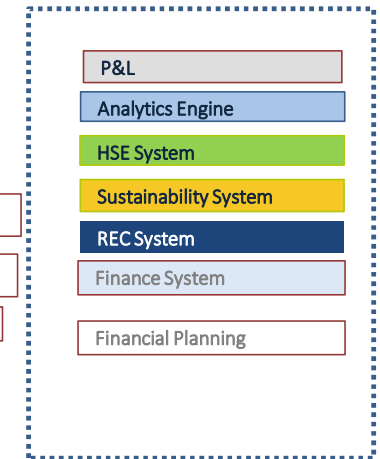
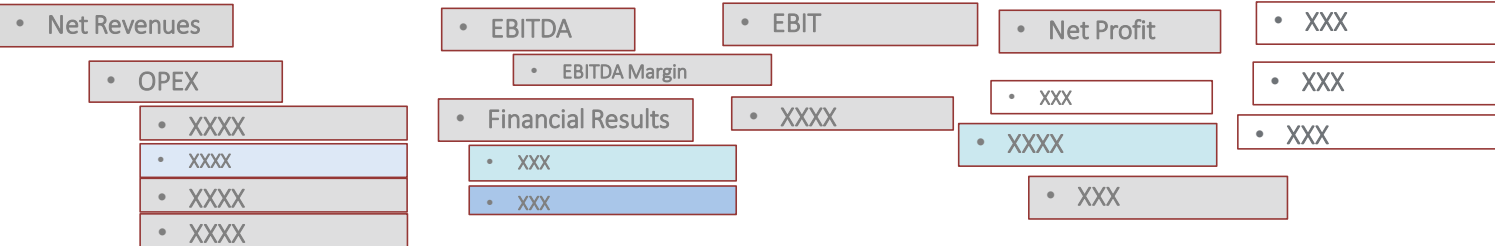
Rayan Huapaya
Local Intern



Everything at one place

Asset+

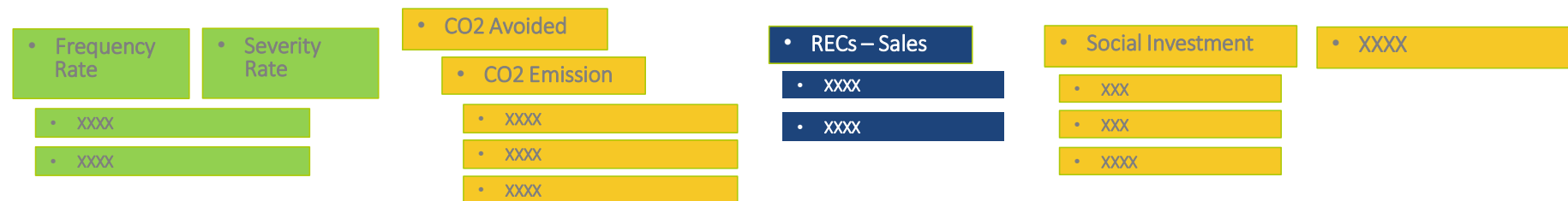
Finance



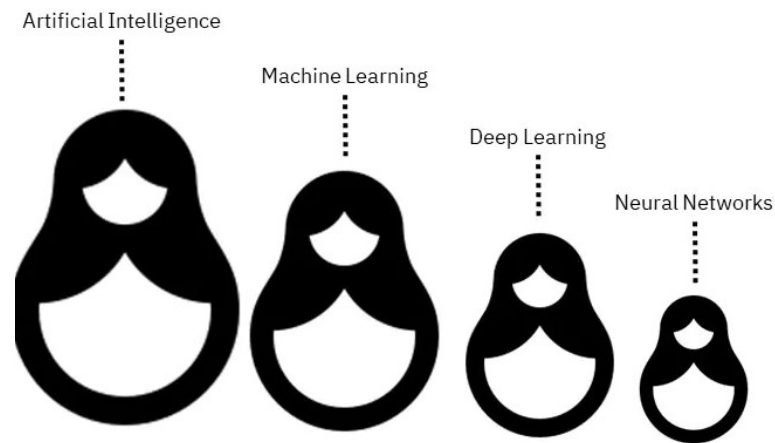
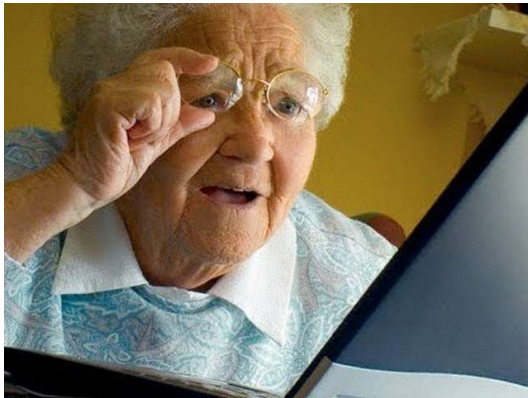
Operation



ESG



Digital Transformation – Some Concepts



Neural Networks: Linear Regression

$$\sum_{i=1}^m w_i x_i + bias = w_1 x_1 + w_2 x_2 + w_3 x_3 + bias$$

Should I Order pizza today?

X1 (0 or 1) – Do I save Time?

X2 (0 or 1) – Do I lose weight?

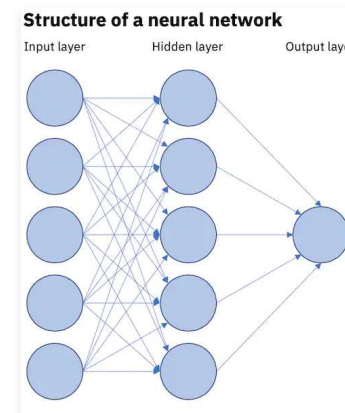
X3 (0 or 1) – Do I save money?

W1 (1-5) – Time

w2 (1-5) – Weight

w3 (1-5) - money

Deep Learning: Layers of neural networks



Digital Transformation- Some Concepts

Machine Learning: “Deep” or “Non-deep”

Flexibility of layers of data

Deep Learning - (*Short-term Forecast*)

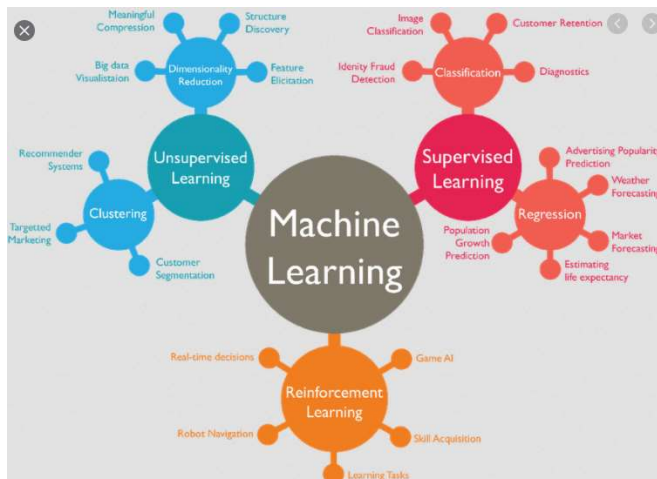
Digital Twins - (*Tchala – Predictive Maintenance*)

Artificial Intelligence: Mimic Human Intelligence

Facial Recognition

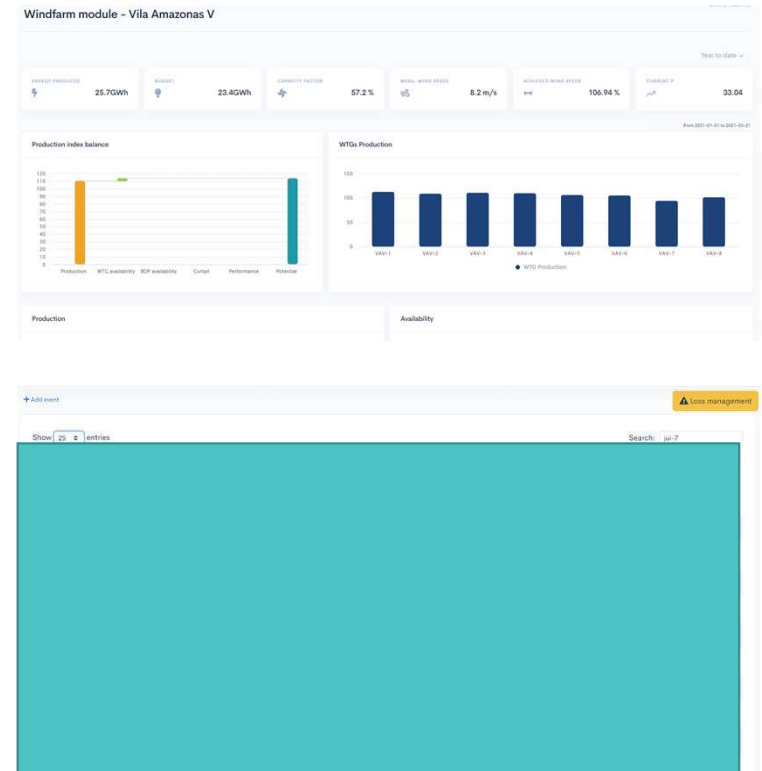
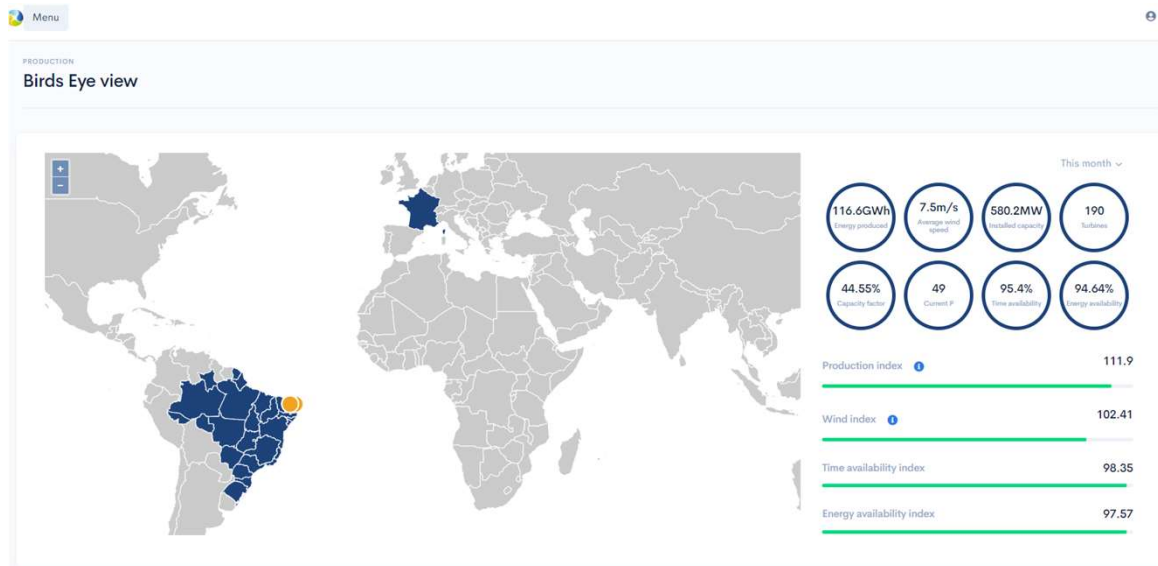
Translation

Voice Assistant



Getting to know: Analytics Engine

— If the main challenge is to find exactly what you need in a tool – why not create your own software (already adapted for the Brazilian Wind Farms)?



- Portfolio management
- Turbine performance
- Events Management
- Forecast Module
- Predictive Maintenance Module



Remote Operation & Performance Center

Performance focused!
More Operation with less effort!

- Integration with Analytics Engine
 - Automatic dispatching processes
 - SI, RDO, etc...
 - Wind turbines remote operation
-
- **Availability evolution**
Time based – Energy based – Revenues based

