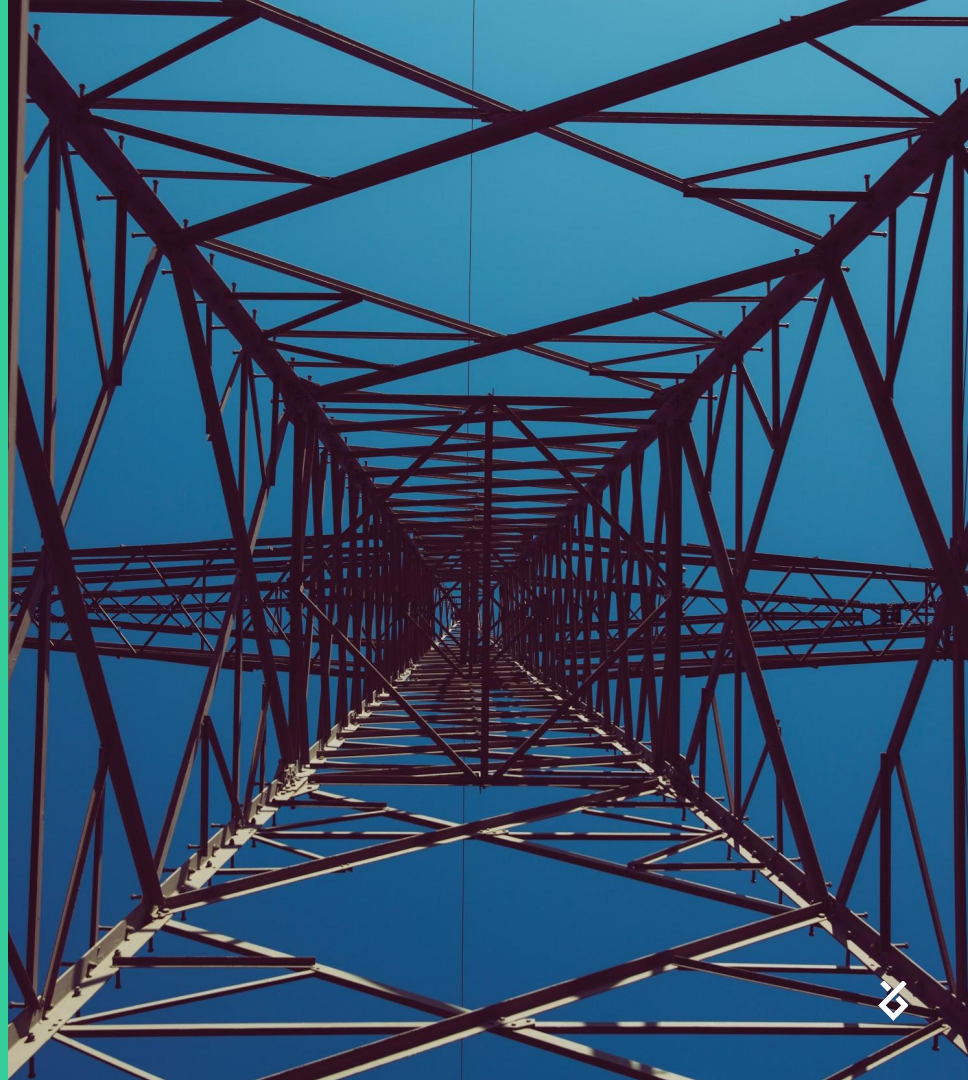




greenant

We are a data
Intelligence
company for
Electricity
Consumption
Management





Real Time Energy Management



Evite desperdícios entendendo melhor como você usa energia elétrica.



Energy Efficiency



Management and Control



**Continuous improvement and
Better contracts**



How GreenAnt Works

1. Data Gathering



Smart Meter



Gateway



Power Pipe

2. A.I. and Intensive Data Cloud Processing



GreenAnt Cloud

3. APPS



Dashboard



API RESTful



Smart Meter

Simple and straightforward direct metering with WiFi connectivity - True IoT for electricity submetering.



Non intrusive installation - headache free



Gateway

Connect to existing meters with the existing protocols to retrofit your old metering infrastructure



Digitalization of tariff meters

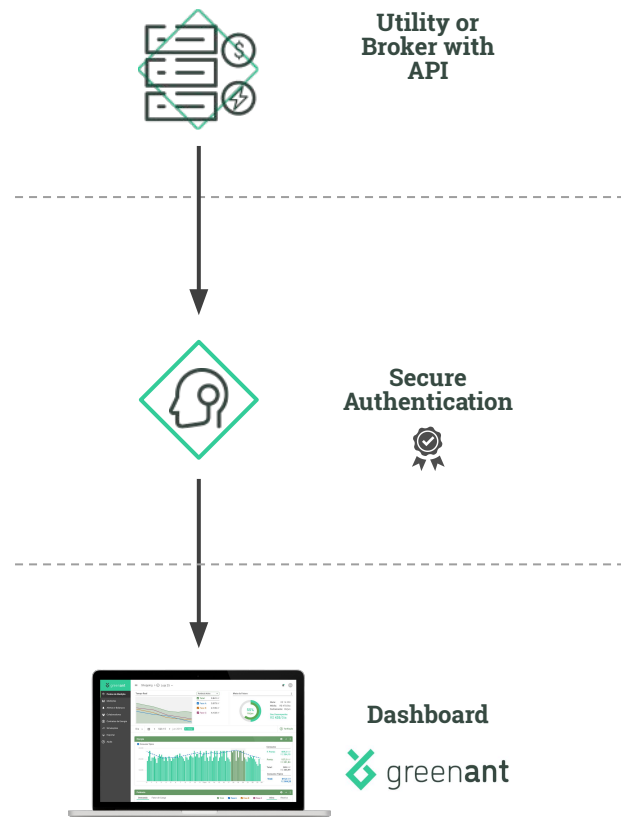


Power Pipe

Connect to existing energy consumption APIs to collect data directly from your utility or energy broker without any local hardware



Flexible platform to connect to APIs



Dashboard

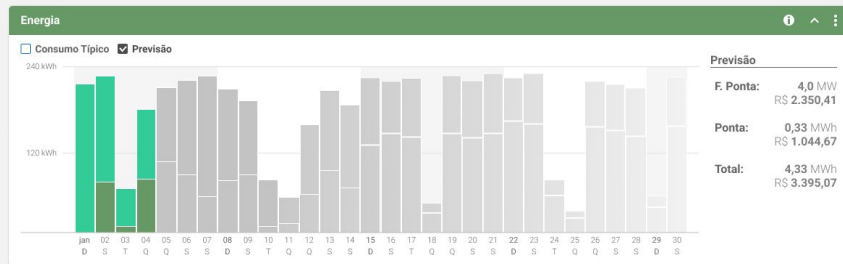
A complete Business Intelligence dashboard to find insightful information about your consumption and deep dive into your data



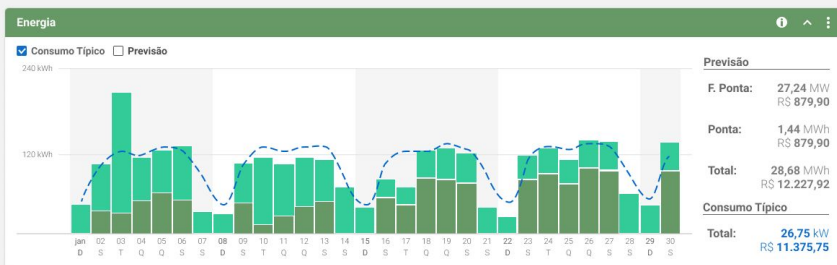
Also whitelabel for energy providers and brokers



Machine Learning: Load Forecast and Profiling



Utilizamos o histórico, sazonalidade e tendência do consumo para realizar cálculos automáticos de previsão



Os mesmos cálculos são utilizados para exibir uma curva de consumo típico, utilizada na detecção de anomalias

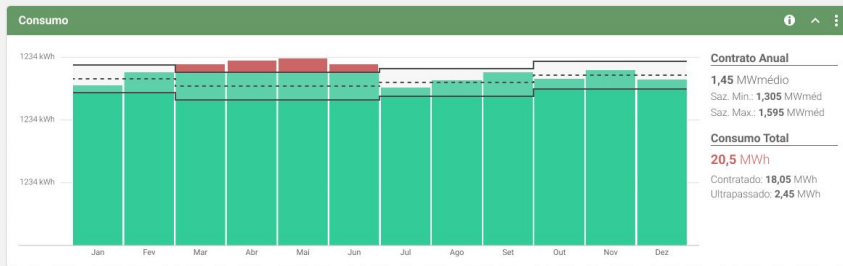


Machine Learning

With advanced machine learning models we can detect consumption anomalies and predict expenses



Powerful Analytics



Visualização de limites contratuais de sazonalidade e flexibilidade



Resultado da liquidação diária de acordo com preços do PLD



Data Analysis

Comparative analysis and contract simulation for tariff review



Non Intrusive Load Monitoring (NILM)



NILM

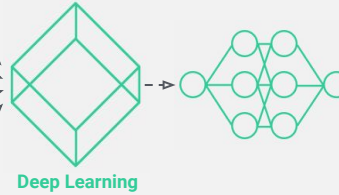
- Know the end-use of your energy
- Deep Learning models specially tuned for dealing energy measurement time series and equipment detection/classification
- A complete new way to understand consumption behavior

Data Acquisition

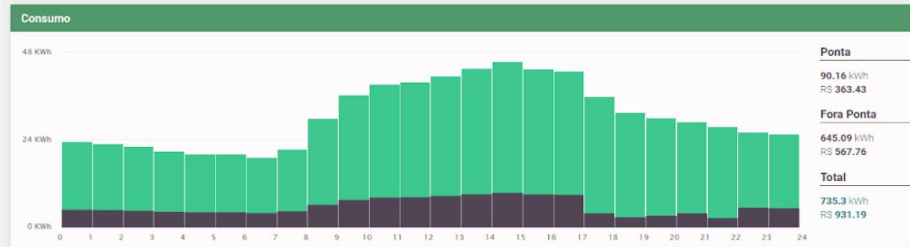
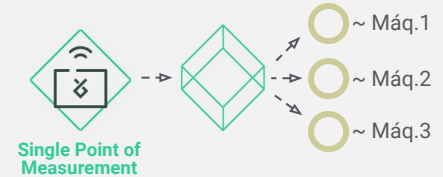
Equip 1
Equip 2
Equip 3
Entry



Model Training



Deploy



Máquinas

Peletizadora	R\$ 4,846	5,670 kWh
Moinho	R\$ 4,001	4,680 kWh
Exaustor do Moinho	R\$ 4,846	814 kWh
Exaustor da Peletizadora	R\$ 4,846	808 kWh
Dupla Contadora	R\$ 4,846	277 kWh



Data Fueled Business Models



2019

Ad Market US\$ 130 bi (eMarketer)

Traditional Media US\$ 110 bi (eMarketer)

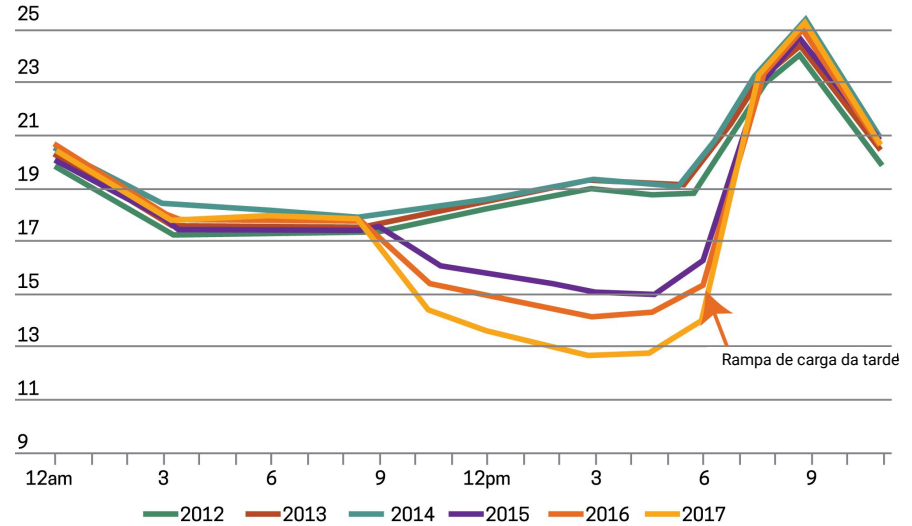


Problems with Increased Renewable Generation



27 Thousand Megawatts

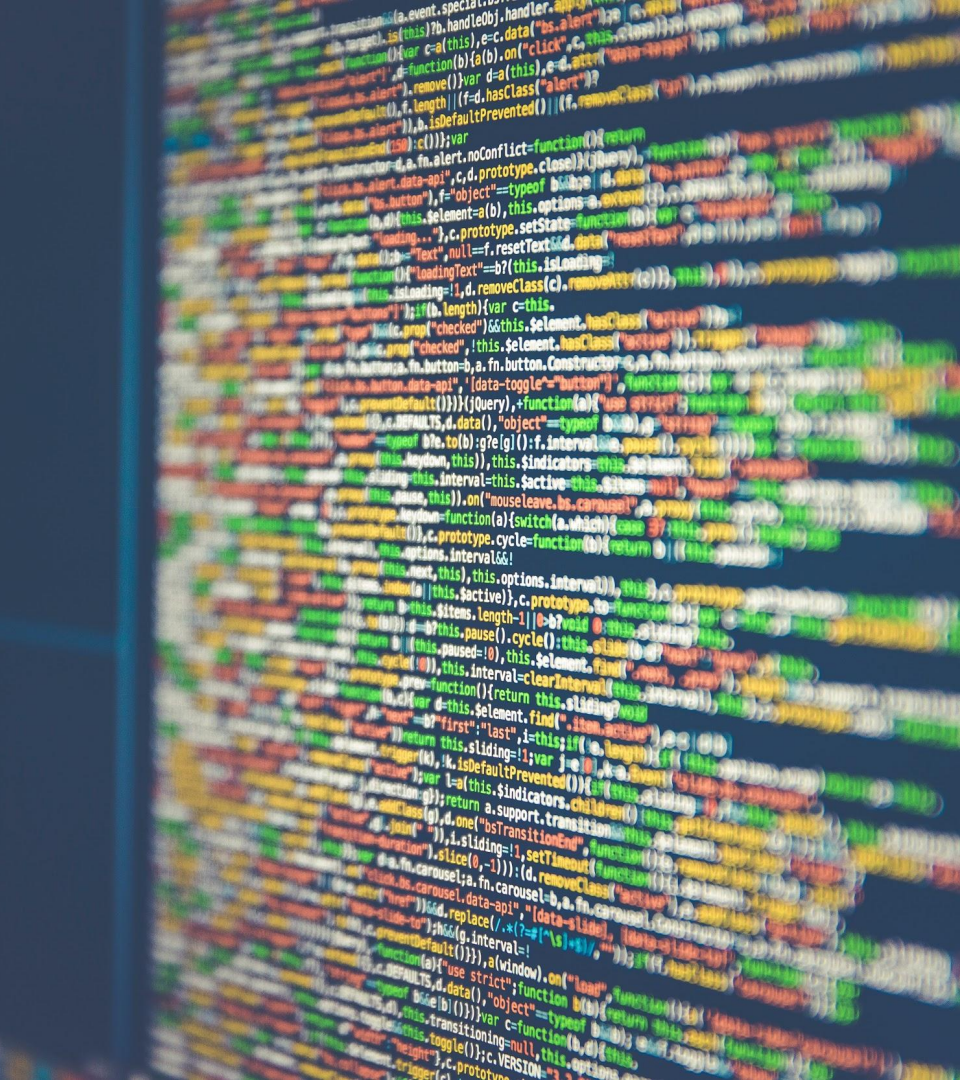
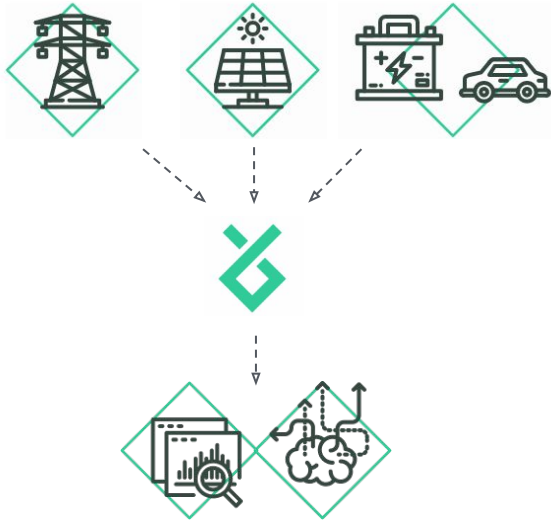
CALIFORNIA'S ELECTRICAL GRID THROUGHOUT THE DAY



Source: CAISO - California's Grid Operator

Virtual Power Plants:

DERMs integration to Dispatch Negawatts of Energy to Demand Markets - A multi Billion market of fast renewable balancing



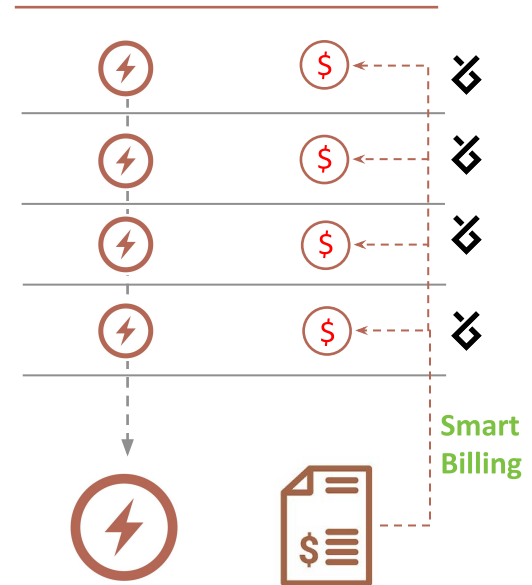
First Brazilian Flexibility Aggregator: Tyr Energia

Creating a new energy market in Brazil

- By aggregating all units of a building the new unit has enough demand to access better contracts
- With a joint venture with an energy broker Tyr can provide a zero investment 20% discount on energy to all units
- Business model based on energy free market spread opportunities
- Generate massive demand flexibility to future dispatch for power markets



Smart Building



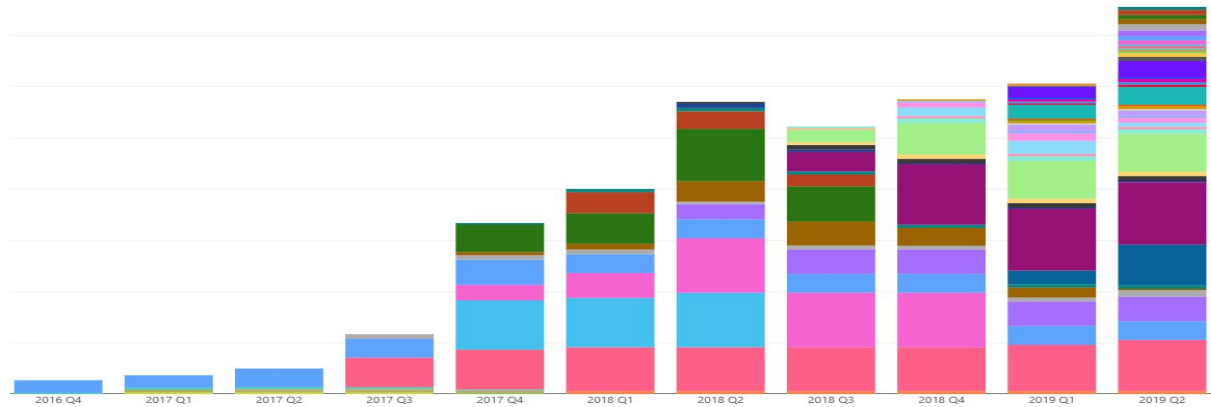
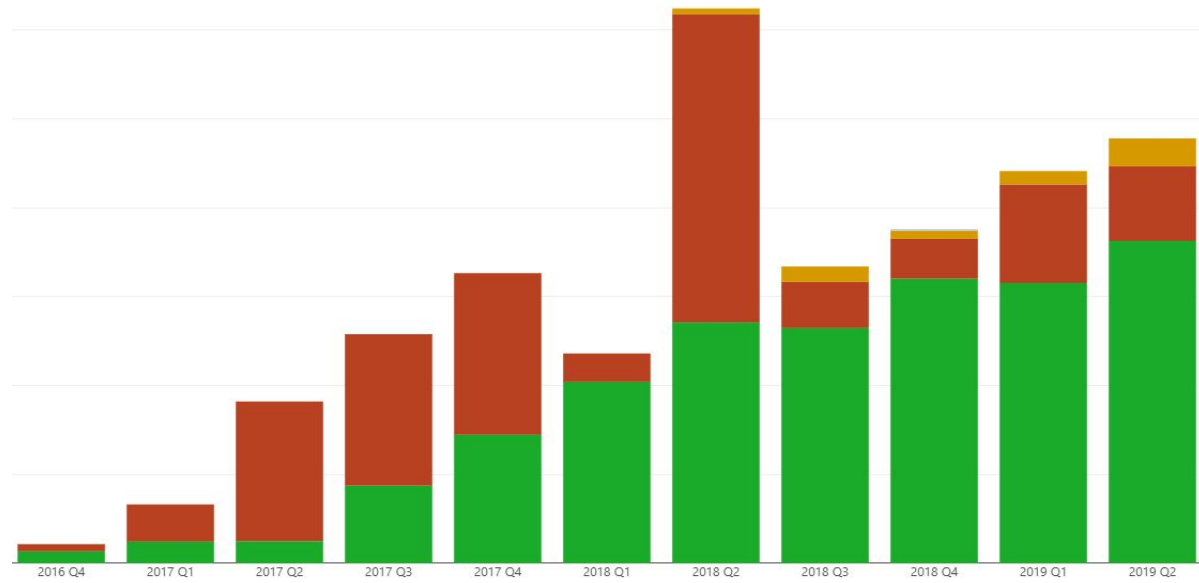
GreenAnt in Numbers

```
35 self.logger = logging.getLogger(__name__)
36
37 if path:
38     self.file = open(os.path.join(path, 'requests.log'),
39                     'a')
40     self.file.seek(0)
41     self.fingerprints.update(e.request)
42
43 @classmethod
44 def from_settings(cls, settings):
45     debug = settings.getbool('SUPERFILTER_DEBUG')
46     return cls(job_dir(settings), debug)
47
48 def request_seen(self, request):
49     fp = self.request_fingerprint(request)
50     if fp in self.fingerprints:
51         return True
52     self.fingerprints.add(fp)
53     if self.file:
54         self.file.write(fp + os.linesep)
55
56 def request_fingerprint(self, request):
57     return request_fingerprint(request)
```



Consistent Growth of Revenue and Number of Customers

- Traction of current business model is proved
- Energy Management solution is the entry point to interact with customer`s distributed energetic resources
- Larger the scale we can get with EMS bigger the company will be on flexibility operation



Consistent Growth of Revenue and Number of Customers

- 300 Revenue generating meters deployed
- 60 different corporate customers
- 100%+ growth of ARR in the last 2 years
- Operational revenue of 500k USD on 2019



Fund Raising

Investment	For	Tangible Goal
USD 1.7 M	Deploy more units to increase user base to get ready for Brazilian demand response market opening	2000 meters installed and up to 10 MW of flexibility
USD 0.7 M	Development of an utility platform for demand side management	Have the utility dispatch platform ready to deploy.
USD 1.1 M	Establish team and infrastructure for scale	Customer Support and Sales, efficient elastic cloud infrastructure, affiliate program and strong engineering team
USD 3.5 M	Expand Tyr reach to reach critical scale	Reach 1000 buildings on portfolio, leveraging goal #1
Total USD 7 M		

Obrigado



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VPP, Microgrid, DSM



TE^NDRIL[®]

AutoGrid

enbala
POWER NETWORKS

ENERNOC



neurio

sense

smappee



VERDIGRIS

KRON
MEDIDORES

Panoramic
POWER[®]

Schneider
Electric



HW & SW