



Plexigrid

Reinventing electricity grids for the energy transition

THE PROBLEM

Electricity Grids are becoming the **Largest Bottleneck** of the **Energy Transition**

■ Congestions & Unstability

As millions of EVs, solar panels, heat pumps, ... unfold across the grid, operators are confronting the largest congestions and stability challenges in decades



European Distribution System Operators Observatory



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■ Delays & Cancellations

Grids are the **#1 cause of delays and cancellations** of new renewable projects and electrification projects



AUSTRALIAN ENERGY REGULATOR



■ Rising Costs

Grid operators' approach to de-bottlenecking is inefficient, which has caused 40%-90% increase in grid costs per kWh last 10 years. Grid costs set to double over the coming decade

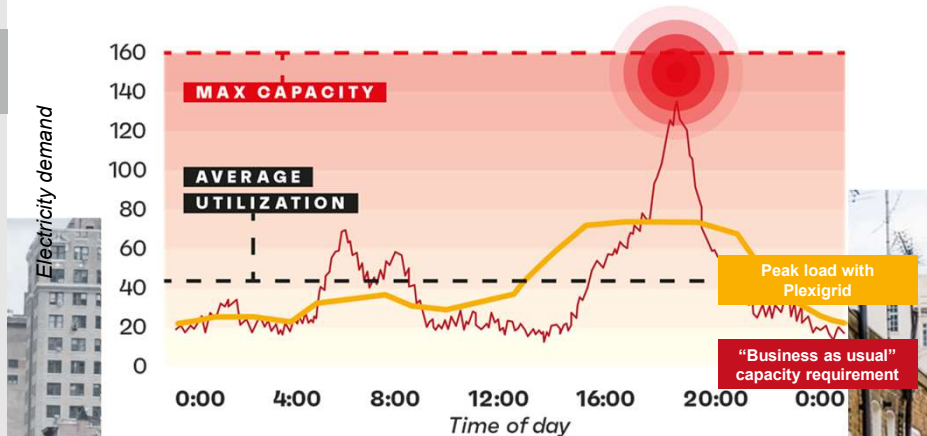


How can we turn electricity grids into enablers of the energy transition?

The traditional way

Design for peak capacity

- with more hardware, network upgrades
- multibillion € annual CAPEX investments
- increasing consumer grid cost
- long lead times



The Plexigrid way

Design for maximal utilization

- with software, on the demand side
- actively reducing peak loads
- at a fraction of the cost, benefiting customers, DSOs and energy suppliers



THE SOLUTION

Plexigrid next-gen network technology provides grid operators with **THREE Superpowers**, to make their grids fit for energy transition.



1 Ari

End to end Visibility

- Real time grid visibility across all voltage levels, down to 220V household level
- (Note: currently, grid operators have limited to no visibility under 20kV, where 80% of the kms of grid are located)



2 Tatari

Real Time Analytics

- Real time Grid Digital Twin
- Identifies where, when and why grid bottlenecks occur
- Optimizes grid planning and grid operations



3 Tia

Real Time Grid Flexibility

- Predicts behind-the-meter assets
- Works with Tatari to detect grid congestions in real time
- Activates flexible demand devices to resolve identified congestions



THE SOLUTION. IMPACT

Plexigrid's **superpowers** drive **game-changing** improvements across, **planning, operations and flexibility management**

GRID OPERATIONS



Reduction of operational costs and improvements in grid performance

GRID PLANNING



Tighter, "bottleneck focused" capacity planning, reduction of electrical losses

FLEXIBILITY MANAGEMENT



Resolution of bottlenecks with flexibility instead of additional capacity

Up to **35%-40%** reduction of energy and grid costs for grid operators and consumers



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A WIN-WIN FOR EVERYBODY

At global scale, Plexigrid's next-gen network technology would save grid operators and consumers 150 B€/year until 2030 and 300 B€/year between 2030-40.



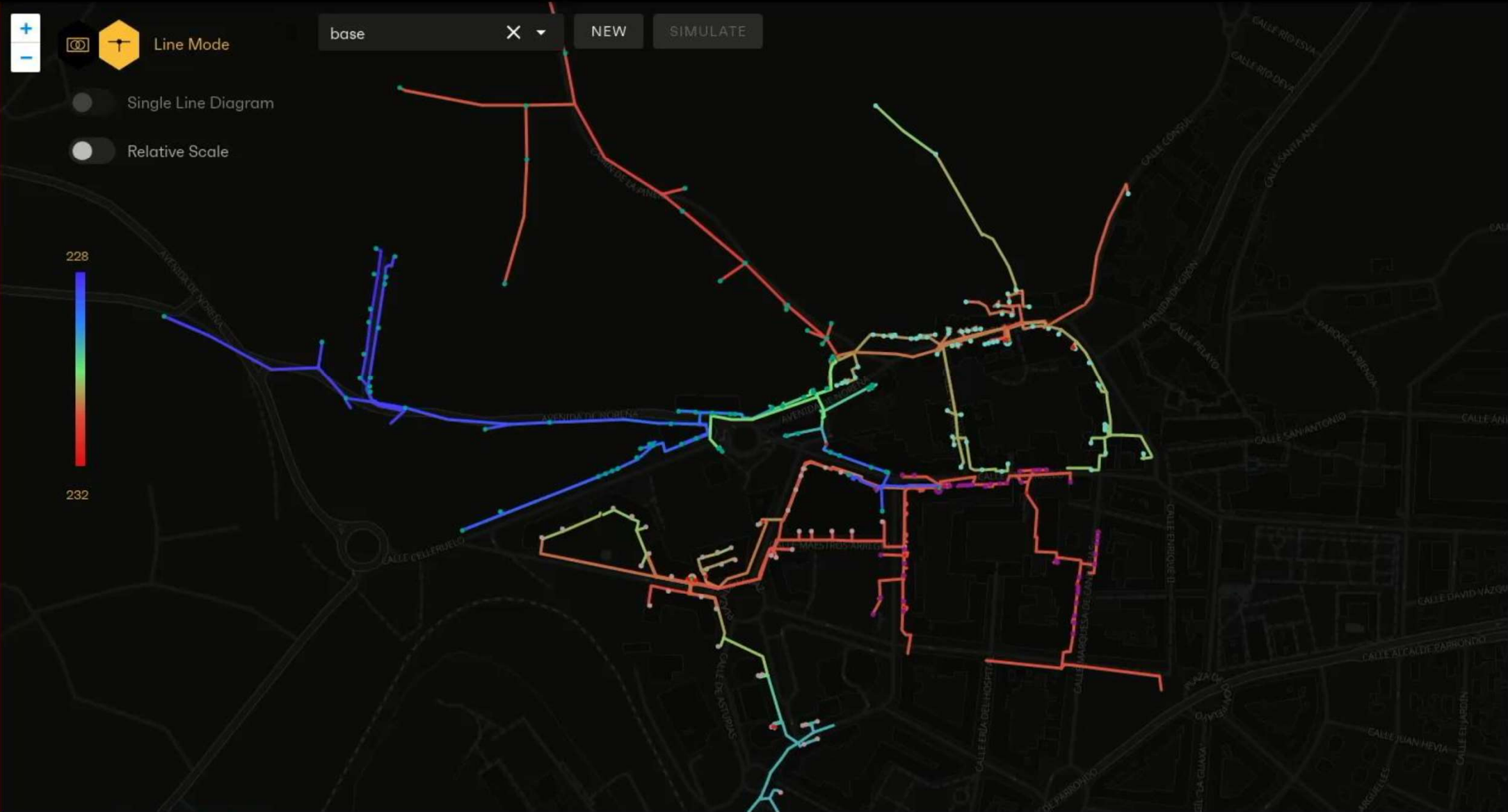


Line Mode

Single Line Diagram

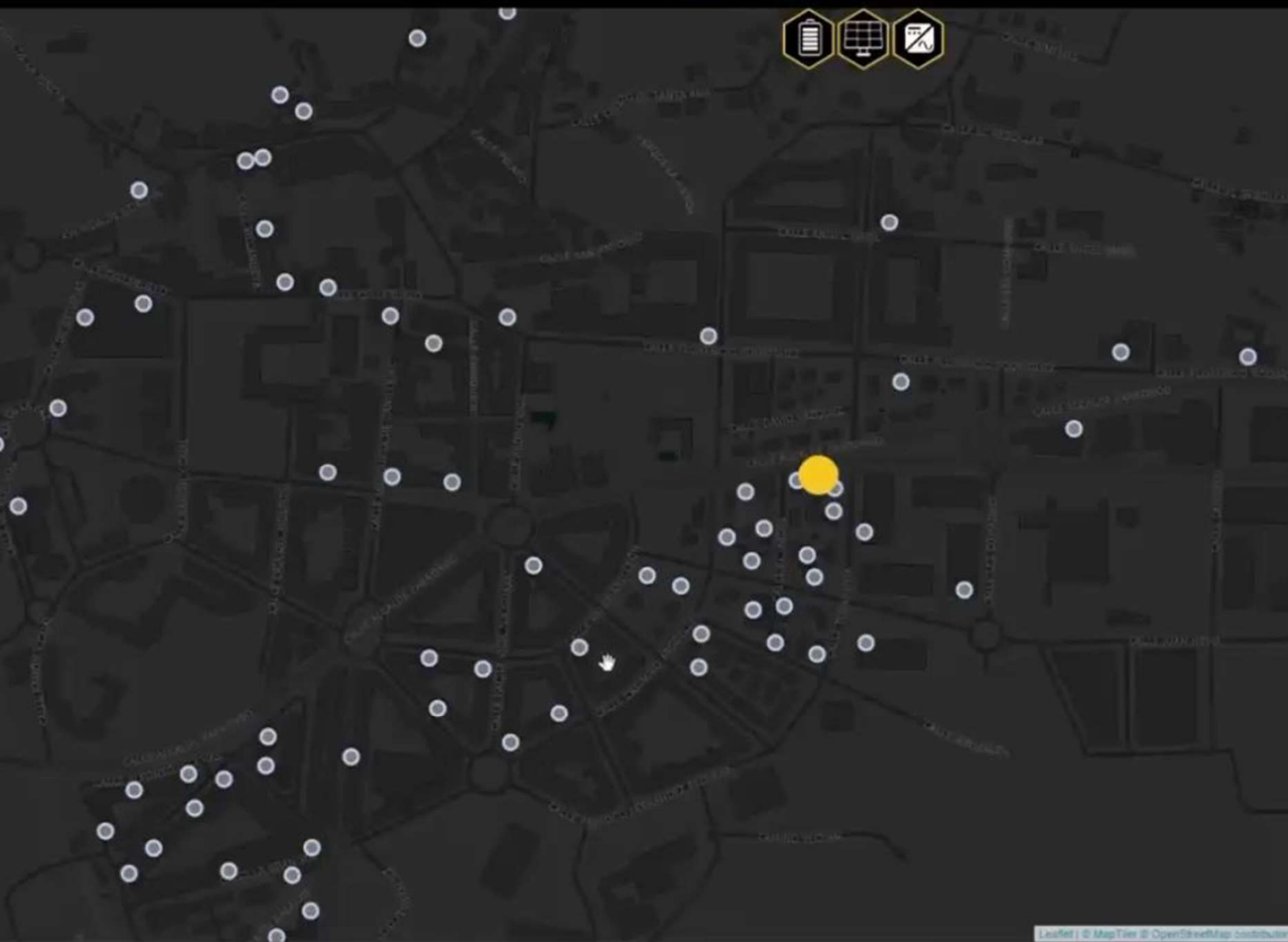
Relative Scale

base X NEW SIMULATE



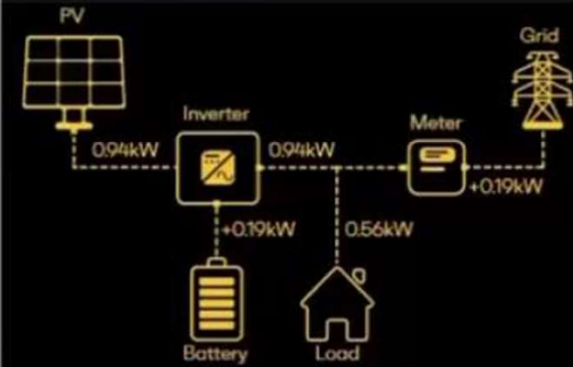
FLEXIBLE SYSTEMS

User ▾



Complex System

Power Flow Diagram



General Information

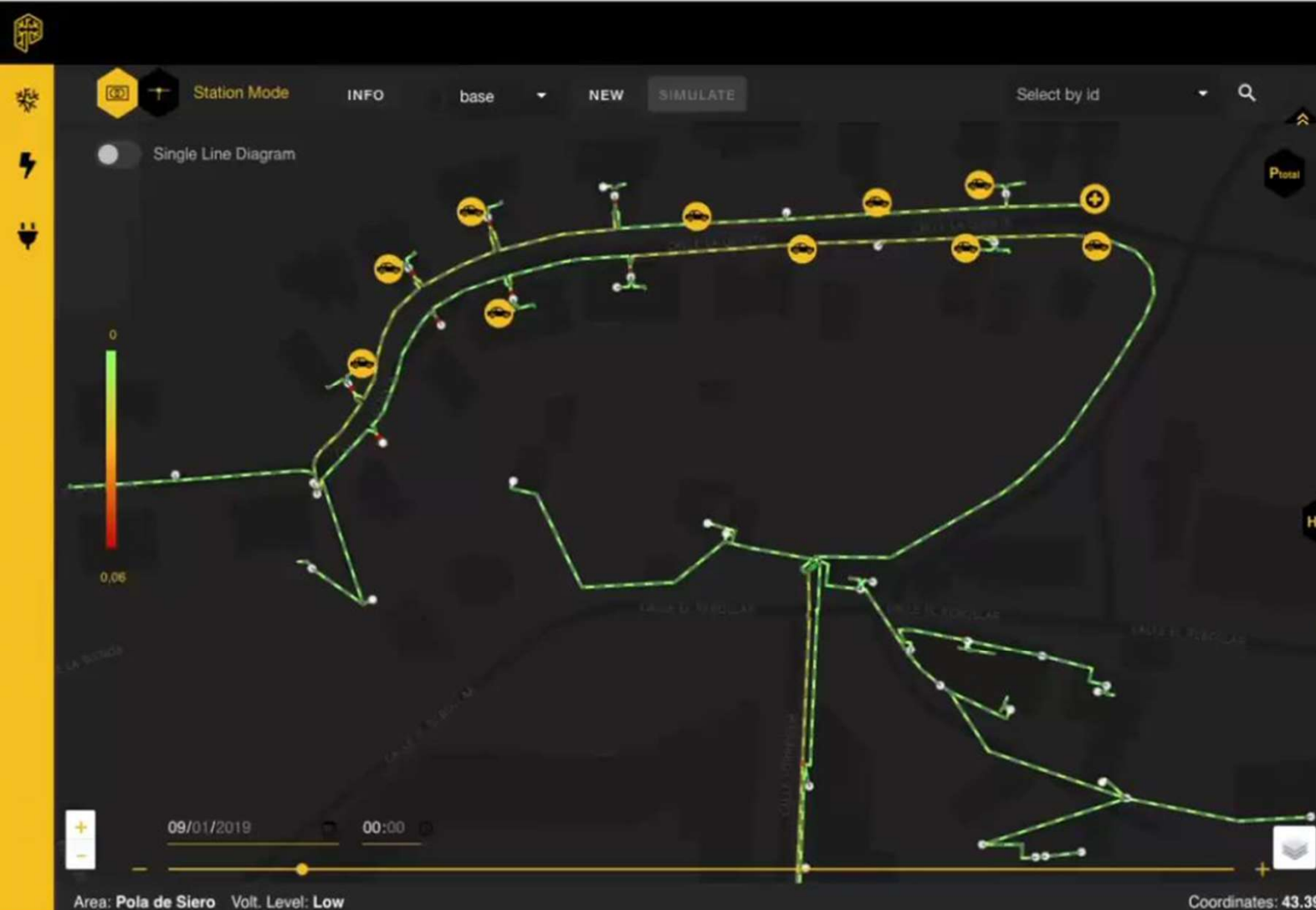
System ID: 22
Type: Inverter-Battery-PV
Client ID: 5658
Latitude: 43.3919
Longitude: -5.6576

Inverter Information

ID: 843
DC Power: 1500
Connection Phase: B
Manufacturer: LG

PV Information

ID: 1235
Peak Power: 1500
Connection Phase: B
N. Panels: 1
Manufacturer: EDP Solar

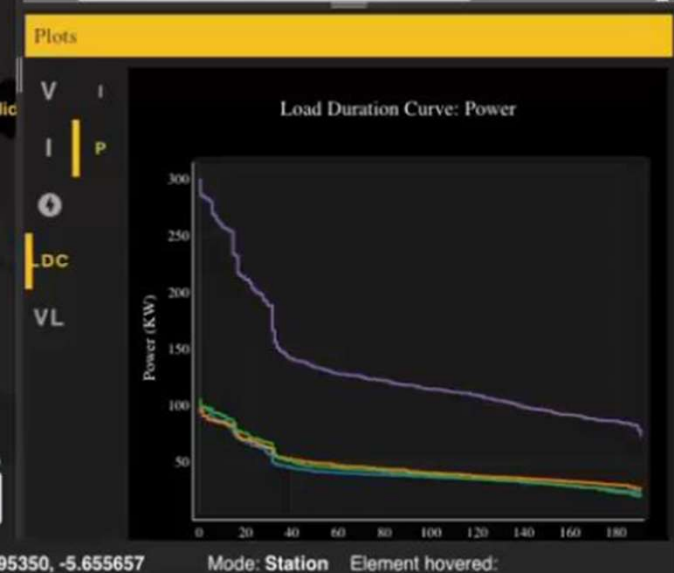


Station 65019

2019-01-08 / 2019-01-15

KPIs

Unit	Phase	Base	base21	base2flex	base22flex2	base22flex1
- KPI: Apparent Power: Avg X						
kVA	3P	113.57	133.12	197.7	182.79	162.79
kVA	A	35.83	42.42	62.86	57.91	51.79
kVA	B	39.66	46.07	68.58	63.62	56.29
kVA	C	38.08	44.62	66.25	61.26	54.71
kVA	N	0	0	0	0	0
- KPI: Apparent power: Phase Share (Avg) X						





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