DETAIL

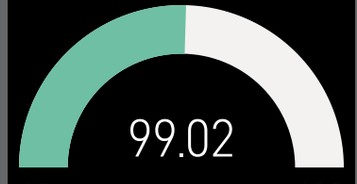
INSIGHT

EV Charging Behaviour

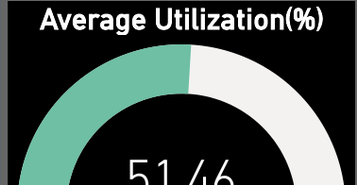
Total Stations

800

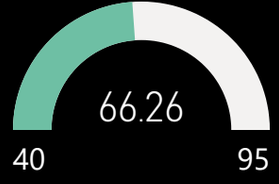
Average duration (mins)



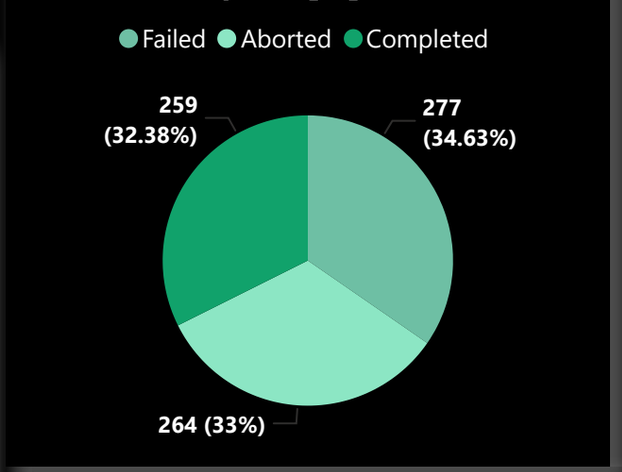
Average Utilization(%)



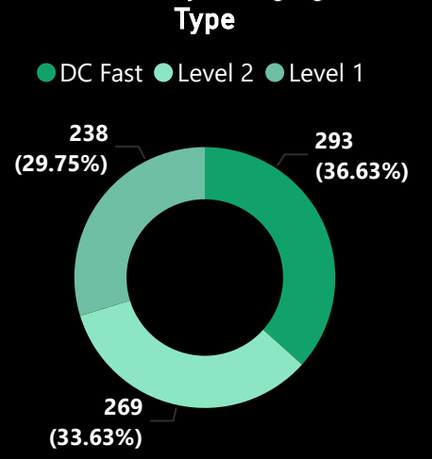
Average battery capacity(kWh)



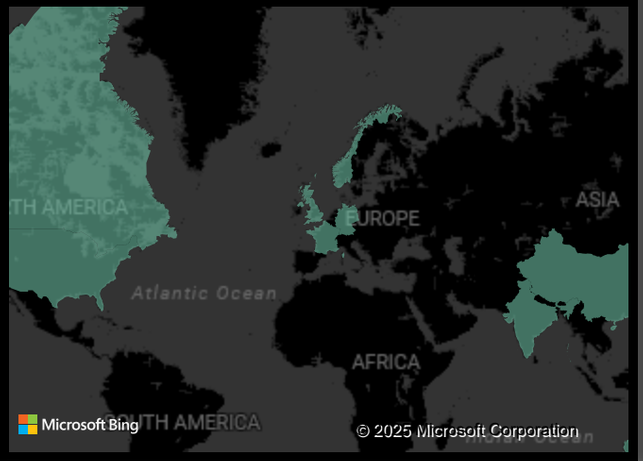
Total Stations by Charging Session Outcome



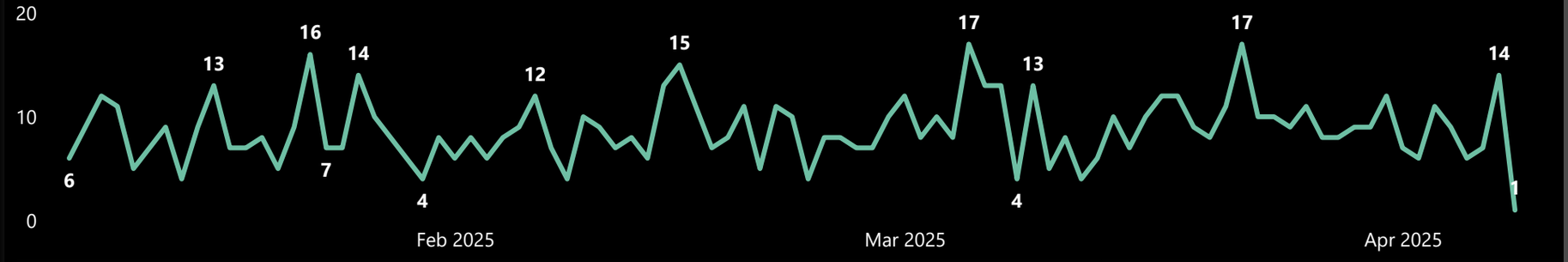
Total Stations by Charging Station Type



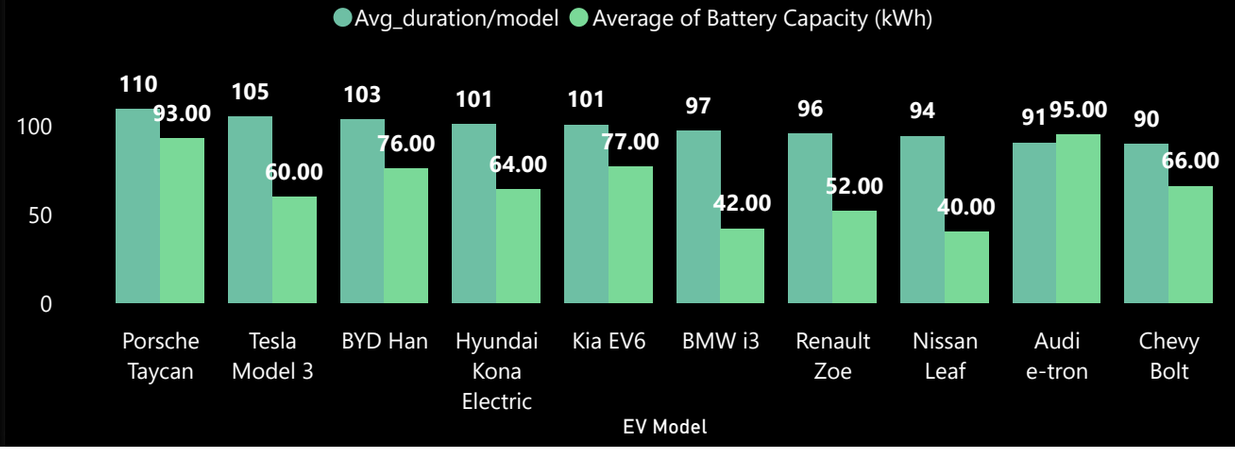
Total Stations by Country



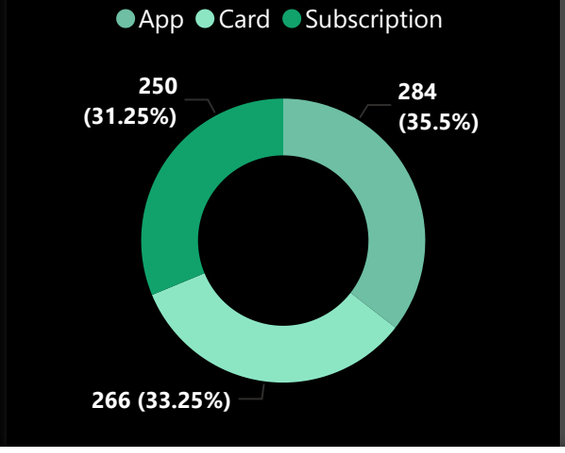
Total Stations by Year, Quarter, Month and Day



Average duration by EV Model



Total Stations by Payment Method



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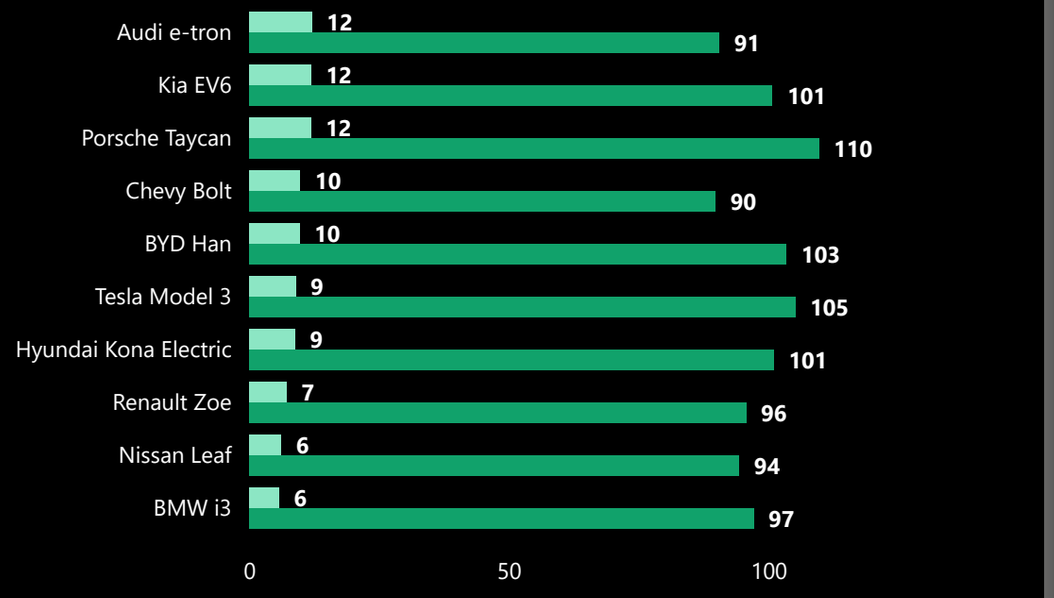
Avg_Cost($) and Avg_duration by EV Model

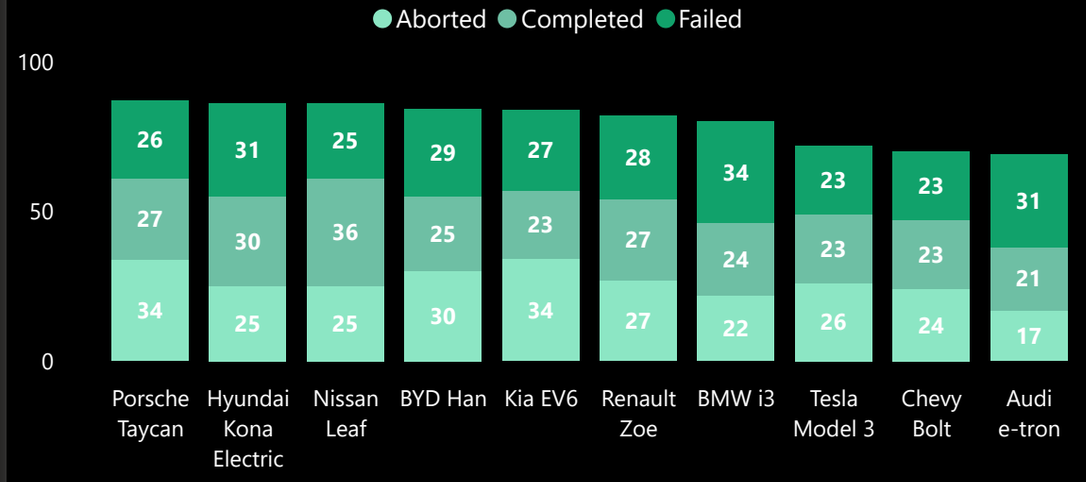


Charging Session Outco... All

EV Model All

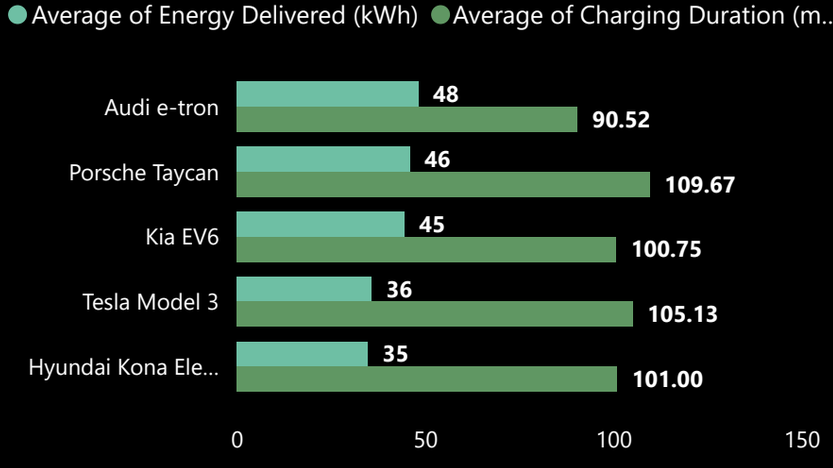
Charging Station Type All

EV Model and Charging Session Outcome

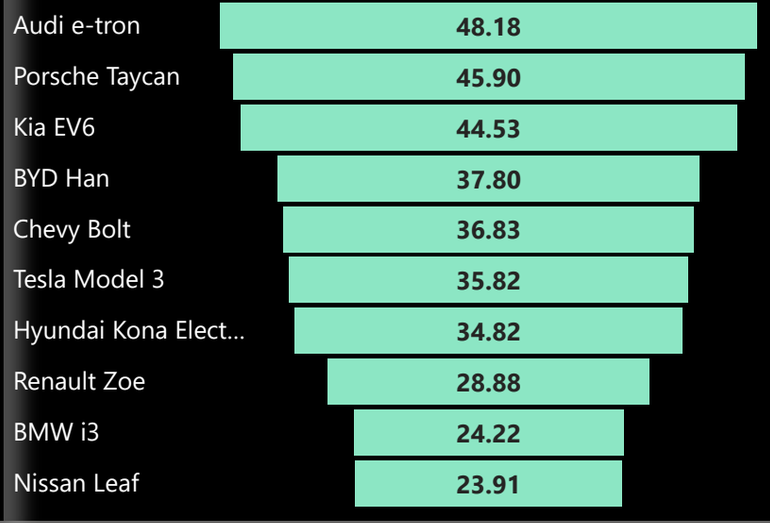


Avg_duration by Charging Station Type

Average of Energy Delivered (kWh) and Average of Charging Duration (mins) by EV Model



Average Energy Delivered(kWh) by EV Model



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INSIGHT

INSIGHT:

- The dataset includes **800 charging stations** with an **average session duration of 99 minutes**.
- Among all EV models, the **Porsche Taycan has the highest average charging duration**.
- The **average battery capacity** across vehicles is **66.26 kWh**. The **Audi e-tron has the highest battery capacity**, while the **Nissan** has the lowest.
- **Audi e-tron also has a shorter charging duration**, indicating **efficient energy transfer**.
- The **average station utilization** stands at **51.46%**.
- **DC Fast charging is the most preferred**, followed by Level 2 and Level 1 chargers. **DC Fast also has the highest average charging duration**.
- There is **no significant difference between completed and failed/aborted charging sessions**. This is a concern and suggests the need for further investigation into **why failures or aborted sessions occur**. A **higher completion rate** should be targeted to ensure customer satisfaction and system reliability.
- Over the **3-month period**, **daily data shows consistent fluctuations**, indicating variable usage patterns.
- There are **no major differences across payment methods**, suggesting a fairly uniform user experience regardless of how payments are made.
- The **Porsche Taycan incurs the highest average charging cost**, while the **Chevy Bolt has the lowest**, with a **difference of 18.18%**.
- The **Hyundai** model shows **the longest charging time but delivers less energy**, indicating **inefficiency**.
- On the other hand, the **Audi e-tron delivers the highest energy**, reinforcing its **strong performance profile**.

SUGGESTION:

- **Investigate failed/aborted sessions** to improve completion rates.
- **Address inefficiencies** in models like Hyundai.
- **Optimize station usage** through load balancing or dynamic pricing.
- **Analyze cost factors** for high-cost models like Porsche Taycan.
- **Match vehicle types with ideal chargers** for better performance.