

# SMART ELECTRIC VEHICLE (EV) CHARGING AND MONITORING SYSTEM

## PROJECT BY:

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## PROJECT OBJECTIVE

In March 2021, the Land Transport Authority (LTA) announced a plan to accelerate nationwide deployment of EV charging points, in support of Singapore's target to have cleaner-energy vehicles by 2040. A key issue is how to share the usage of charging stations among EV owners fairly, efficiently and effectively. This project aims to address this issue by focusing on the AC charger.

## PROJECT SUMMARY

The solution features hardware add-ons to an approved third-party EV charger unit such as a microcontroller, sensors, touchscreen display, lightings and cameras. These serve to detect and record information such as vehicle arrival/departure and licence plate number and control the start/end of charging. Users can also view the number of EV charging lots available and make payment at the charging station. Additionally, the solution is able to connect to a cloud management system that monitors a fleet individual charging points and enables data to be gathered for future analysis and improvements.

As of April 2022, ENEReady has been approved under the list of EV Common Charger Grant by LTA.



## PROJECT OUTCOMES

- Detection of misuse of EV charging station such as cars which continue to park at the EV charging station after finished charging.
- Monitoring of EV charging station availability over a cloud dashboard.
- A point-of-sale system that charges the amount of electricity used after charging an EV.

HARDWARE IN MOBILE STANDEE FORM



SAMPLE DISPLAY OF EV CHARGING POINTS STATUS

| EV Lot | Status                      |
|--------|-----------------------------|
| 1      | Charging                    |
| 2      | Not in used                 |
| 3      | Car parked but not charging |



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