

CREATIVE TECHNOLOGY  
JR. YEAR PRODUCT DESIGN

# **Electro Mobility Ecosystem in Smart Grids**

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# Problem area

Range anxiety, as it is known, is the fear that an automobile won't have enough energy to travel the predetermined distance to its destination. Customers want to charge their EVs as rapidly as possible, but with the market's current charging technology, this is also not achievable also they find it hard to locate the charging stations on their route.

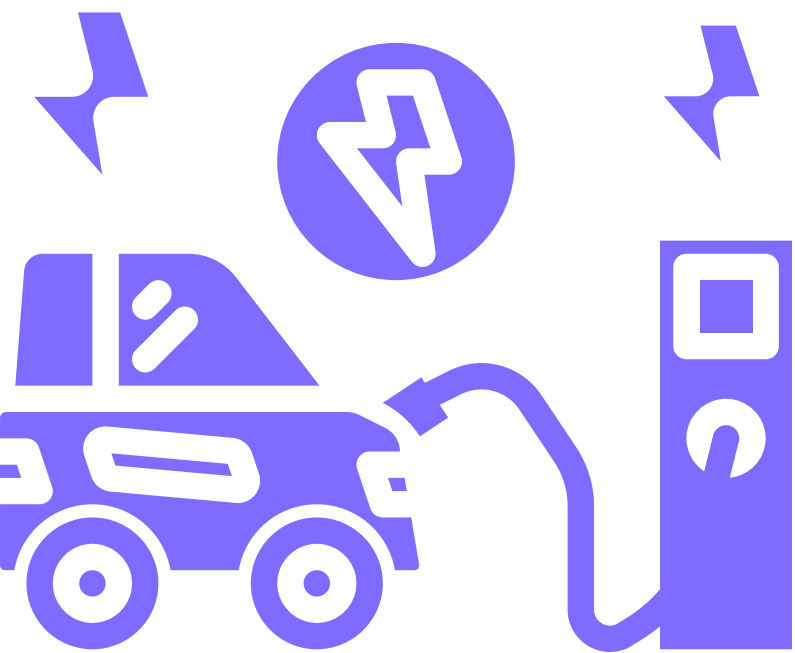
## How might we ?

How might we build an appropriate and efficient EV charging infrastructure to eliminate range anxiety as it is the concern of recharging the battery is a major drawback to electric vehicles, which are widely used.



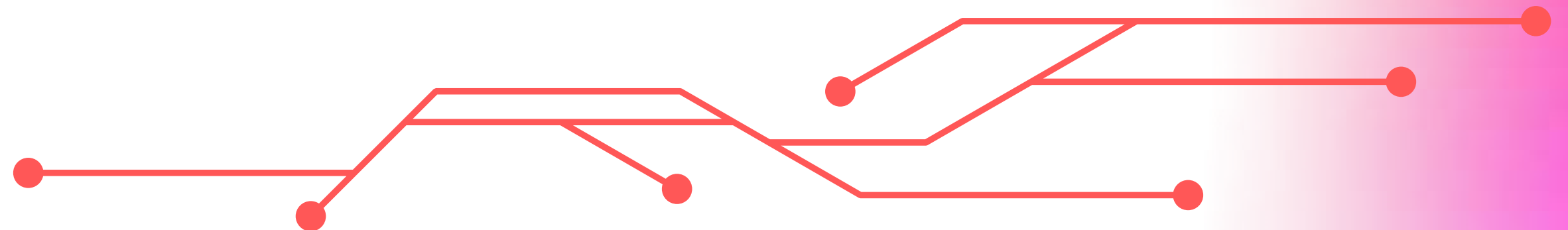
# 3 Parts of Smart Grids

- Digitisation
- Decarbonisation
- Decentralisation



# Work-Life With Technology

- Smart energy demand coalition was an act established in 2011



# Plan for a smooth process while driving the EV

## Step 1

Government should invest and put some regulations such that dispatchable grids and distribution storage infrastructure is present at let's say every 1km



## Step 2

Now the drivers can install an app where in they can easily locate the location of a charging station, distribution grids, and dispatchable grids. They can even buy the dispatchable grids from the charging stations.



## Step 3

The application can show them

- nearest charging station
- availability of dispatchable grids and portable batteries
- govt. schemes alert due to demand supply



## Step 4

Further this application can be obviously integrated with the car to suggest the driver after let's say 50km that charging is required

## Step 5

This makes a new system which is smoother and makes the life of EV drivers easy and reduces the range anxiety which is why this could be the future of india



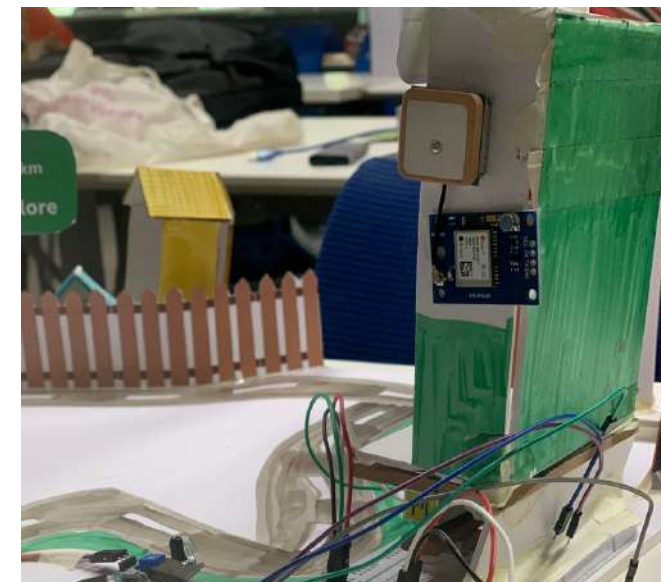
# Working of GPS, IR & Load Cell

we coded the sensors according to the system's plan and got the desired results.

## Load Sensor



## GPS Reading

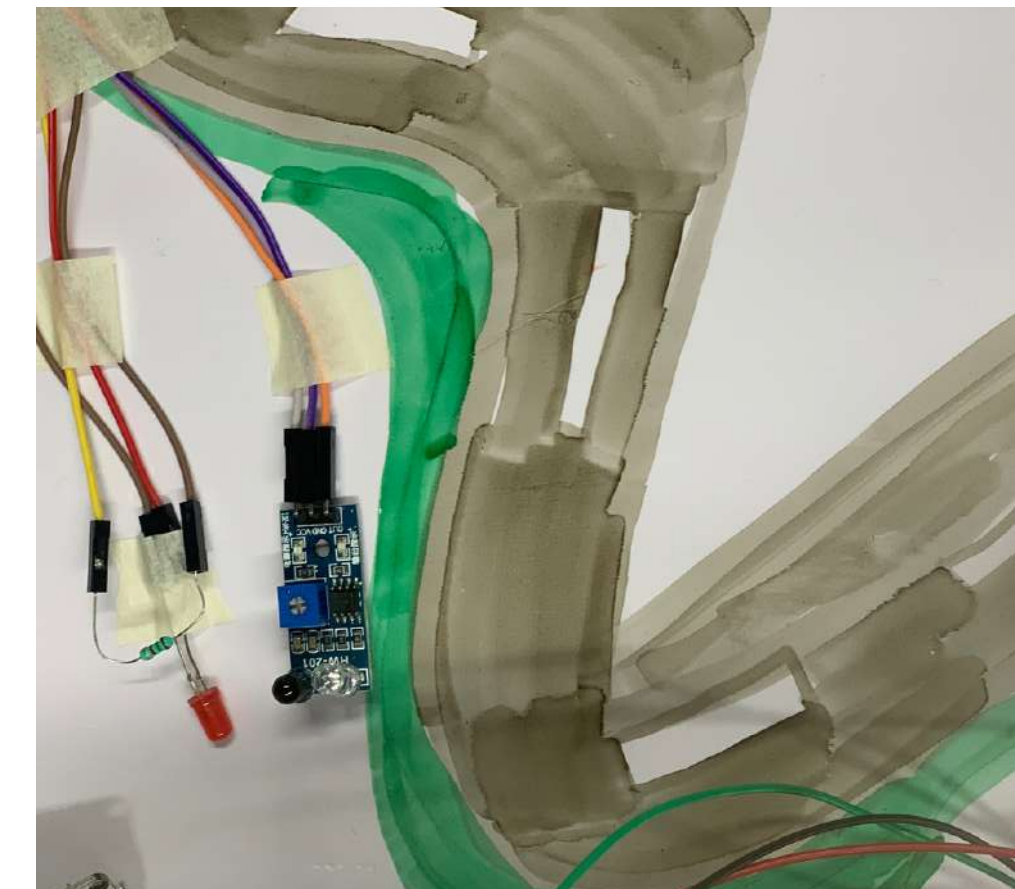


## NEO-6M GPS Readings

### Location Details

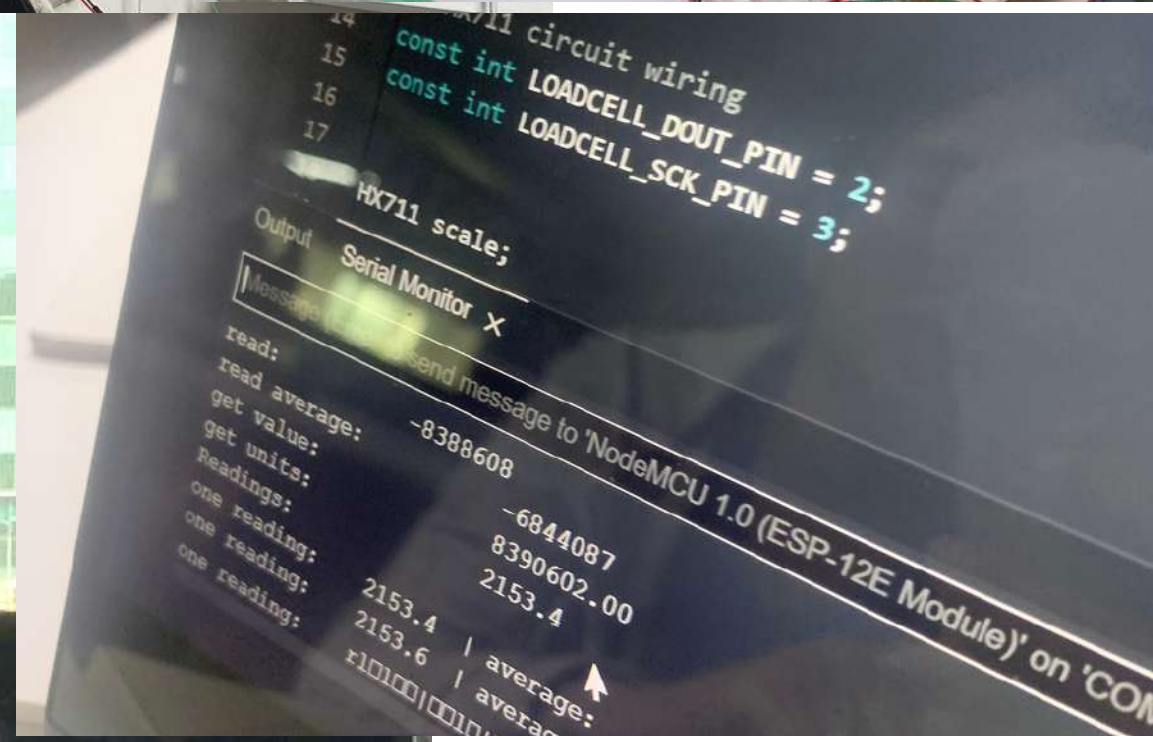
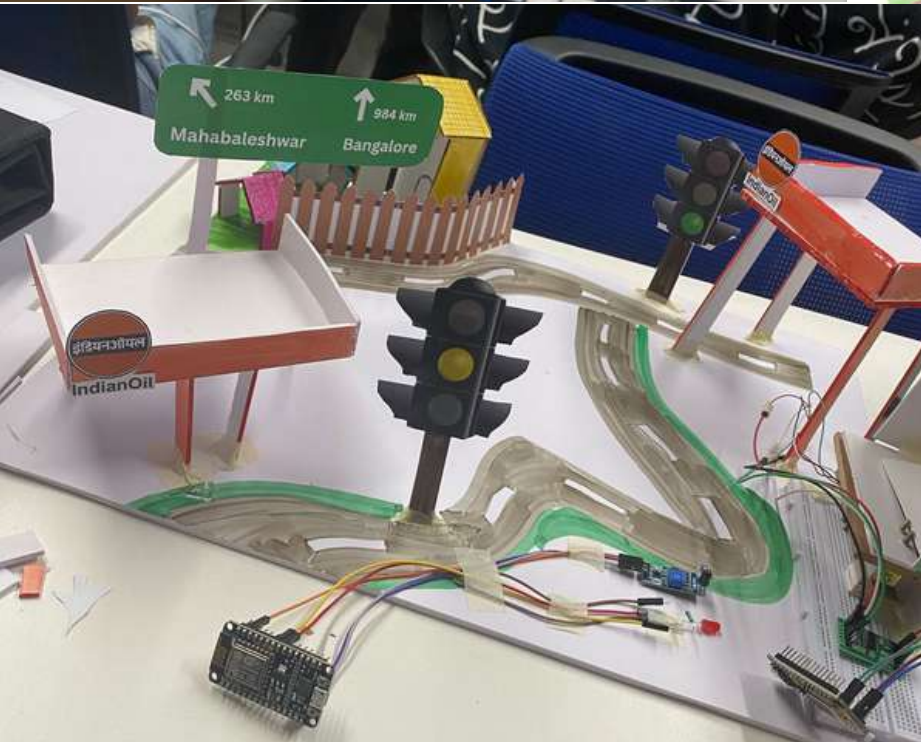
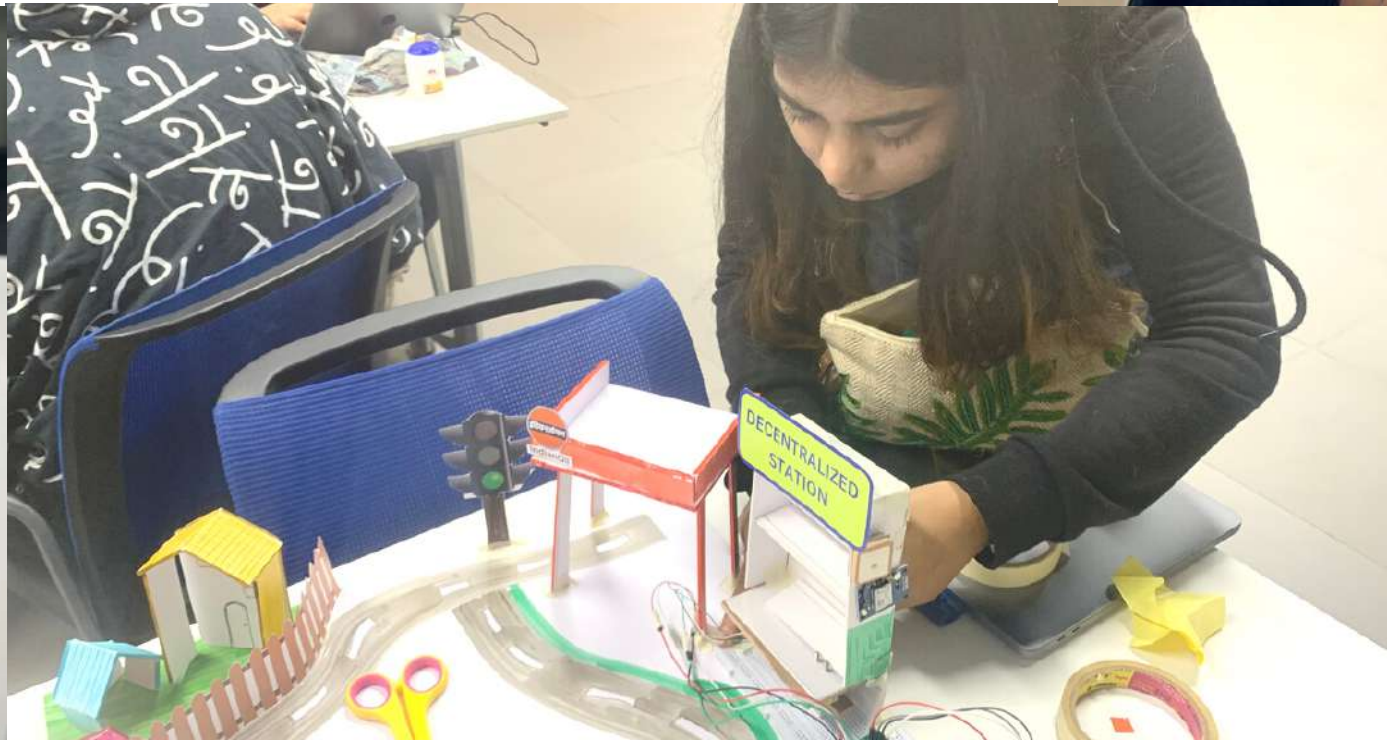
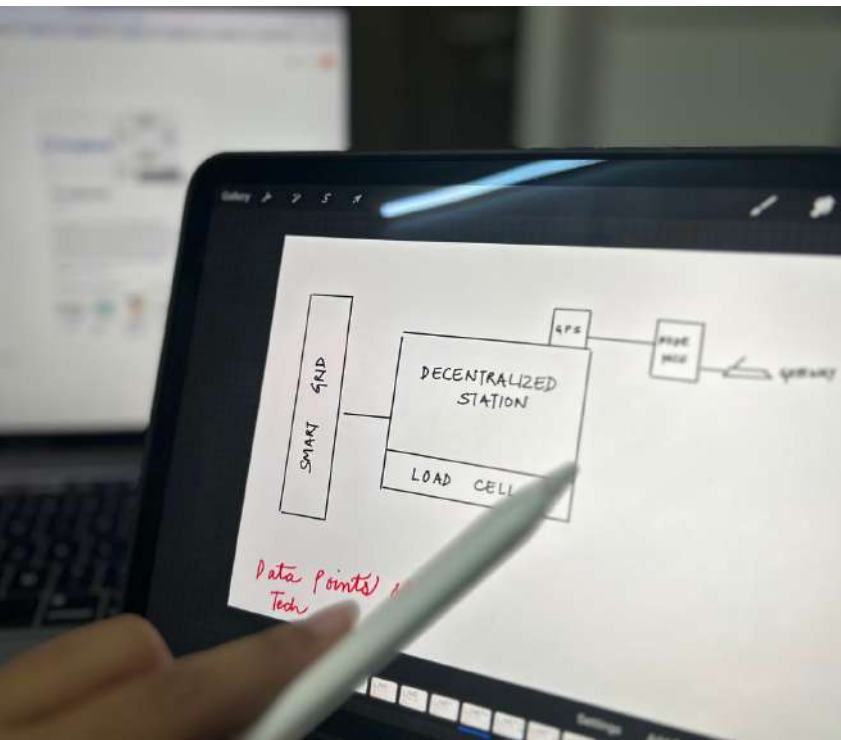
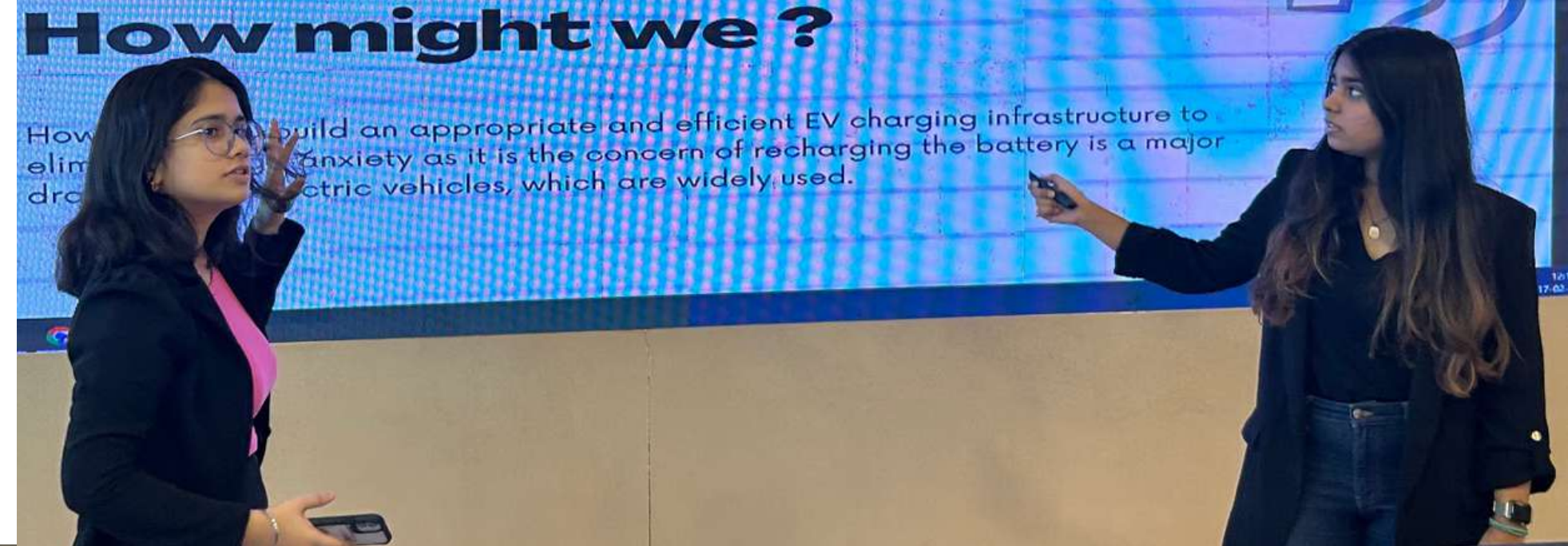
Latitude	19.0843° N
Longitude	72.8360° E
Date	03 / 12 / 2022
Time	15 : 03 : 37

## IR Sensor





# 5 week process





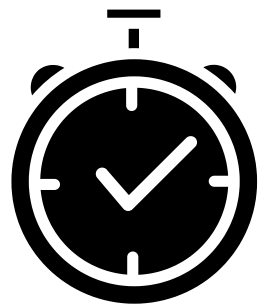


# Interface

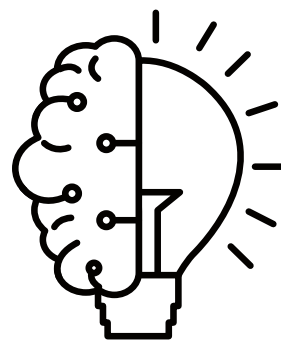
# Benefits of Dispatchable grids

How technology affects company growth

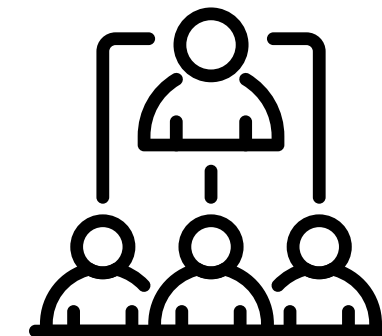
**Increases efficiency  
and productivity**



**Boosts  
innovation**



**Improves  
management**







**"Transportation is transforming and we need to get ready"**

**The system stands strong with the proof of concept**



Thank you

