

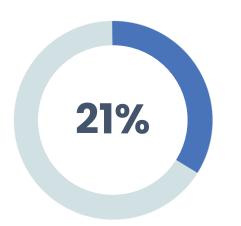
**Sharing Operator** 

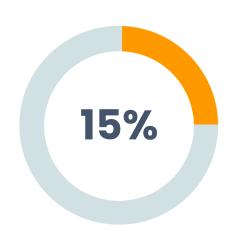


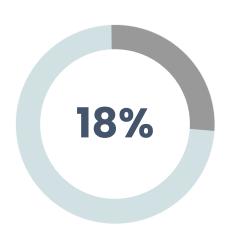


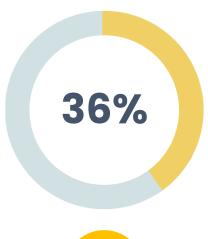
### Transportation in Taipei

City of Public Transportation

















#### Cars

Impervious to the cold and rainy seasons in Taipei however difficult to find parking and expensive to operate.

#### Bus

Low cost and high number of bus stations the biggest downside to buses is the constant traffic in the city.

#### **Rapid Transit**

Clean and efficient the Rapid Transit in Taipei is one of the cheapest yet fastest forms of transportation in Taipei.

#### **Scooter**

Plentiful parking and low cost of operation makes this the one of the best personal forms of transportation in Taipei .



#### **WeMo Scooter**

Electric Motorcycle Sharing



**E-SCOOTERS** 

Green vehicles and high user adoption to create better city living



2

### ROBUST IOT-BASED INFRASTRUCTURE

Connected vehicles enabling remote controls, big data, and geo-fencing for government's smart city



3

### FREE FLOATING MODEL

Journey starts and ends anywhere within the operating region.



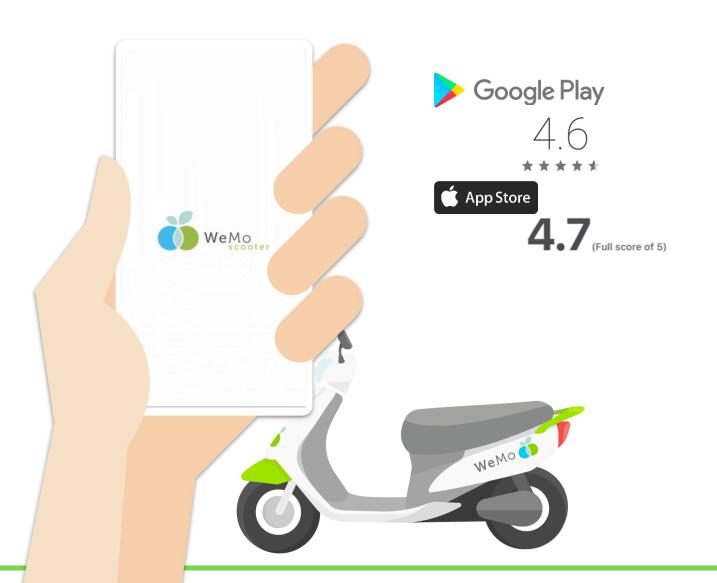
# MOBILITY IS THE KEY

A few taps on our app is all that is needed to find, rent, and return.



### **Positive User Experience**

the next big thing is the one that makes that last big thing usable





#### **Registration 01**

Quick and painless automated verification of ID and rider's license



#### Locate and Ride 02

Map based interface to find the closest vehicle, reserve, rent, and ride in seconds.



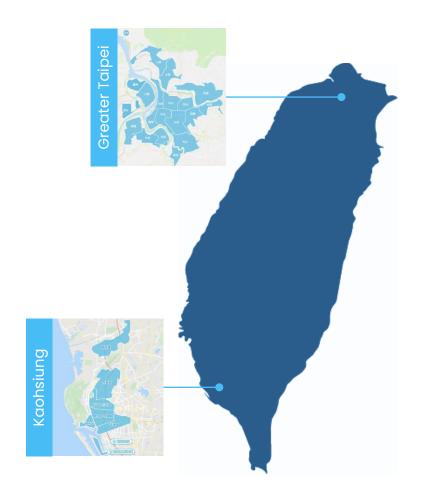
#### **Support 03**

Integrated AI Chatbot plus 24-7 customer service to help users with operation, service, or billing related issues.



### **Positive Disruption**

WeMo Scooter is the largest sharing e-scooter service provider in Asia





#### 7 Years

7-Years of experience operating a shared fleet - battery swapping, charging, maintenance, and repair of vehicles



#### **1M Rides per Month**

Growing at a CAGR of 350% with currently 500K+ Users



#### **30K Daily Rentals**

Managing 5000 battery swaps across 2000 battery stations, 200 vehicle repairs per day, 500 dispatched vehicles, over a fleet of 7000 scooters.



#### 24 / 7 service

99.99% uptime in 2021 the system operates for 24-hr battery service and 24-hr repair services.



### **WeMo Nexus Customer Services**

built to provide the best customer experience

#### Parking Integration 01

Parking system integration to allow customers to park in gated parking garages or lots.

#### Safe Rider Training 03

Al chatbot and onboarding training instructions and reminders to train safer riders

#### **CRM 05**

Track and understand customer behavior including points based violation and reward tracking system



#### **Ticket Prevention 02**

Notify users of high ticketed areas to help them avoid parking violations

#### **Lost Items Reminder 04**

System reminds users if trunk was not opened between parking and return of vehicle.



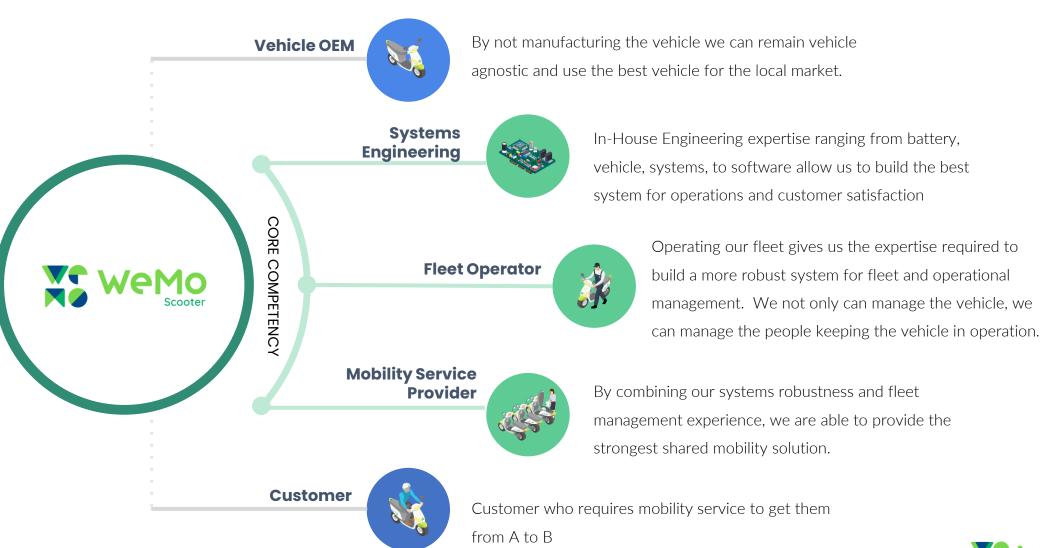
### **WeMo Nexus Sharing Solutions**

World's best end-to-end shared mobility and fleet management system



### WeMo's Market Integration

Providing the best transportation service



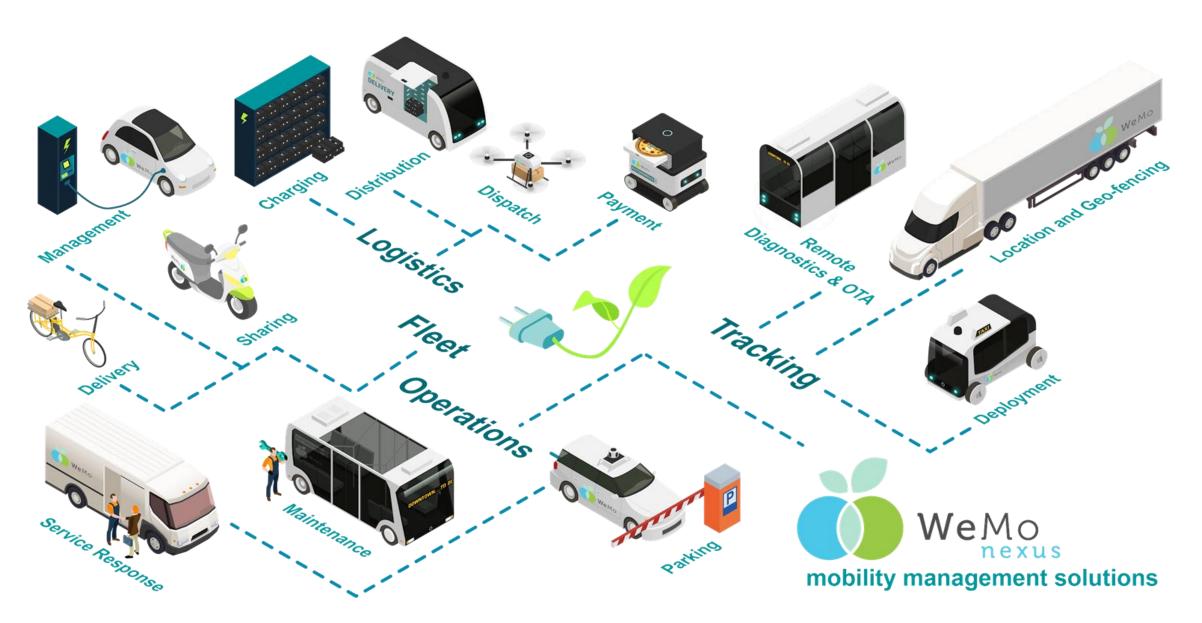




**Mobility SaaS Provider** 

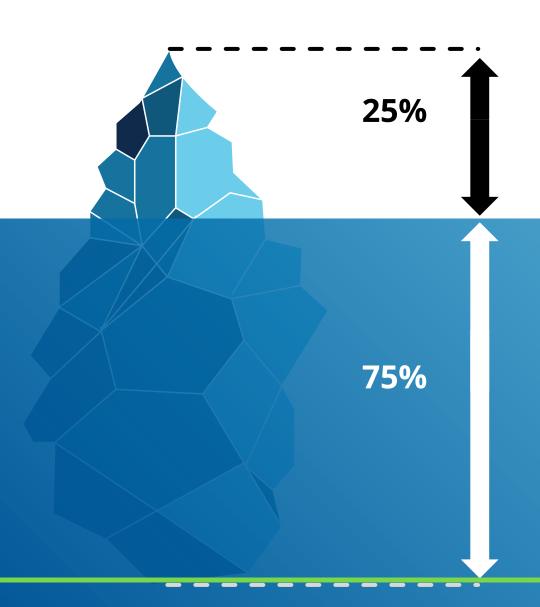








### The value of WeMo Nexus



#### **User Services**

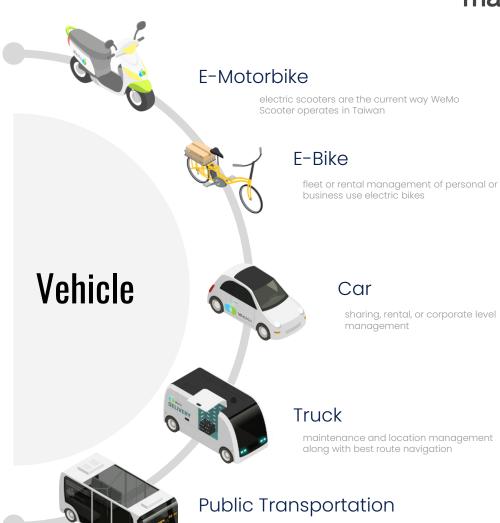
User application, onboarding, customer relations, and the vehicle are all essential but it is only the front facing image of MaaS. WeMo Nexus offers a complete user experience guaranteeing return business.

#### **Fleet Services**

While user services is the front facing image of the company, the path to profitability is based on the efficiency of your MaaS operation. WeMo Nexus focuses on the efficient operations of your fleet to optimize profitability. Big data, real-time information, and smart city integration gives you the tools to needed streamline your business. From the maintenance and repair of the vehicle, to integrated parking services and violation warning systems, WeMo Nexus is a unique system built upon half a decade of WeMo Scooter's operational experience.

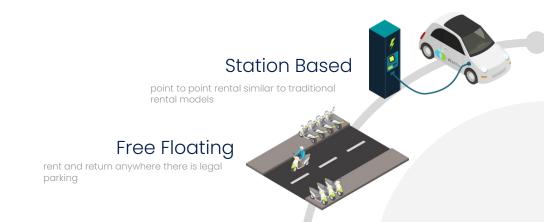


# WeMo Nexus pairs any vehicle to any operations model maximizing localization



gps based asset tracking and vehicle level

logging and diagnostics



Peer-to-Peer

sharing vehicles among a community to allow maximum use of resources



Operating Model

Corporate Fleet

fleet management using an application as key to allow corporate fleet operations



Disaster Relief

backup battery and transportation network during crisis



### **New Vehicles**

What is in the Nexus Today



















### **Sentinel Black Box**

connectivity and intelligence available for any vehicle to collect real-time data

#### **System Services 01**



**GPS** 



Program & Control



Power Utilization



Over the Air Updates



Telematics Logging

#### **Vehicle Health 02**



Battery Health



Vehicle Diagnosis



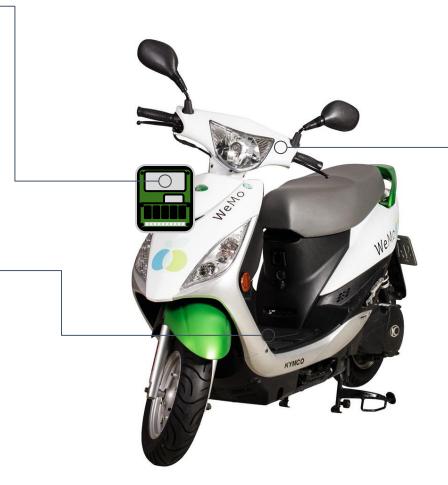
Error Diagnostics



Edge Computing



Crash and Error Alert



#### **User Services 03**



Location Service





Ride Logging





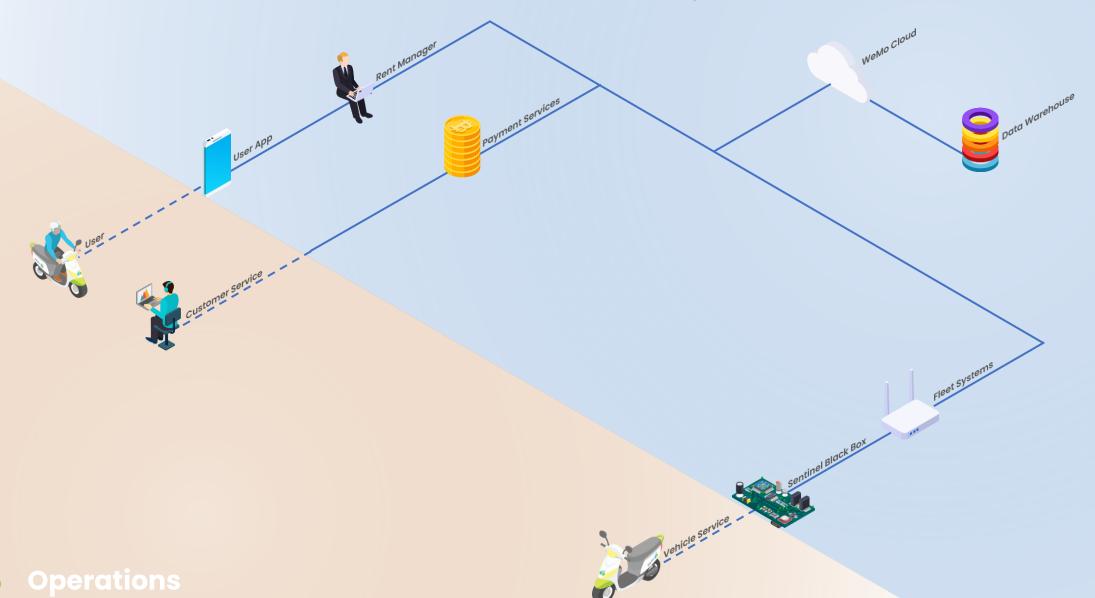
Safe Rider Analysis

Offline Trunk Access

Offline Vehicle Return



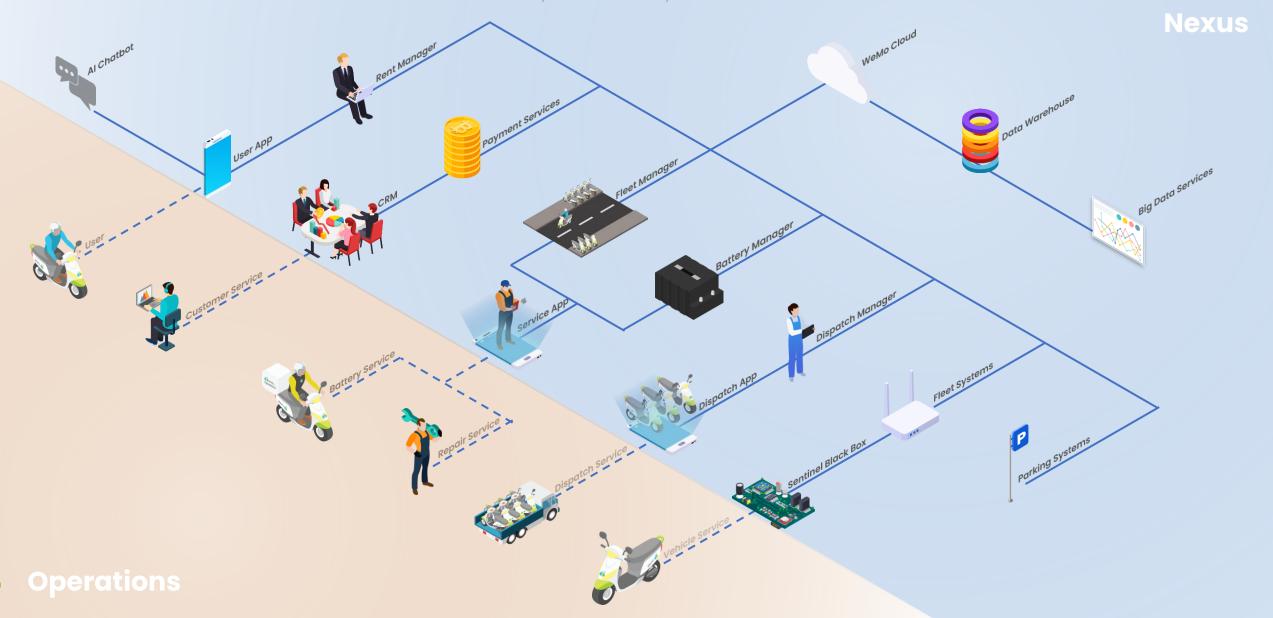
# Most Operators Shared Mobility



Nexus

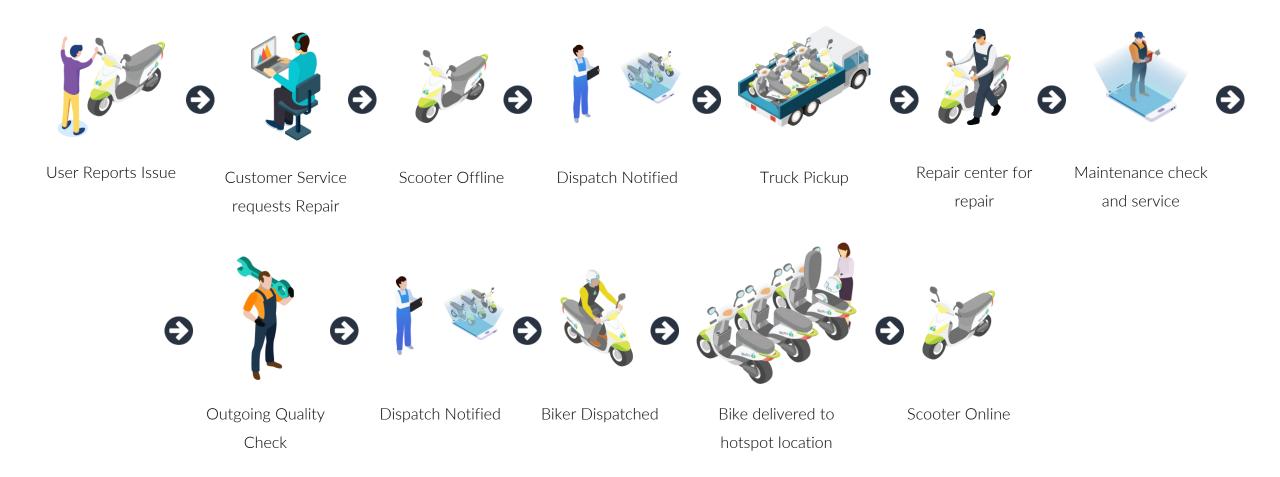
### **The Nexus**

Mobility as a Service by WeMo Scooter



### **Automated Nexus System Operations**

Error Repair Dispatch Process



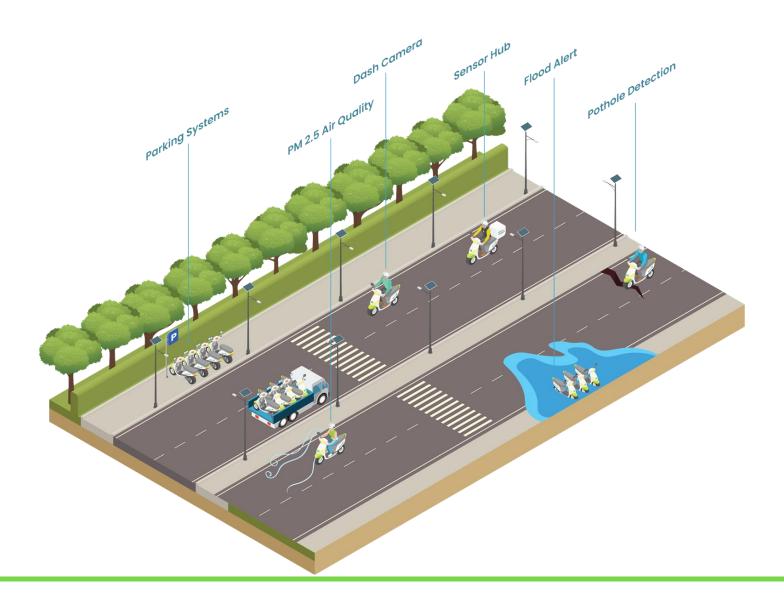


### **Customer Operations**

Dispatch System



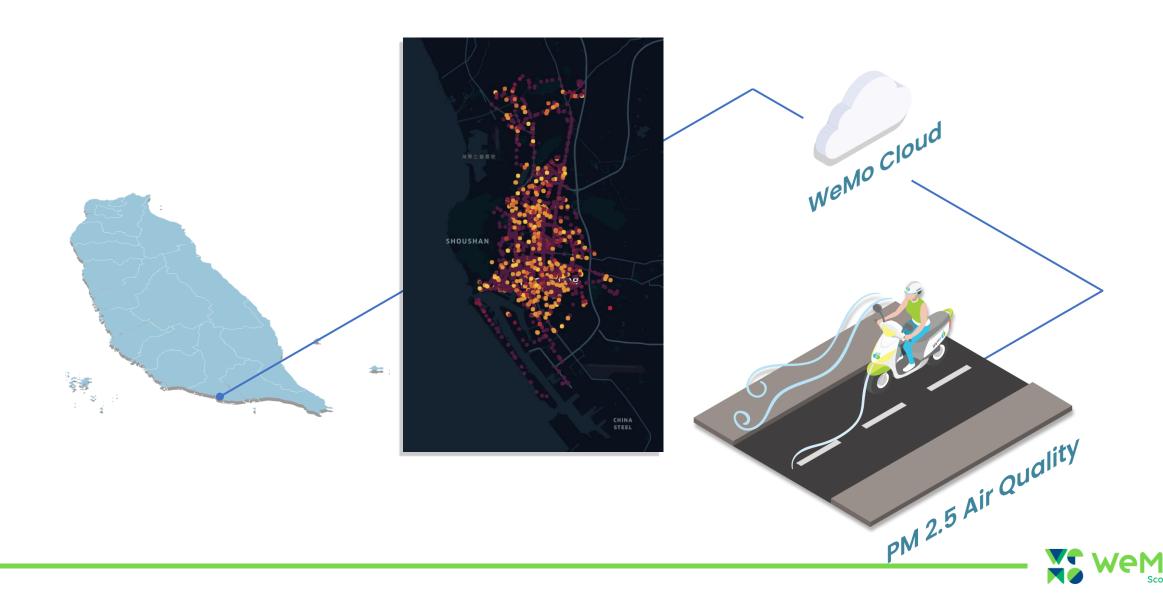
# WeMo Nexus Smart City strengthening government relations





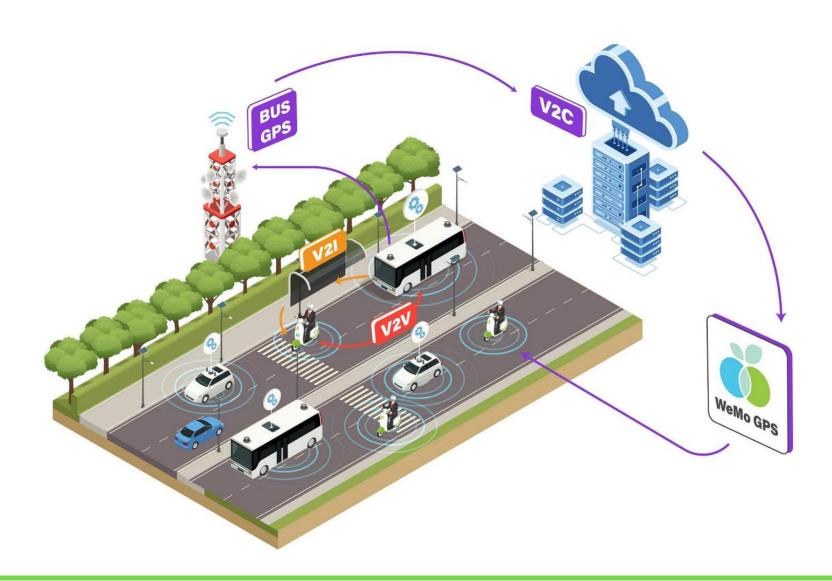
### **Smart City**

PM2.5 Detection



### Central Vehicular Management System

V2x Communications







Adoption of Google Kubernetes Engine (GKE)



### Why Kubernetes

If not then I wouldn't be here would I?



- Auto-scaling
- Extensibility
- Resource Limits
- Portability
- Auto Healing of Nodes
- Containerized OS
- Load balancing



### Why Google Kubernetes Engine?

Google



### Most advanced managed Kubernetes service



- A high-availability control plane including multi-zonal and regional clusters
- Auto-repair, auto-upgrade, and release channels
- Vulnerability scanning of container images and data encryption
- Integrated cloud monitoring with infrastructure,
   application, and Kubernetes-specific views





### **Autopilot vs Standard**

Introducing GKE Autopilot: a revolution in managed Kubernetes

### **Autopilot**

 GKE provisions and manages cluster's underlying infrastructure, including nodes and node pools, giving users an optimized cluster with a hands-off experience.

#### **Standard**

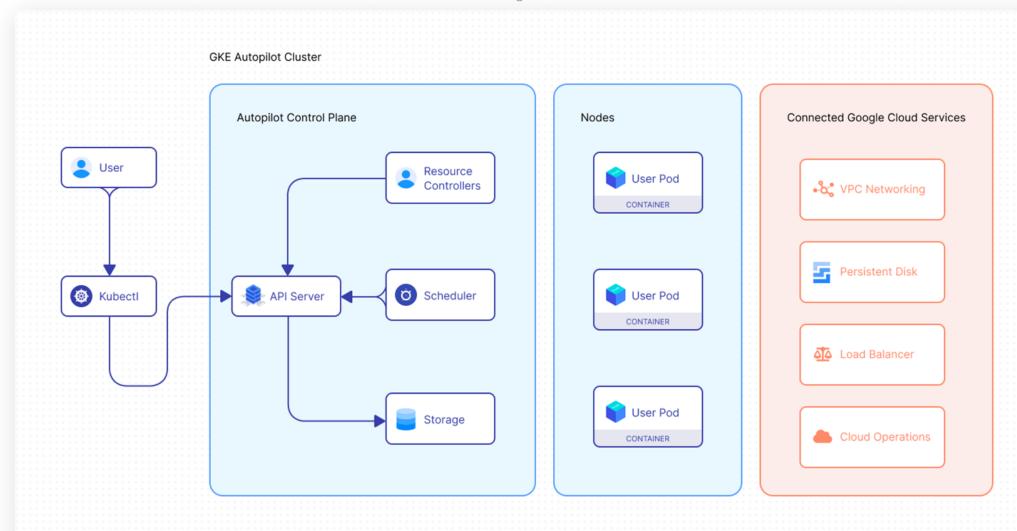
 Users manage their cluster's underlying infrastructure, allowing for more node configuration flexibility.





## **GKE Autopilot**

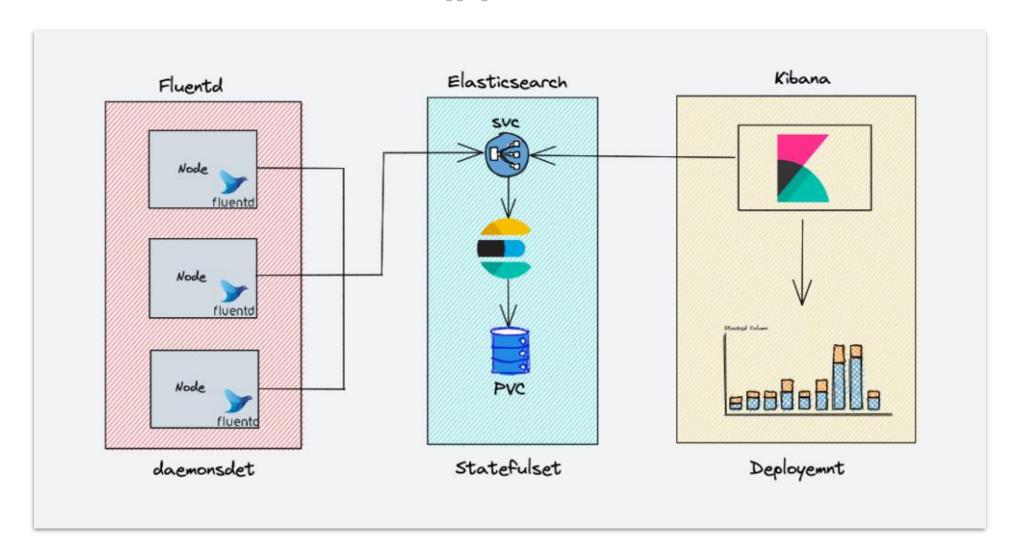
It's a good start





### **Best Practices - EFK Stack on Kubernetes**

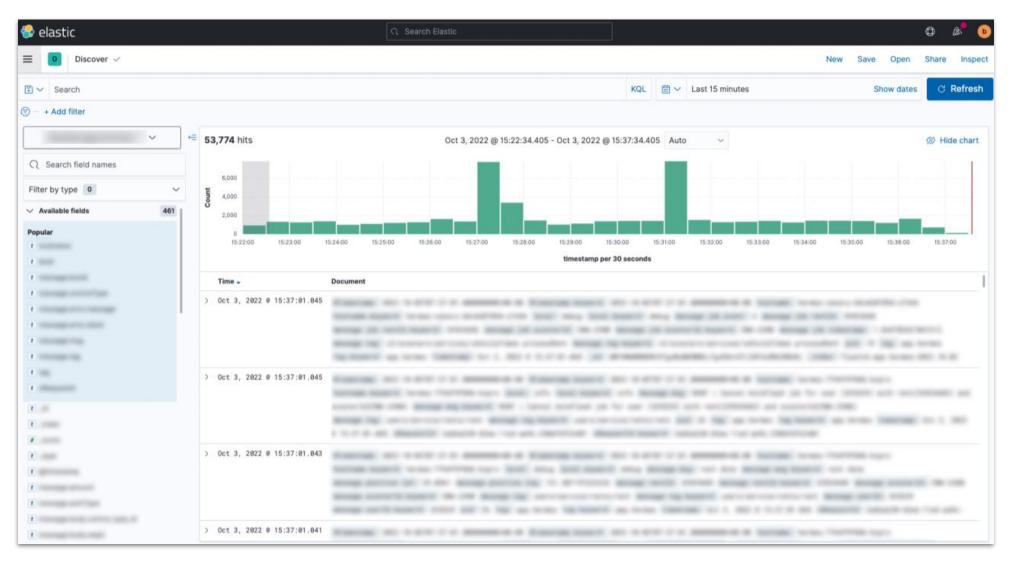
Use the native logging mechanisms of containers





### **Elastic Search**

It's a good start





#### **Lessons Learned**

Experience is the child of thought, and thought is the child of action

## Containers are stateless and immutable

- Store files : Cloud Storage.
- Store information such as user sessions: Redis or Memcached.
- Block-level storage for databases : persistent disks



#### Microservice is not an instance

## Applications are easy to be monitored

- prometheus monitor tool
- Setup
  - Liveness probe
  - Readiness probe



### Infrastructure as Code

the managing and provisioning of infrastructure through code instead of through manual processes

