



7STARLAKE

Future Mobility

Smart Green City



Leading Smart Transportation Shared Mobility Creating New Possibilities

Transportation shorten the distance between people, we explore the unknown and surprise through mobility. 7Starlake committed to optimize public transport service. Through developing shared mobility based on the driverless shuttle to complete the first and last mile, 7Starlake plans a complete sharing platform, building up a new operation ecosystem by establishing a new generation of intelligent transportation mobility service combining with smart media and new business module.



What is a Smart Mobility Platform?

Based on driverless shuttle system, 7Starlake connect multiple transportation method, allowing passengers easily transfer public transportation from subway, light rail to buses, flexibly using shared mobility platform. Transportation is not only a tool, but also enhance the communication between people and the development of sharing economy.



Mobility Service with Smart New Media

7Starlake also strives to develop smart new media that captures the "mind share". The wide display screen and real-time geographic information superimposed on the window of vehicle provide passengers various fresh and interesting contents. Furthermore, the combination of driverless shuttle with VR and AR technologies for sensory experience and information guide create a mobile Culture Art Salon.





7Starlake App LiKEY

The new business platform for smart transportation

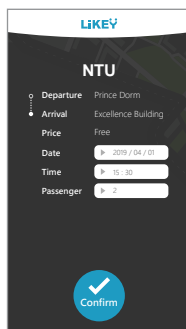
- Driverless shuttle ticketing system
- Car-calling real-time service (support carpooling)
- Car-calling reservation service (support carpooling)
- Online shopping with special discount



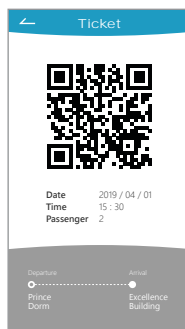
Route Selection



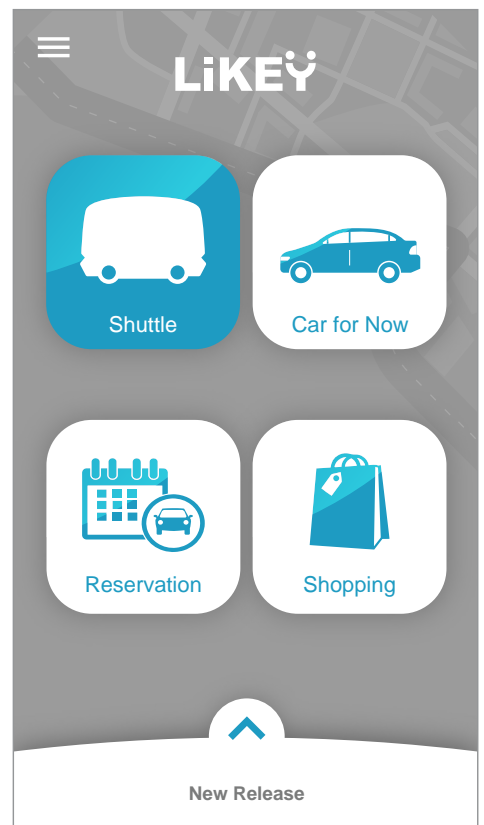
Map, Station, Location



Buy Ticket



QR Code Ticket



7Starlake Walks into Your Life



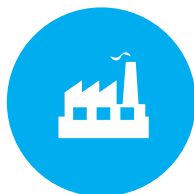
7Starlake provides complete smart transportation service, including vehicle, site operation, and road design, creating various style, theme, feature, and interaction space according to different service requirement.

Feature Park Touring & Service in School Campus



Touring Park

Driverless Shuttle combined with guided tours, performances, exhibitions, interactive games etc., providing visitors special experience beyond scenery during transportation.



Industrial Park

Driverless Shuttle provides staff transportation in large-scale industry/ science/ high-tech park, combined with smart retail, allowing real-time shopping during transportation, so as to ease the tight commute schedule.



Medical Park

Driverless Shuttle allows the elderly, people with disabilities, patients etc. to go back and forth in medical park independently, enhancing their self-moving capacity under safe environment.



School Campus

Driverless Shuttle not only provides transportation service for students and staffs, but also stimulates to develop better and innovative smart transportation service through integration of industry, academy, and research.



Rural & Remote Area

The current transportation network in rural & remote area is still not well-organized. 7Starlake provides driverless shuttle fleet, simple call-car service, user-friendly smart station, offering a safe and convenient transportation service. 7Starlake is looking forward to cooperate with government and local people to raise a high-efficiency and high-quality traffic blueprint, developing local tourism, agriculture and industry, further customize traffic network according to local feature and requirement.



Last Mile Connection

7Starlake smart transportation system enables public transportation to connect with communities. Efficient and flexible smart transportation extends the scope of service, increasing location advantage and value for communities. Besides semi-closed lane design and reliable green electric driverless shuttle system, traffic monitoring for intelligent dispatching, Demand-Respond Transit Service (DRTS) can prosper the communities with low utilization of public transportation.



Checkerboard Transit System

7Starlake's smart transportation service is an auxiliary city public transport system. Basing on dedicated road and checkerboard network that already exist or can be simply built, driverless shuttle is deployed to provide flexible service to realize a "door to door" transportation for residents, at the same time avoiding unnecessary road construction and investment.

Checkerboard network allows the driverless shuttle system run on the backbone road of the city, detecting and collecting various environmental data for traffic analysis and forecasting. Driverless shuttle becomes an important tool for urban intelligent management and security system, deeply connecting blocks and transfer hubs, effectively reducing the demand for private vehicles and road area to release urban space.



V2I

(Vehicle to Infrastructure)

- Traffic light & vehicle connection
- Smart streetlights detect violations or obstacles on dedicated road, maintain smooth traffic flow



24 Hrs Operation

- Driverless Shuttle runs on exclusive lane
- 24hrs non-stop service
- On demand APP at off-peak hours



Energy Sharing

(Smart Station)

- Meet all kinds of electric vehicle charging needs
- Solar Roof power generation
- Electrical energy storage



V2V

(Vehicle to Vehicle)

- Fleet management
- Metro or Bus operation mode
- Peak and off-peak scheduling



Driverless Shuttle Flexible Transportation Service

Metro Mode

Same as MRT, stop at every station

Bus Mode

Driverless shuttle has a schedule to respect but only stops at the stations upon request.

On Demand Mode

Passengers at the station or through mobile device to specify the shuttle service from point A to point B, the fleet management system will arrange the most suitable itinerary.

Driverless Shuttle EZ10 Introduction

100% Electric driverless shuttle EZ10, a SAE Level 4 high autonomous intelligent vehicle, has max capacity of 12 passengers (6 seated/ 6 standing). At the current self-driving mode, the speed can be adjusted due to driving conditions, the maximum speed is limited to 20 km/h, the operating mileage hours can be up to 10 hours. All-electric power source, EZ10 has high-performance self-positioning and navigation system, combined with a new generation of sensing and pilot technology, has an extremely complete safety system, it can automatically slow down or stop in case of obstacles. In addition, the driverless shuttle bus provides barrier-free ramp to ensure the safety and comfort of passengers.



MAPPING & SCHEDULING

Engineer starts to do the mapping and Route planning after site survey



AUTOMATED & SMART OPERATIONS

Running on a planned route, EZ10 can detect the change of environment (obstacles, pedestrians etc.) in safe distance



FLEET MANAGEMENT

EZ10 can communicate with each other; control room arranges the running schedule

EZ10 to the World

EZ10 has operated in over 26 countries, over 200 sites, including Asia, North America, Near East and Europe.

EZ10 Commercial Operations



2016

Singapore

Gardens by the Bay

EZ10's first project in Asia, Singapore Gardens by the Bay introduced 2 EZ10 to provide transportation service in the garden of 101 Ha. With 1,000m operating length, the shuttle is able to transport 50~100 passengers per day.



2017

Australia

Darwin Waterfront

EZ10 serves between Waterfront precinct and Stokes Hill Wharf. Running on a 1,000m long path, the shuttle transported over 3,500 passengers.

New Approach



2018

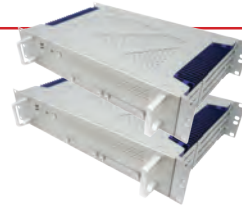
USA

California public road trial

EZ10 driverless shuttle became the first driverless bus approved to run on public roads in California as it made its debut on the public roads of Bishop Ranch.



**Control Room
Remote Computer**



HORUS420
2U 19" rackmount GPU Server



GPS/ LiDAR*2
Roof
Localization Mapping



Camera*2
Internal front & rear
Localization &
Anti-collision Assistance



3D LiDAR*2
Central front & rear
Anti-collision System



2D LiDAR*4
4 Corner
Anti-collision System



Internal buttons*3
Door, Ramp, SOS

Driving Computer



SR200 X2
Fanless Rugged Compact
Computer



Image / Data Processing



SR700-SG
MIL-STD IP65 Fanless
Rugged Computer



EZ10 Core Technology



Extended
Temp.



Extreme
Durable



High
Performance



EZ10 driverless shuttle adapted 7Starlake rugged CPUGPU computing system which equipped with Intel® Multi-Core Processor, NVIDIA® graphic card, and fanless rugged system with perfect thermal solution. This platform performs excellent on graphic and data computing, and able to sustain under the harsh environment, that is optimized for the use in high-end automation and image/data analysis system in both defense and industrial fields.

Supported by Intel® IoT Solutions Alliance



IoT Solutions
Alliance

intel market ready ✓

Driverless Shuttle in Taiwan

First and Last Mile Transportation



2017/11/6—12/7

Driverless Shuttle @ Asia's New Bay Area

- For the first time EZ10 undergoes an one-month in-depth operation test
- Upgraded driving test route includes S-shaped track and bridge-crossing



2017/10/1—10

EcoMobility World Festival 2017

- Connecting between Penglai Pier-2 and Hamasen light rail station



2017/8/1—5

EZ10 Mid-night Experimental Project@ Taipei

- GPS Signal Evaluation
- High Precision Mapping & Route Planning
- Driving Reliability & Service Integration Testing
- Focus Group Test Ride

Shuttle Bus in Campus



2018/11/9—11/11

LEVEL 4 Self-driving Vehicle International Industry- University Collaboration MOU Press Conference @ NCKU

- First MOU signing ceremony between international academia and industry parties
- The shuttle bus serves more than 1327 passengers during the three-day anniversary celebration in NCKU



2017/7/7—7/13

Test Ride in Shuiyuan Campus, NTU

- Campus transportation with four stations
- Mixed scenarios of pedestrians and vehicles

Rural Area Transportation



2017/10/25—29

Changhua Green Energy Industry Series

- Connecting with current public transportation - THSR Changhua Station with smart medical park



2018/07/22

Taixi, Yunlin Green Energy Renaissance Press Conference

- Introducing green energy public transport vehicles application
- Taixi experience self-driving shuttle

Park Touring Transportation



2018/10/20—28

VR Cinema × Autonomous MiniBus Cross-border Superb Experience

- The world's first self-driving mobile VR theater



2018/10/16—19

Love Taipei 101 × Smart Trend Exhibition

- Showcasing at Taipei 101 Plaza, attracting 878 global tourists and domestic passengers



2018/10/06—07

Time Fluid - Travelling Through History Driverless Shuttle @ National Palace Museum

- Transport service between tourist center and exhibition center
- Car window advertising debut stage

Global Media Report

The New York Times



In Taiwan, Modest Test of Driverless Bus May Hint at Big Things to Come

2017.09.28

The bus drove itself raising hopes in Taipei that autonomous public transportation would be up and running here within a year.

The bus tests are partly to prove that the autonomous-driving technology is safe to deploy on the city's busy streets, and partly to gather the data needed to improve the artificial intelligence that steer such vehicles. The effort, one of the earliest in Asia, could help position Taiwan as both a pioneer in autonomous public transportation and, if things go according to plan, a producer of driverless buses.

Les Echos



La tech française commence à être reconnue à Taïwan

2018.11.23

La société 7starlake est installée dans les faubourgs de Taipei. Elle se positionne comme un consultant spécialisé dans le transport intelligent, et étudie à cette fin les conditions de circulation des véhicules autonomes. Elle collabore avec Easymile qui développe précisément un minibus sans chauffeur, testé Taïwan.



No one at the wheel – Taiwan tests driverless electric bus

2017.07.13

TAIPEI, July 13 (Reuters) - The boxy, electric bus bouncing along a road in a leafy university campus in Taiwan is fitted with special high-tech sensors, but it has no driver at the wheel.



Taipei, TW is piloting AVs

2017.12.06

Taipei, TW is piloting AVs

Taipei has but a single Easymile EZ10 driverless shuttle under testing in Xinyi District, the country's seat of finance and government power.





7STARLAKE Co., Ltd.

Innovation and Connection, 7Starlake's faith to explore the diverse world. We specialize in the field of high-end industrial computer, develop self-driving shuttle bus with international technology partners and cooperate with government and non-government organizations to strategize future smart public transportation. From driverless technology and 3D LiDAR Smart intersection to V2X Internet of Vehicles and carpool network operation, we set up a new public transportation model, realizing the vision of "Smart City & Intelligent Transportation". 7Starlake aims to integrate intelligent public transportation vehicles management with wind and solar green energy and energy storage micro power-grid. We dedicate ourselves to building car-sharing system community and Green-Powered MaaS service model, as well as establishing long-term industrial upgrading for Taiwan and pragmatic path to profitability for cooperative partners. To fulfill a synergistic effect of complete green energy and intelligent industry ecosystem has always been 7Starlake's ultimate goal.

EZ10, Level 4 driverless shuttle bus, is introduced by 7Starlake & EasyMile. The computer system of EZ10 is manufactured in Taiwan. EZ10 has operated in over 26 countries, up to 200 sites, including Asia, North America, Near East and Europe.



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