



- Establishment: May, 2018
- Capital: US\$ 1.5 million
- Employees: 30



INCEPTION PROGRAM



## Industry-led, Dedicated, Experienced

Turing Drive is the only AV developer in Taiwan that is 100% funded by the private sector, specializing in affordable autonomous driving kit applicable to various special-purposed vehicles and shuttles.

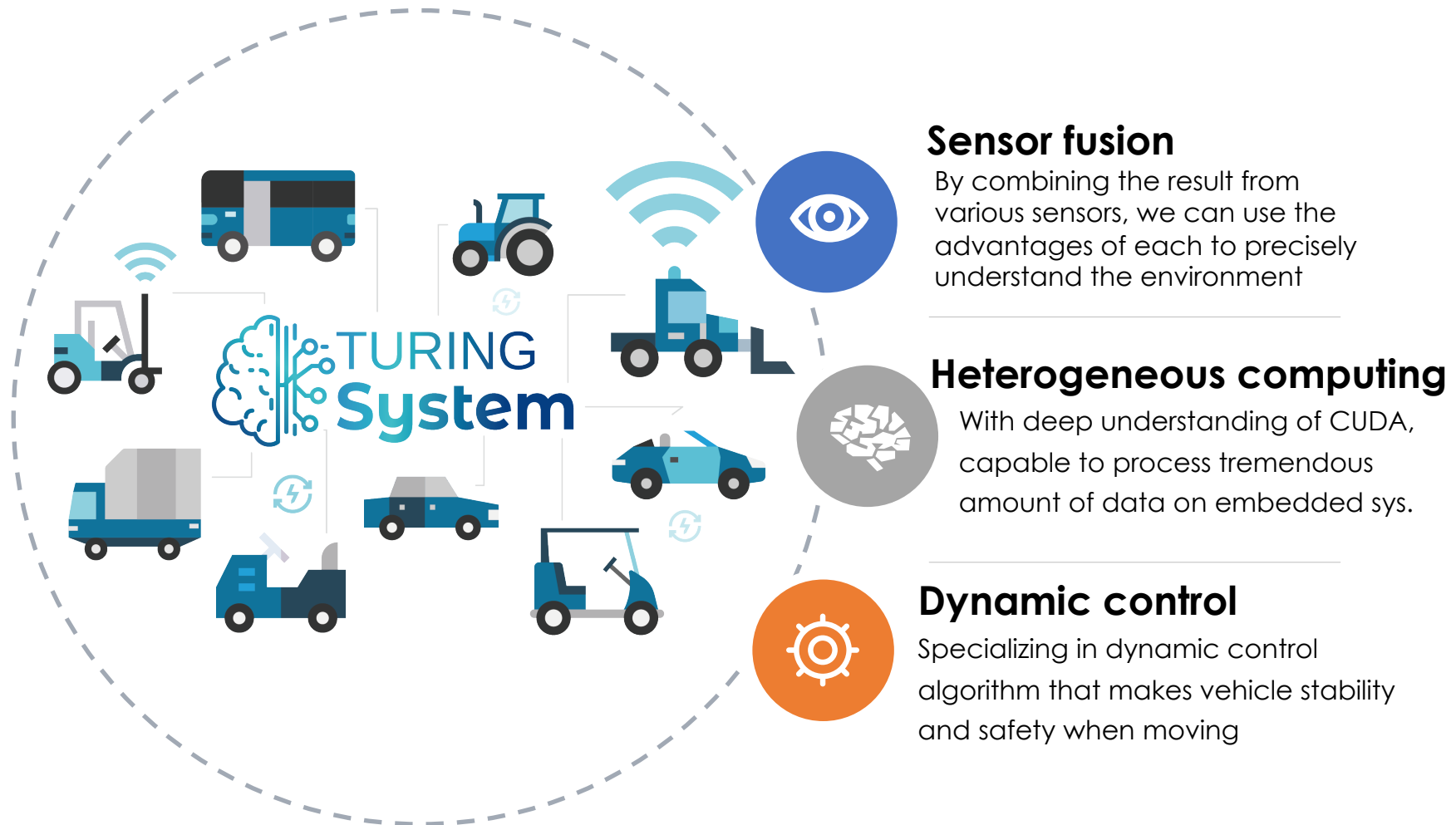
Aged around 30, Turing Drive's purpose-built, wholly electric shuttles have travelled 18,000km and served 57,000 passengers since 2018.

It stands out among AV developers in Taiwan

- **Most kilometers travelled**
- **Fastest product development**
- **Only international investor**
- **Youngest R&D force**
- **Most specialized in AV development**



# Turing Solution on Various Carriers



# Agriculture Machine



auto lawn mower auto tractor auto cattle cleaner auto feeder

# Functional Vehicle



golf cart street sweeper tunnel robot airport runway detection robot robotic probe

# Low speed ADAS for Passenger car & commercial car



RPA APA for bus in depot Auto-unloading for truck

# A-GRT



TURING

2018

2019

2020

2021

2022

2023

2024

2025

# Autonomous Shuttle Fleet by 2020

## TURING SAPPHIRE

LxWxH: 6.5 x 2.1 x 2.8

Open area operation

Passengers: 10+12



## TURING OPAL

LxWxH: 4.5 x 1.6 x 2.3

Enclosed area operation

Passengers: 9+2



# Project: Lihpao Amusement Park



July 2018.- June 2020

- mini and median shuttles
- among hotel, mall, racing track
- potential use case for AV

# Project: Taoyuan MRT Shuttle



September 2019 – June 2020

- single mini-bus
- MRT Last-mile shuttle service
- extended to neighborhood in 2020

# Project: Taipei City Bus Lane Operation



May 2020 – February 2021

- workday 00:30-02:30
- 12.3km throughout downtown Taipei
- V2X system at road intersections





# What Makes Us Special

Through technology insights, we provide the most cost-efficient and selectable solutions for different kind of applications.

## Localization

- SLAM 3D -> 2D lidar
- Indoor localization
- Perception reference to HD map Localization

## Perception

In addition to regular highway situation, Turing deals with special applications

- Off-highway scenarios
- Parking, depot, golf course
- Night, indoor, special obstacles

## Dynamic Control

Turing Drive accounts for multibody dynamic of vehicles and the curvature and gradient of roads, offering the best control strategies.

## Decision-Making

As Turing Drive learns more about complicated road conditions and develops larger decision tree, it will replace the current rule-based decision-making methods with NNs model.

# The Management



**Chairman**  
Hubert CHEN

## Roles

#Strategizing  
#Investor Relations  
#Finance

## Expertise

financial planning  
operations management  
intellectual property  
ITS Service Design

## Experience

- Head, APTRC, NTU
- Sales Manager, Advanced Lithium Electrochemistry Co.
- Co-founder, JOBUS/Trivect Consultant/Mobeing



**CEO**  
David SHEN

#Strategizing  
#Industry Relations  
#Product Roadmap

transport planning  
traffic data analysis  
EV design & promotion  
AV system integration

- Sales Manager, Advanced Lithium Electrochemistry Co.
- Co-founder, JOBUS/Trivect Consultant/Mobeing



**CTO**  
LEE Sheng-Ta

#R&D  
#System Architecture

deep learning  
HPC & parallel computing  
sensor fusion  
NVIDIA CUDA

- Senior engineer, Foxconn
- Senior researcher, Whetron Electronic
- CTO, Mobeing



**Vehicle Lead**  
WANG Wei-chao

#Vehicle Development  
#X-by-wire

product prototyping  
control-by-wire  
VCU, CAN BUS

- Chief Engineer at Dakar Rally for Taiwan teams
- Engineer, All Win Green Power Technology Corp



**BD Director**  
Stephen LIU

#Business Development  
#International Marketing

ITS system integration  
event management  
conference interpreting

- Director, Sun-AI.
- BD Manager, SUNSKY.
- Secretariat, ITS Taiwan
- Project Manager, GIS Group
- Certified Conference interpreter