

iAuto Technology

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Founder & Chief Technical Advisor

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لحمدي دبي العالمي
للشقل ذاتي القيادة
DUBAI WORLD CHALLENGE
FOR SELF-DRIVING TRANSPORT

2018 | 2019

iAuto Technology – *Our Beliefs, Goals & Vision*

- 21st century is the era of **AIoT & Autonomous Machines** (vehicles and robots).
- *The development, deployment, operation, maintenance, and improvement of Self-Driving Transport (SDT) systems require not only autonomous vehicle (AV) but also AIoT technologies to make the SDT systems **Safe, Sustainable, Scalable and Smart** (eco-friendly & user-friendly).*
- **iAuto's** experts, *with more than three decades experiences and track records in vehicle & highway automation*, are committed to provide most innovative, secure & cost-effective solutions that can meet policy makers and clients' expectations for SDT systems to realize smart cities, airports, factories, hospitals, and harbors, etc.
- *With the aim to accelerate the development of SDT/AV industry and eco-systems, **iAuto** is proposing to provide the **AVaaS** solution for partners around the world.*

iAuto Technology – *Our History & Records*

2014 - World's first automated articulated bus for revenue service in Eugene, OR, U.S.A. in 2014~2015 (UC-Berkeley PATH project led by Dr. Han-Shue Tan)

2015 - Camera-based LFC for highway self-driving (top speed~120kph) (PATH & HAITEC/Luxgen & NTU)

2016 - SAE L2 Autopilot for mid~high speed self-driving (PATH & HAITEC/Luxgen & NTU)

2017 - L.L. iAuto Technology Ltd. founded in Vancouver, Canada

2018 - iAuto Technology-Taiwan founded in Taipei, Taiwan




- Taiwan's first SDT pilot-run services by automated (electric & diesel) buses, integrated with ITRI's iRoadSafe (V2R/DSRC)

- MOUs signed w/ UC-Berkeley PATH & Formosa Automobile & Taiwan Mobile

- Taiwan's first automated hybrid truck tested in mixed traffic challenging environments (on/off roads)

- Cooperating with ARM Taiwan on AI & 5G Integrated Computation Platform for AV/SDT applications

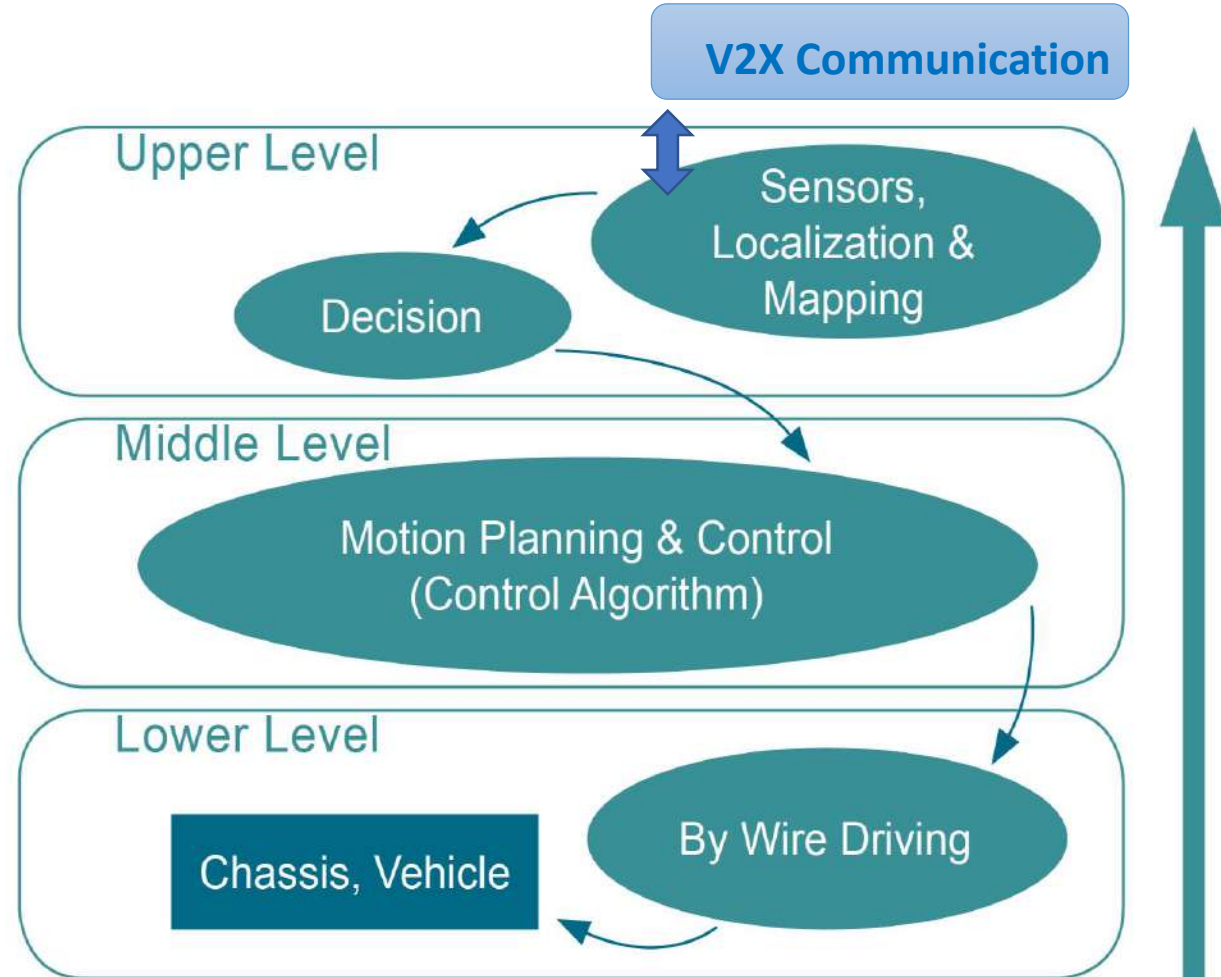
2019 – iAuto Technology-America to be founded

<p>NTU&ITRI</p> 	<p>Club Car/EZ-GO/Yamaha Golf Cart</p> 	<p>Electric MPV</p> 	<p>RAC Electric Bus 7 Ton Electrical Bus (7M)</p>  	<p>Green Bus Transit 9 Ton Diesel Bus (9M)</p> 	<p>Formosa Automobile DAF 12 Ton Hybrid Truck (10M)</p> 	
2011		2017		2018		2019

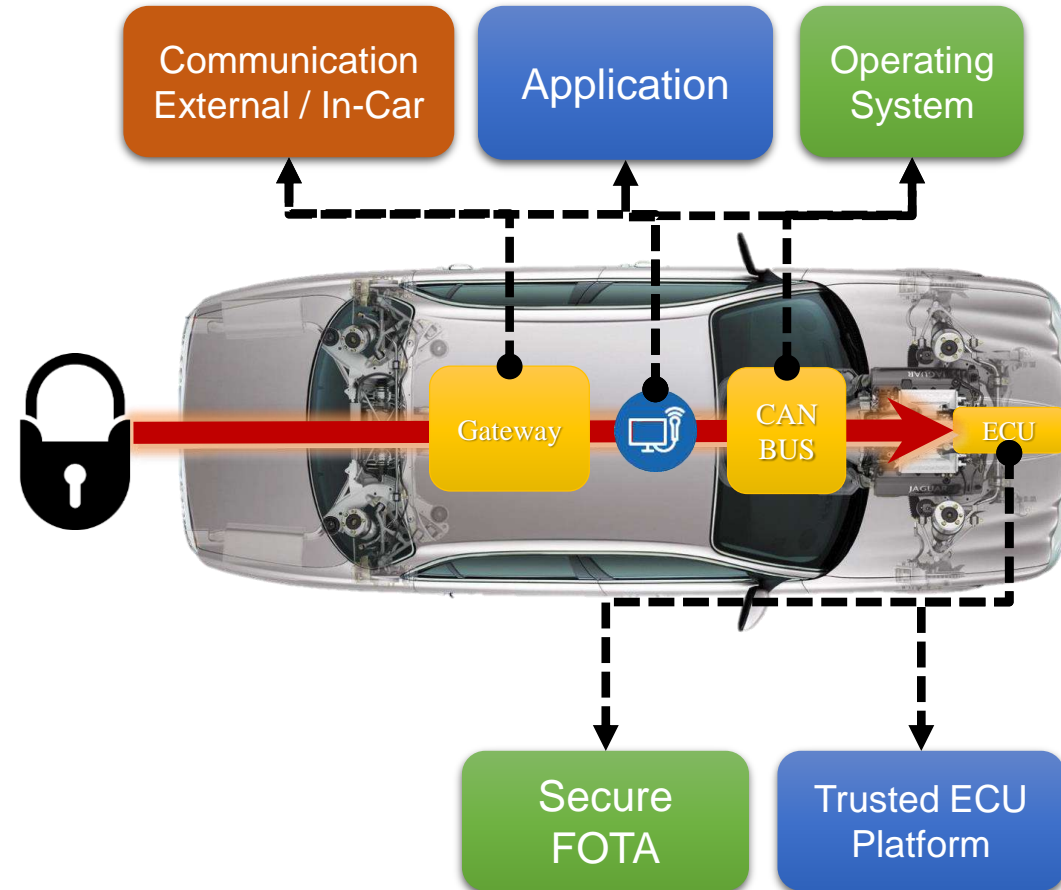
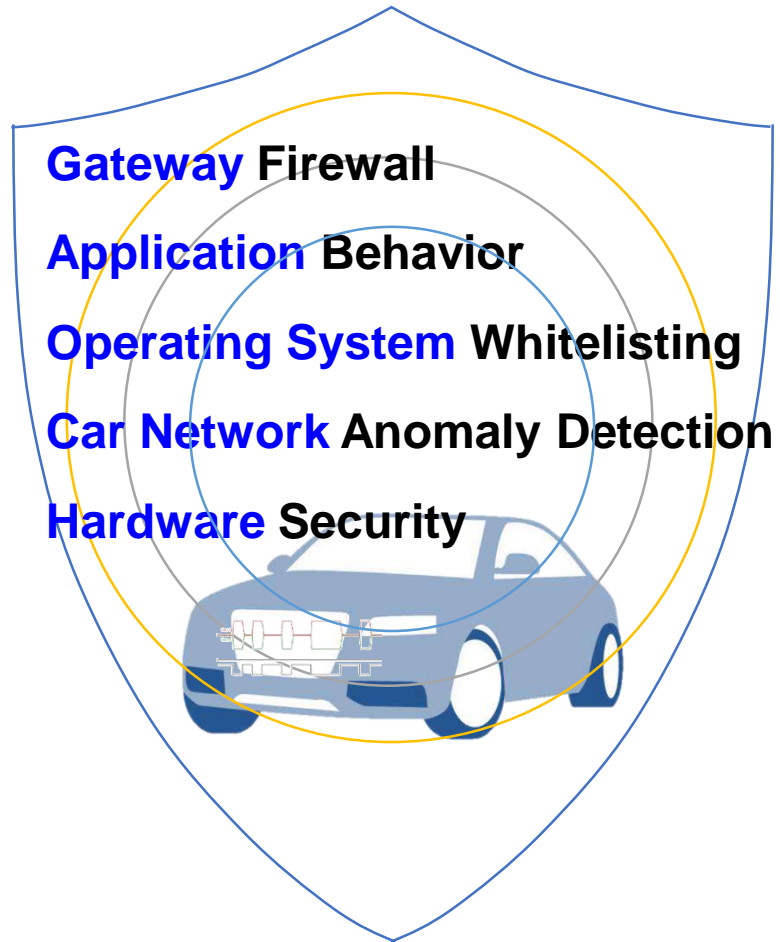
iAuto Technology – *Our Self-Driving System*

Features

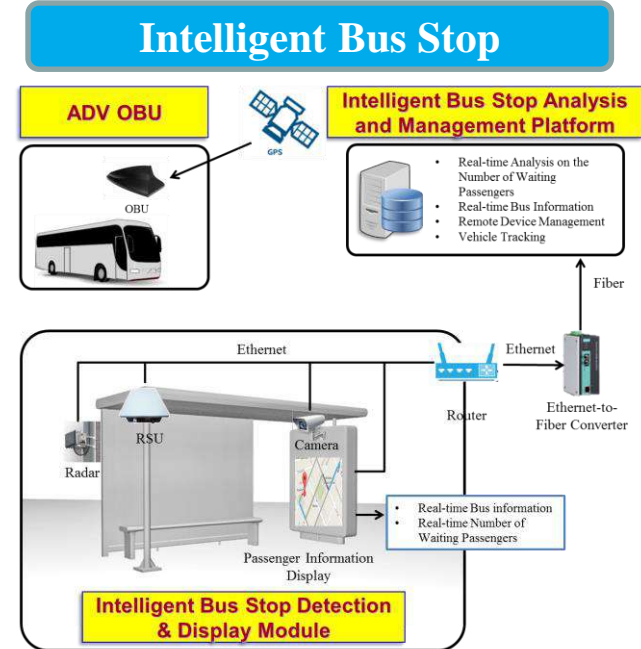
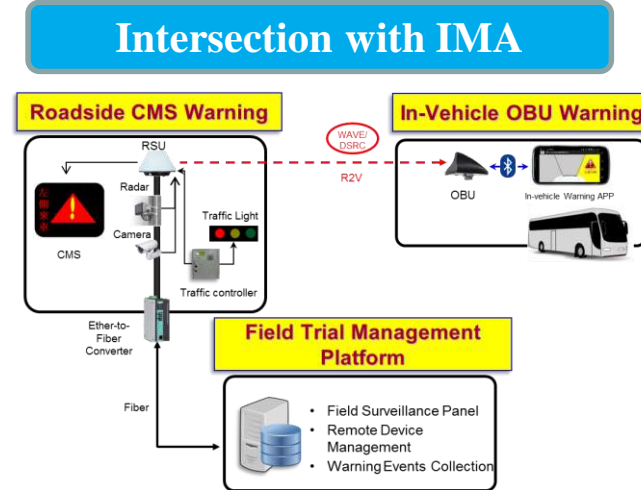
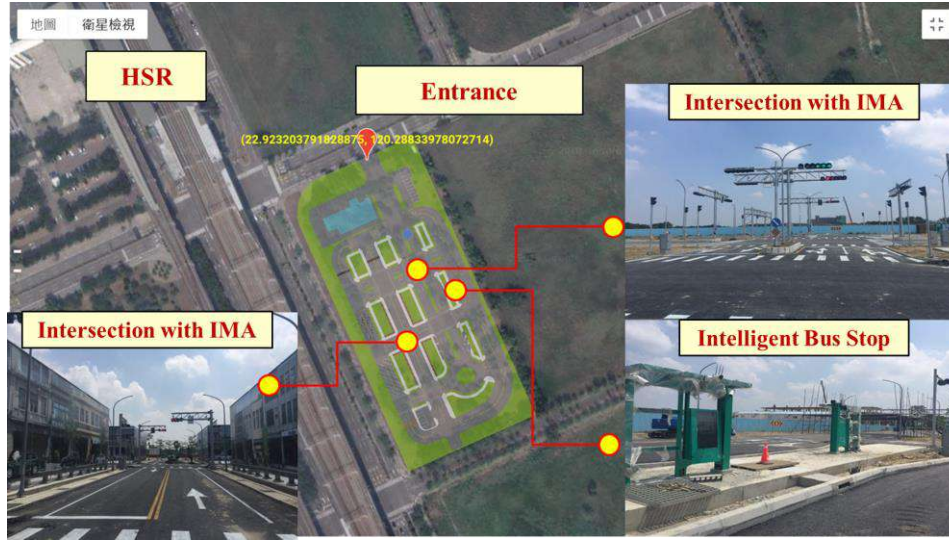
- Bottom up system design & development approach
- Robust & modular designs
- AI enhanced model-based control
- Digital map as a virtual sensor for predictive & defensive self-driving
- Functional safety compliance (ISO-26262)
- Functional redundancy designs rather than system redundancy
- Validation via XiL (model/hardware/controller/traffic/driver) simulation
- AV & V2X integrated solutions w/ cyber security protection



iAuto Technology – Comprehensive Cyber Security Protection (cooperation with ITRI)



ITRI's iRoadSafe Deployed in Taiwan's First Autonomous Driving Testbed



Thank you



Self-driving Hybrid Truck

MCUT campus & Formosa factory/future science park



Self-driving Electric Bus

Formosa factory & ITRI campus

End

iAuto Technology – Our Partners (2018-2019)

Auto



NTU Machine Intelligence & Industrial
Network Research Center



Smart Transportation



Smart Hospitals



- *iAuto – SDT system design, integration, implementation & operation*
- *Formosa Group – vehicle platforms, EV batteries & SDT fields*
- *NTU – A.I.+AV control algorithms & XiLS validation*
- *MCUT – X-by-wire, AV field testing*
- *ITRI – telematics/V2X communication, cyber security*
- *UC Berkeley PATH – A.I. perception*



iAuto Technology – AVaaS Partners (2019 current ~)

iAuto



NTU Machine Intelligence & Industrial
Network Research Center



- *Formosa Group – smart factory test field, truck fleet, vehicles, batteries*
- *UC Berkeley PATH – A.I. perception, traffic management & control*
- *NTU – A.I.+AV control algorithms & XiLS validation*
- *ITRI – CV2X, cyber security*
- *FIC – edge computing unit ODM/OEM*
- *LEOSYS – cloud Services, AI model training*
- *Taiwan Mobile – 5G Communication, mobile edge computing (MEC), CV2X*
- *MDynamiX (German company) – XiL validation, ISO26262/functional safety*
- *Smart Airport/Port - Looking for potential partners*

iAuto's Self-Driving Truck Road Testing for 2018-2019 Dubai World Challenge for SDT

