智慧道路安全系統 TranXonSafe - An artificial intelligent based safety assist system for vulnerable road users.	
TranXonSafe 財團法人資訊工業策進會 INSTITUTE FOR INFORMATION INDUSTRY 	
Summary	Statistic shows that hundreds of thousands of pedestrians and scooter riders in Taiwan dead and injured each year due to traffic accidents. TransXonSafe is an AI technology to improve road safely for those VRUs (Vulnerable Road Users) in urban area.
Industry/Market Facing Issues	Taiwan is not only the 2nd highest population density country in the world, but also has more than 15M registered scooters on this small island. During heavy traffic times, pedestrians and scooter drivers are relatively vulnerable and dangerous. Statistic shows that hundreds of thousands of pedestrians and scooter drivers in Taiwan dead and injured each year due to traffic accidents.
Product Features & Advantages	TransXonSafe is an AI technology for improving road safely for those VRUs (Vulnerable Road Users) in urban area. It is a roadside system consist of Camera, IPC (Industrial PC), AI software, and a CMS (Changeable Message Sign). TransXonSafe utilizes computer vision and deep learning to recognize dangerous traffic events in real-time, while performing ALPR (Automatic License Plate Detection)to show specific warning messages with plate number on CMS to target vehicles.
Application field	●sensing and cognition
Application industry category	●Public Administration and Defense; Mandatory Social Security

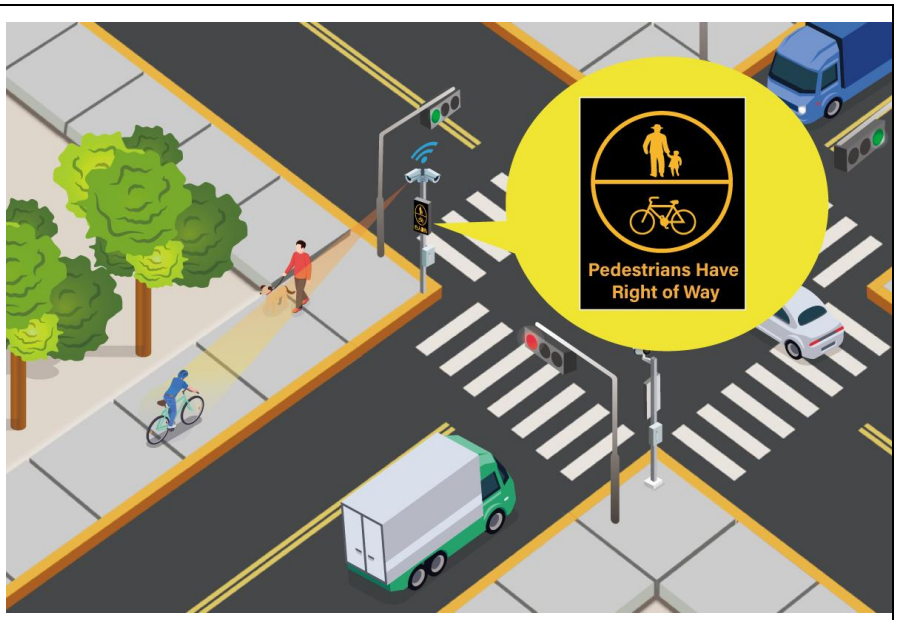
Function introduction	Warning system for failing to yield to pedestrian Goal: To ensure pedestrian safety. When a vehicle is failed to stop and kept at least 3 meters from pedestrian(s) walking on the crosswalk, TransXonSafe will recognize plate number of the violent vehicle and display a warning message by CMS.   Warning system for difference of radius between inner wheels Goal: To ensure scooter safety. When a large vehicle turns right at a road intersection, a blind spot is occurred due to the difference of radius between inner wheels. TransXonSafe can detect and predict scooters entering this blind area in advance, and warn the large vehicle driver by CMS or OBU(On-

Board Unit) to prevents accidents.

Warning system for sidewalk riding

Goal: To ensure safety between pedestrians and cyclists.

It is dangerous for both pedestrians and cyclists when bikes are ride on sidewalks. TransXonSafe can recognize this situation in real time and show a warning message on CMS.

	 
Value of customer	Successful Cases Warning system for failing to yield to pedestrian @Neihu District, Taipei City

Warning system for failing to yield to pedestrian @Zhongli District, Taoyuan City

Warning system for collisions difference between inner vehicle wheels @Neihu District, Taipei City

Warning system for collisions difference between inner vehicle wheels

@Neihu District, Taipei City

Warning system for collisions difference between inner vehicle wheels @Zhongli District, Taoyuan City

Warning system for sidewalk riding @Neihu District, Taipei City

	
Transferable technology	Several exclusive techniques are developed in TransXonSafe: ●high accuracy object detection & tracking ●customized dataset of 2M objects with 28 types of traffic objects ●forbidden/dangerous region awareness ●behavior analysis of traffic objects
Video	www.youtube.com/watch?v=8lVYDNpk2Z0
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