



The Electrical & Electronic Parts Specialist



為升電裝工業股份有限公司(2231)
CUB Elecparts Inc.,

The Best Universal TPMS

Cub at a Glance



- Established 1979 in Taiwan
- Went public at 2009 (2231)
- Market value: 1.1 B U.S.D. (2015 end)
- CEO : S.C. Arbula / 尤山泉
- Employees: 550+
- Cub Shanghai Established: 2007

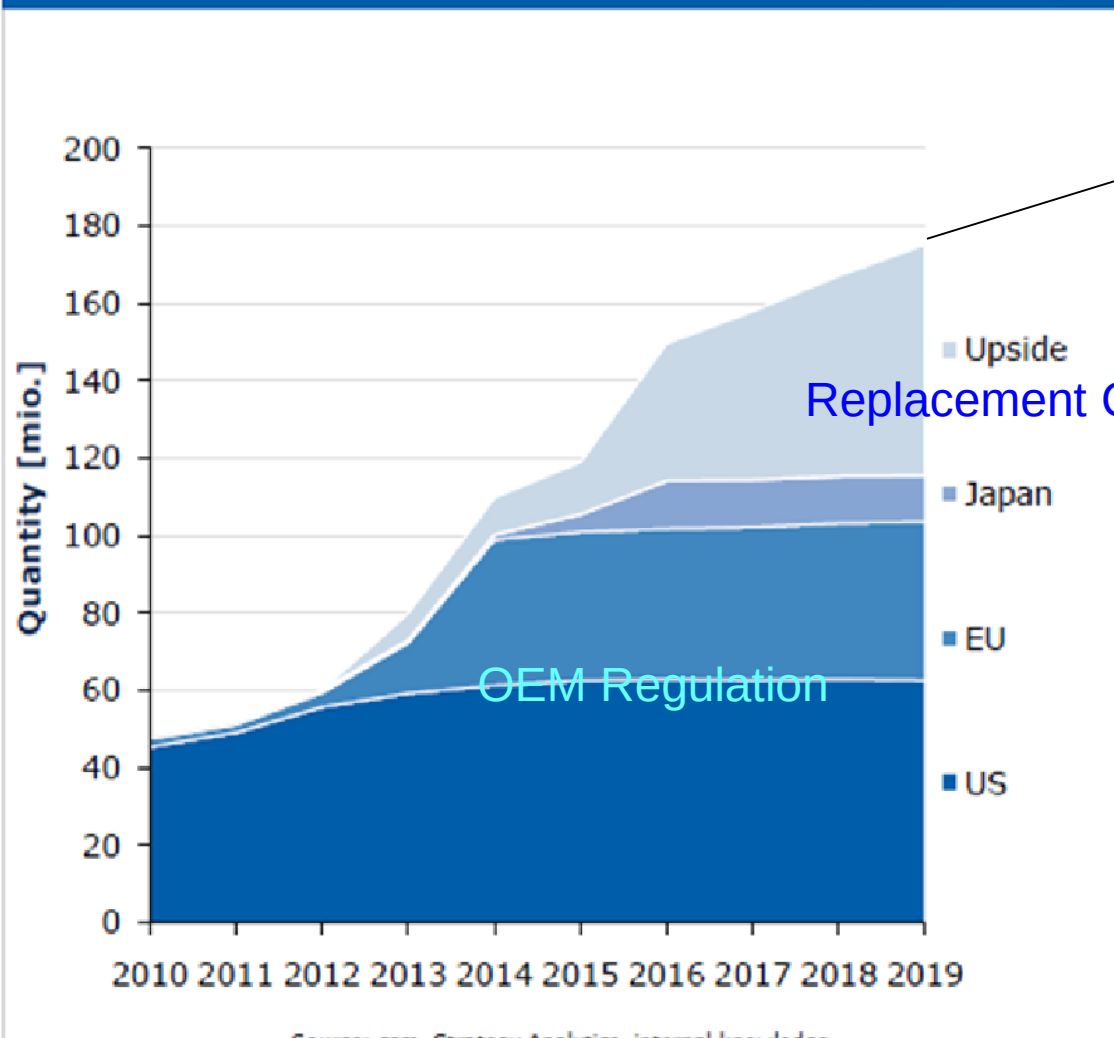
Growth

	2012		2013		2014		2015	
	Amount	%	Amount	%	Amount	%	Amount	%
Net sales 銷貨收入	1,338,240	100	1,498,942	100	2,155,184	100	2,822,080	100
Gross Profit 營業毛利	517,085	39	646,850	43	1,086,876	50	1,562,163	55
OP Expense 營業費用	215,642	16	234,544	16	265,874	13	313,049	11
OP Profit 營業利益	301,443	23	412,306	27	821,002	37	1,249,114	44
Profit after tax 稅後盈餘	251,636	19	365,643	24	745,499	33	1,122,100	39
EPS	4.13		6		10.43		13.56	
Capital 資本額	603(M)		605(M)		723(M)		833(M)	



TPMS Market

Total Available Market for direct TPMS sensor IC's (mio. pieces)



TPMS AFTERMARKET TO TRIPLE IN SIZE OVER NEXT FIVE TO SEVEN YEARS, FROST & SULLIVAN SAYS

By: Oindrila Bhar | Wednesday, April 1, 2015 - 07:00

2010-2018年全球TPMS产品OEM市场规模分析及预测





The Best Universal TPMS Solution



=



The Best Coverage (>98%)



The best tool solution (easy & free)



The best training & service team

Cub
Genuine Parts

Waln

nokian
TYRES

PREMA

TWG
THE WHEEL GROUP

WHEEL **PROS**

WÜRTH

ASCOT
Security Corporation

Norauto

TIRE
FACTORY

Chain Store

Garage





TOP 100

THE VOICE FOR THE AFTERMARKET SUPPLIER INDUSTRY

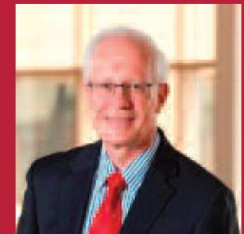
Today's automotive aftermarket is a high-tech industry. Vehicles are becoming more and more sophisticated and quality has never been more important. Today's full service automotive aftermarket suppliers are creating the advanced technology and innovation needed for connected vehicles, as well as the training and support necessary to ensure these vehicles can be repaired by the independent aftermarket.

What is a full service supplier?

These suppliers can be identified by their innovation, their investment in research and development, their commitment to standing behind the products they supply, and their training provided to service professionals on the complex systems that keep the vehicles on our nation's roads and highways running safely and efficiently.



Bill Long
President and COO,
AASA



Tim Corcoran
Chairman, AASA;
Managing Director,

Double Growth Engines

- ❑ TPMS aftermarket demand is very strong
- ❑ New territory occupied



Roadmap



Communication System

Fleet management

IOV



Switch



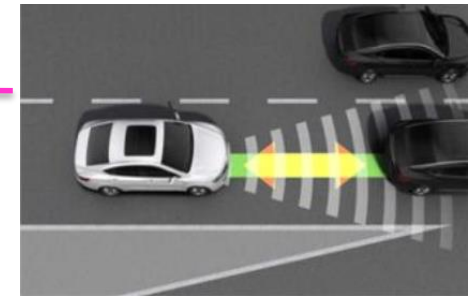
Sensor



TPMS



24G, 77GHz
Radar



ADAS

2016

2018

8

毫米波雷達之技術優越性

全天候雷達

技術性能特點	超音波雷達	紅外線雷達	雷射雷達	影像雷達	毫米波雷達
長距離能力	劣	普	優	優	優
目標解析能力	劣	劣	普	優	優
速度適應性	劣	優	優	劣	優
黑暗辨別能力	優	優	優	劣	優
溫度適應性	普	普	優	優	優
不同天候之適應性	劣	劣	劣	劣	優
防潮、防塵性能	普	劣	劣	劣	優

不同雷達技術特性

超音波：只能在時速15公里以下慢速環境2至3公尺內近距離掃描，現今制車雷達即用此技術，不適用於濃霧。



紅外線/雷射：一般偵測距離80公尺，遇雨、霧、雪、灰塵等不易穿透，使偵測距離降至1公尺餘。



毫米波：波長較長，可穿透雨、霧、雪、灰塵等粒子，偵測距離100公尺，濃霧中仍可達80公尺。



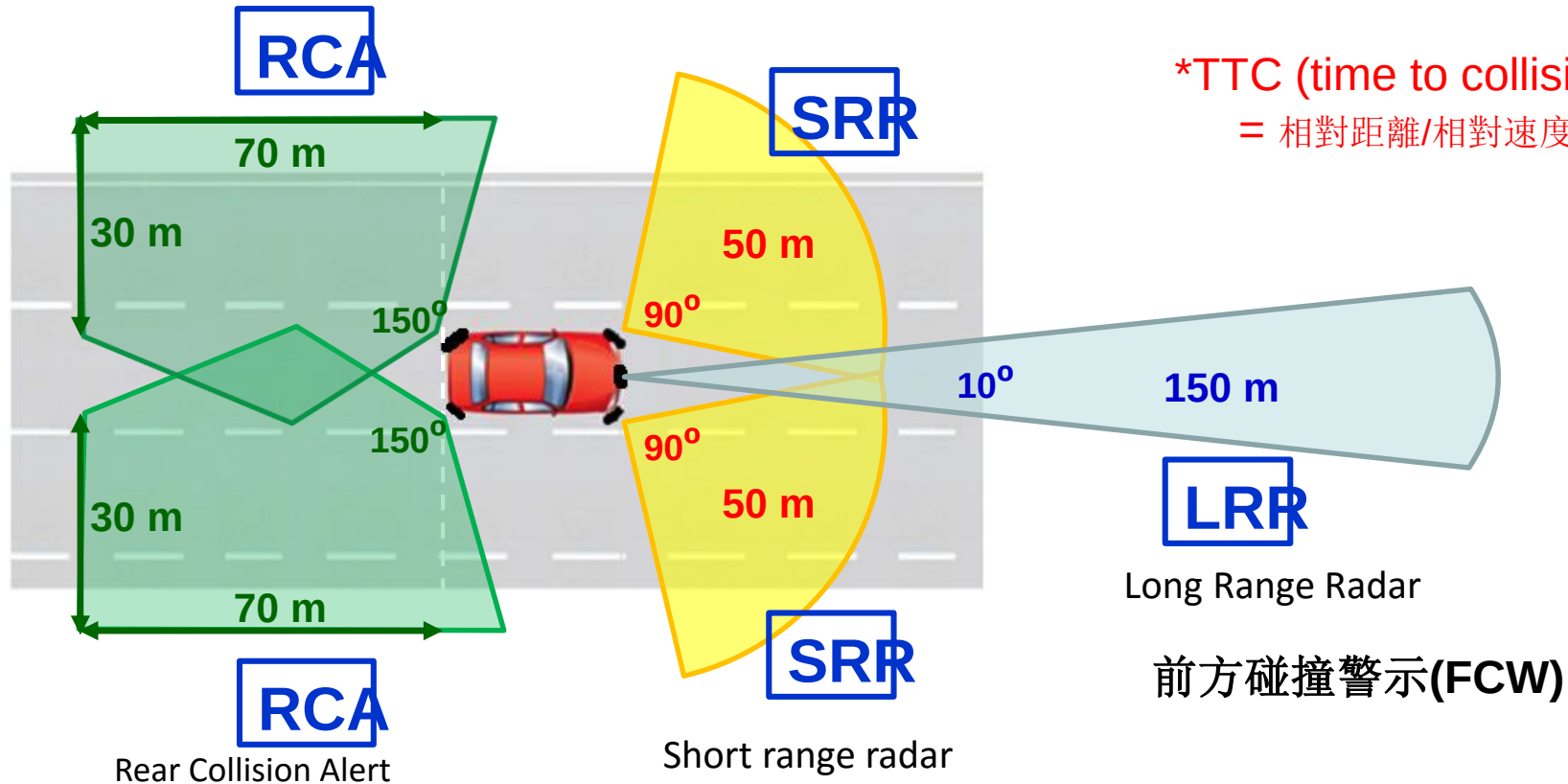
圖4：各種雷達技術比較

要有效解決前方追撞及盲區碰撞的重大交通問題，歐美日各國皆極力發展『汽車防撞警示雷達系統』，但現行測速雷達採用的訊號，包括超音波、雷射、紅外線與影像等技術，都無法克服天候影響導致訊號衰減，因而降低偵測距離的效能，只有**毫米波汽車雷達**，受到的天候影響最少，也被稱為『全天候雷達』。

各雷達涵蓋範圍示意圖

當雷達涵蓋區內有動態或靜態目標物，且目標物之TTC*小於3.5秒內時，系統可對駕駛員進行預警。

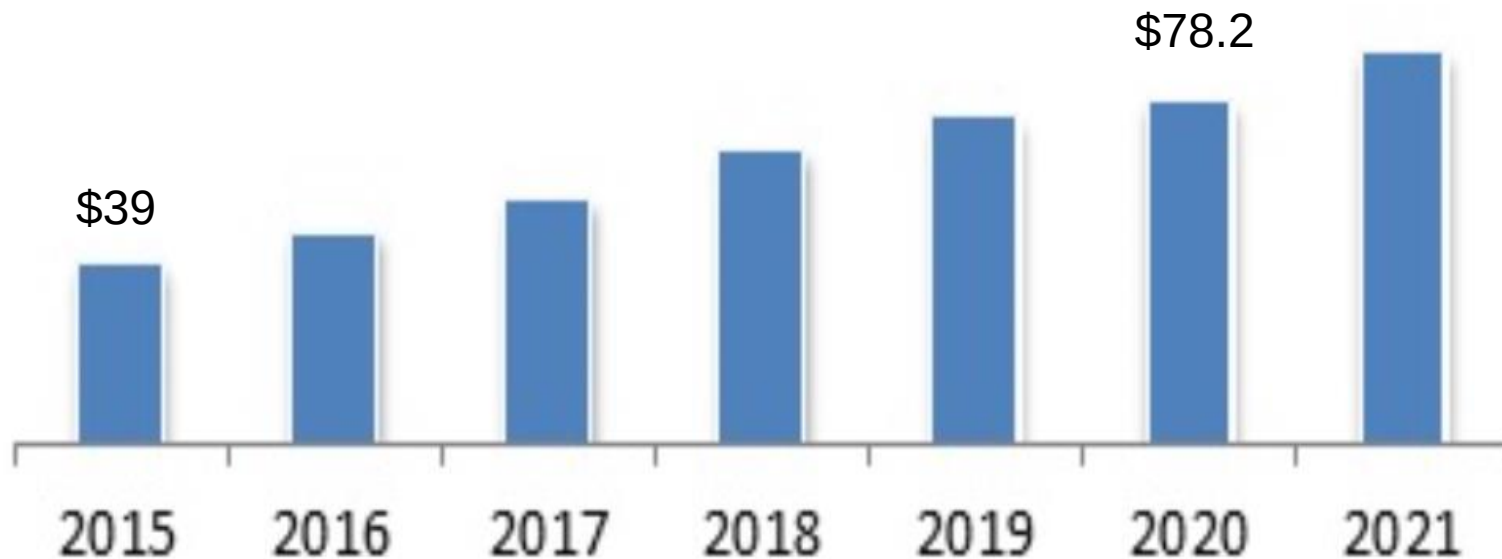
*TTC (time to collision)
= 相對距離/相對速度



盲區探測(BSD)
車道變換警示 (LCW)
倒車橫向報警(CTA)
後方碰撞警示(RCW)

前側方防撞警示
左/右轉防撞警示
近距離(20m)行人偵測

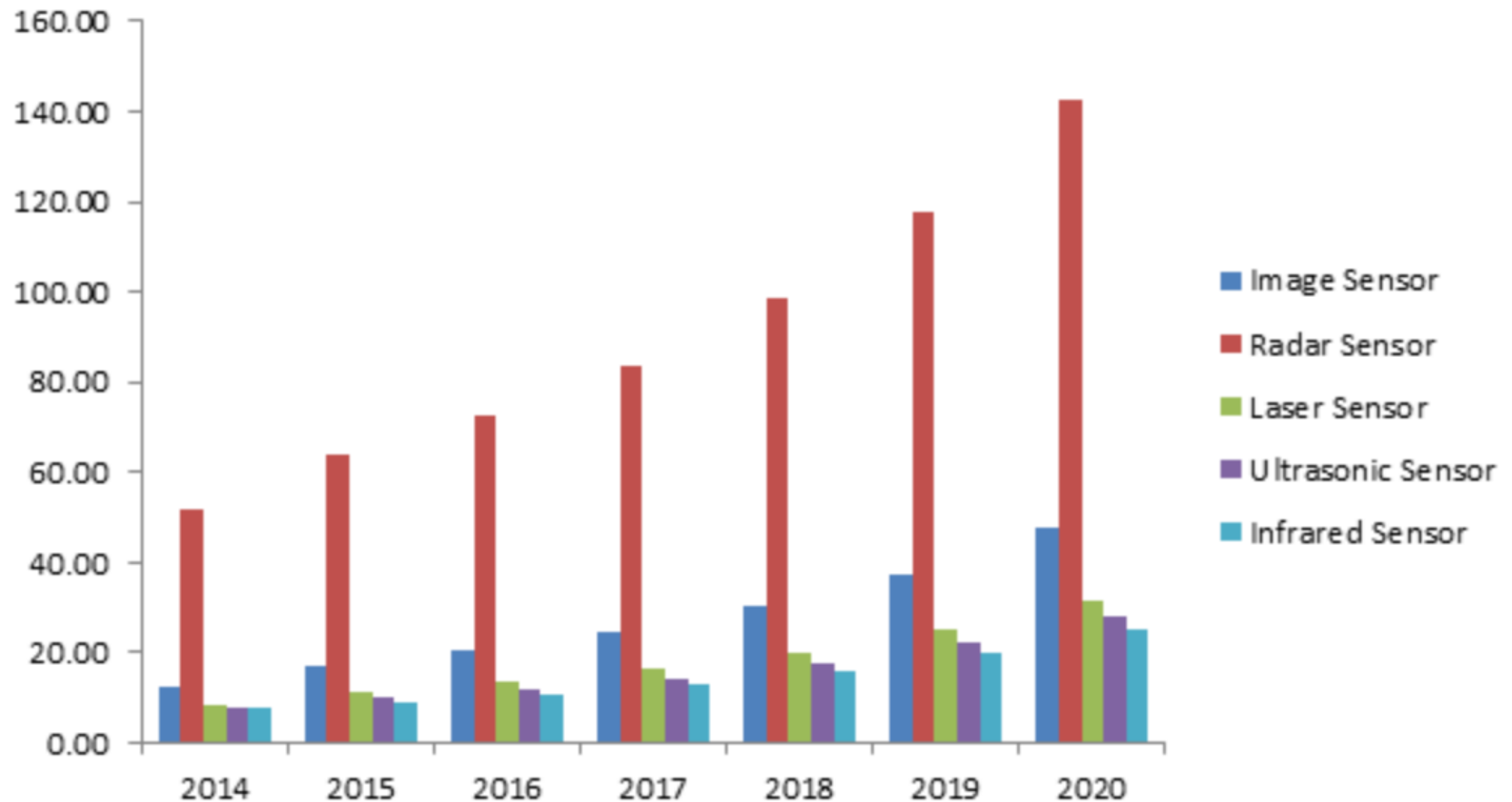
Advanced Driver Assistance Systems Market Revenue, By Years, 2015-2021 (\$Billion)



Source-IndustryARC Analysis and Expert Insights

Radars

ADAS SENSORS MARKET, BY VOLUME (MILLION UNITS)



Radar Sensor + Algorithm + Software

BSD → FCW → Total ADAS

*Thank
you*

