ADAS and Autonomous Driving Tier 1 Suppliers Report, 2018-2019

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STUDY GOAL AND OBJECTIVES

This report provides the industry executives with strategically significant competitor information, analysis, insight and projection on the competitive pattern and key companies in the industry, crucial to the development and implementation of effective business, marketing and R&D programs.

REPORT OBJECTIVES

- To establish a comprehensive, factual, annually updated and cost-effective information base on market size, competition patterns, market segments, goals and strategies of the leading players in the market, reviews and forecasts.
- To assist potential market entrants in evaluating prospective acquisition and joint venture candidates.
- To complement the organizations' internal competitor information gathering efforts with strategic analysis, data interpretation and insight.
- To suggest for concerned investors in line with the current development of this industry as well as the development tendency.
- To help company to succeed in a competitive market, and

METHODOLOGY

Both primary and secondary research methodologies were used in preparing this study. Initially, a comprehensive and exhaustive search of the literature on this industry was conducted. These sources included related books and journals, trade literature, marketing literature, other product/promotional literature, annual reports, security analyst reports, and other publications. Subsequently, telephone interviews or email correspondence was conducted with marketing executives etc. Other sources included related magazines, academics, and consulting companies.

INFORMATION SOURCES

The primary information sources include Company Reports, and National Bureau of Statistics of China etc.

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Abstract

ADAS and Autonomous Driving Tier 1 Suppliers Report, 2018-2019: Huge Investment, Increasing Orders, and Soaring Labor Cost

From the progress of the world's main Tier1 suppliers in autonomous driving, it can be seen that the giants like Bosch and Continental are moving forward at their own pace in line with their timetable.

Traditional Tier1 suppliers are sparing no efforts in enlarging talent teams (especially software), developing ADAS/AD domain controllers, acquiring sensor firms and self-development, testing autonomous driving technology in various scenarios (industrial park, highway, parking, etc.), expanding autonomous fleets for road test, building test fields on their own or together with others, establishing operation and data management centers, and allying themselves with more partners.

	Bosch	Continental	Veoneer	Aptiv
Staff Planning	Quadruple the number of AI experts to 4,000 in 2021	Between 2020 and 2023, add 17,000 engineers to the two new business areas -- Autonomous Driving Technologies and Vehicle Networking Technologies	5,200 engineers in 2019Q1, 70% of whom engage in software	
L2 Landing Time		2018		
L3 Landing Time		2020	2019	2020
L4 Landing Time		2022-2025	2021	2022
Release in 2019	Release domain controller 1.0	Mass-produce 5th-generation radar	4th-generation camera	
Release in 2020	Highway assist (HWA) SOP	Highway lane changing (speeds: 50~80km/h)	Traffic jam pilot (TJP) (speeds: less than 60 km/h)	Apply L3 autonomous driving technology in highway scenario (60km/h)
Release in 2021	Launch of LiDAR; Traffic jam pilot (TJP) SOP; Highway pilot (HWP)		Highway pilot (HWP) (<130km/h) and AVP	
Release in 2022		Realize long-distance highway autonomous driving during 2022-2025 (the highest speed in Europe: 130km/h)	5th-generation camera	

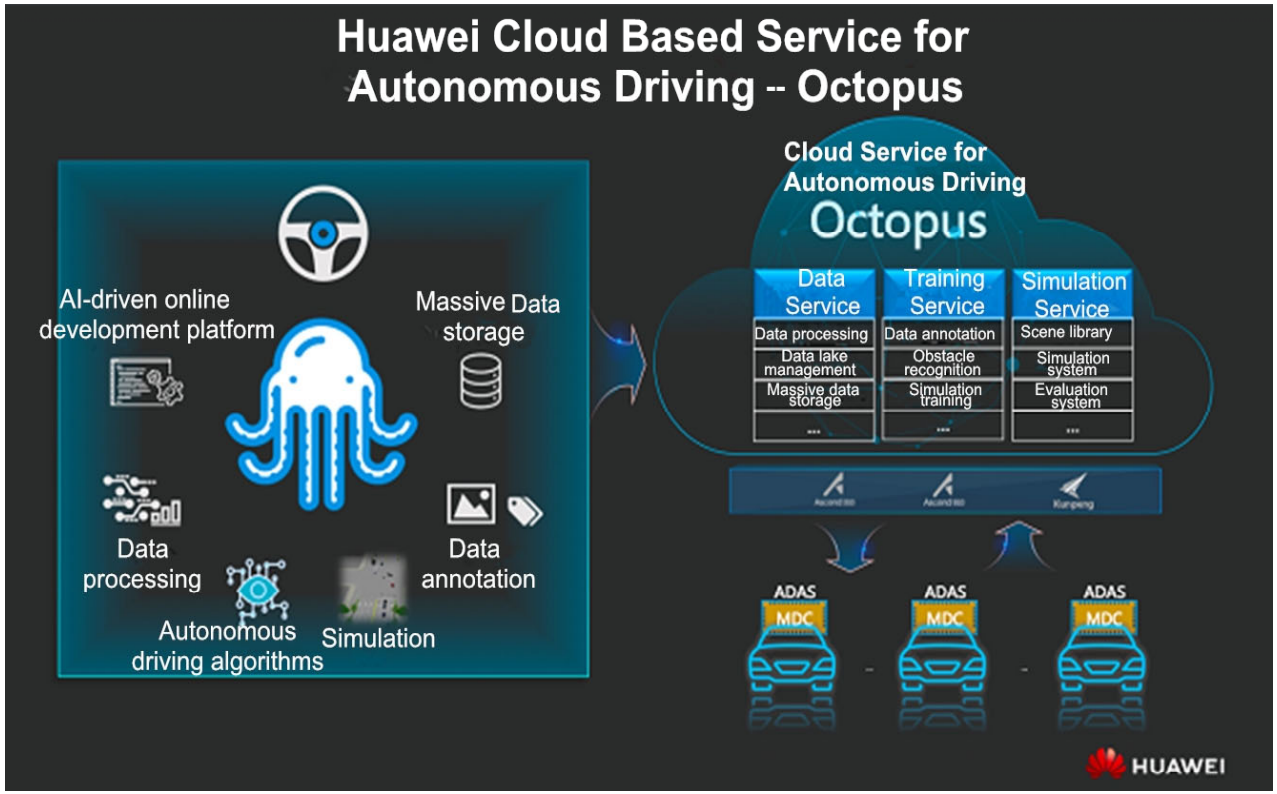
Tier1 suppliers suffer a slump in profits and even a bigger loss because of huge investment in autonomous driving, but there is good news that orders are increasing.

Veoneer's operating loss for 2019Q1 jumped to USD128 million compared with USD16 million in 2018Q1; its R&D expenses rose to USD156 million from USD106 million in 2018Q1; capital expenditure surged from USD31 million to USD59 million largely for camera capacity expansion, according to Veoneer's 2019Q1 financial results in the table above.

Dollars in Millions (except where specified)	Q1'19	Q1'18	Chg. vs. Prior Year
Net Sales	$494	$594	$(100)
Gross Profit	$85	$112	$(27)
%	17.2%	18.8%	(1.6) pp
RD&E, net	$(156)	$(106)	$(50)
%	(31.5)%	(17.9)%	(13.6) pp
Operating Loss	$(128)	$(16)	$(112)
%	(25.9)%	(2.7)%	(23.2) pp
Operating Cash flow[1]	$(90)	$(79)	$(11)
CapEx	$59	$31	$28
%	11.9%	5.1%	6.8pp

Among Chinese Tier1 suppliers, Huizhou Desay SV Automotive Co., Ltd., a leading player in ADAS and autonomous driving field, also sees its profit decline. The supplier's operating results for 2019Q1 indicate that its net income attributable to the shareholders of the listed company stood at RMB43.54 million, a 72.82% plunge on an annualized basis, which was caused by a nosedive in China's 2019Q1 automobile sales and the company's huge investment in research and development of new technologies. In 2018, the company reported RMB5.4 billion in revenue, with annualized sales from orders for its new products outnumbering RMB7.0 billion.

Company	Huizhou Desay SV Automotive Co., Ltd.
2018 Revenue	RMB5.4 billion
New Orders	Annualized sales from orders for its new products hit over RMB7.0 billion.
Overview of Orders	Orders for new platform projects from FAW-Volkswagen and SAIC Volkswagen; new orders for intelligent assistance systems, TFT LCD instruments, in-vehicle infotainment systems and air-conditioner controllers from Geely; and new orders from GAC Motor, Chery, SAIC Group, SAIC GM, SGMW, Great Wall Motor, Changan and BYD.
Acquisitions & Investments	● In Mar. 2019, Desay SV successfully bought a 100% stake in ATBB, a German antennas company; ● In Apr. 2019, Desay SV invested Nullmax. They would collaborate to develop OEM autonomous driving solutions.
Smart Cockpit	● In 2018, Desay SV acquired orders for its new smart cockpits from CHJ Automotive, Changan and ENOVATE. The product is projected to go into mass production in 2019. ● Desay SV has launched optically efficient display modules and systems, which have been used by several OEMs in their mass-production projects. Automakers like FAW-Volkswagen, SAIC Volkswagen and Geely placed orders in 2018.
Intelligent Driving	● Desay SV has mass-produced 360-degree HD surround view systems, automatic parking systems, and driver monitor and identification systems, all of which were developed by the company itself; ● Desay SV has received orders for its 24G radars which will be produced in quantity in 2019; its 77G radars will be mature enough for mass production in 2019 as well; ● In 2018, Desay SV and Xiaopeng Motors signed a strategic cooperation agreement. They plan to co-develop a L3 autonomous driving system, and put it into mass production in 2020; ● In June 2018, vehicles carrying Desay SV's autonomous driving technology was first unveiled in the intelligent system test field of Hunan Xiangjiang New Area; ● In November 2018, Desay SV rolled out a Qualcomm 9150 C-V2X chipset-based solution.
Production Line	Desay SV has built production lines to produce display systems, cameras and 24G/77G radars.



In April 2019, Huawei made its debut as a Tier1 supplier at Auto Shanghai, and exhibited solutions such as MDC, intelligent connectivity, Huawei Cloud (Octopus) and three types of sensors.

Huawei's entry will intensify the already fierce competition among Tier1 suppliers of ADAS and autonomous driving solutions.

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2) China Car Timeshare Rental and Autonomous Driving Report, 2018-2019
3) Report on Emerging Automakers in China, 2018-2019
4) Global and China HD Map Industry Report, 2018-2019
5) Global and China Automotive Domain Control Unit (DCU) Industry Report, 2018-2019
6) Global and China Automated Parking and Autonomous Parking Industry Report, 2018-2019
7) Cooperative Vehicle Infrastructure System (CVIS) and Vehicle to Everything (V2X) Industry Report, 2018-2019
8) Autonomous Driving High-precision Positioning Industry Report, 2018-2019
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Table of contents

Table of contents

Table of contents

Table of contents

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