



MIA

Brought to you by Informa Tech

Automotive Semiconductor Market Tracker

Part of the Semiconductor Market Service Area Package

A comprehensive guide to the automotive semiconductor market that covers 29 semiconductor device types embedded into 50+ primary vehicle electronic applications. The tracker includes macro environment, global vehicle production forecast, design and technology trends, competitive landscape, and market dynamics.

“ Three mega trends in the automotive industry – i) vehicle electrification, ii) digital transformation, and iii) vehicle connectivity – are driving the growth of the automotive semiconductor market. It is crucial for companies to understand the magnitude of this rapid growth, and which applications and devices will be most affected. ”

Sang Oh

Principal Analyst

OMDIA

Semiconductor Components: Our expert analysts



Sang Oh*
Principal Analyst
Automotive & Processor



Paul Pickering
Price Lead
Power IC



Richard Eden
Senior Principal Analyst
WBG Power Semi.



Callum Middleton
Senior Analyst
Power Discrete & Module



Lino Jeng
Senior Principal Analyst
DRAM



Makoto Ferguson
Principal Analyst
Embedded Memory



Nora Houlihan
Senior Analyst
MEMS & Sensors

* Lead analyst for the service

Automotive Semiconductor Market Tracker: Deliverables



MARKET TRACKER: ANALYSIS

—Semi-annually—

Automotive Semiconductor Market Tracker
Analysis



MARKET TRACKER: DATABASE

—Semi-annually—

Automotive Semiconductor Market Tracker
Database



VEHICLE PRODUCTION UPDATE

—Semi-annually—

Global vehicle production and forecast



ANALYST INSIGHTS

—Ongoing—

Analyst commentary on market shifts,
technology and regional developments,
vendors, events, and more



ANALYST ACCESS

—Ongoing—

For prompt responses to client questions
and market feedback

Automotive Semiconductor Market Tracker: Overview

Automotive Semiconductor Market Tracker: Detail, Coverage, and Applicable To

DETAIL

Frequency

- Semi-annually updated
 - 2H23 to publish in Feb. 2024
 - 1H24 to publish in Aug. 2024

Deliverable

- Market tracker analysis (PPT)
- Market tracker database (Excel)

Key Metric

- Revenue and unit shipment by device types
- Revenue and unit shipment by vehicle applications
- Revenue by semiconductor vendors
- Global vehicle production forecast

COVERAGE

Timeline

- 5-year annual forecast
- 2 to 3 historical years

Region

- Global

Device Type

- Memory IC
- Microcomponent IC
- Logic IC
- Analog IC
- Discretes
- Optical semiconductor
- Sensors & actuators

Vehicle Application

- ADAS
- Body & convenience
- Chassis & safety
- Infotainment & telematics
- Powertrain
- xEV system

Vehicle Engine Type

- ICEV
- BEV
- PHEV
- FHEV
- MHEV

APPLICABLE TO

Industry Segment

- Automotive OEMs & manufacturers
- Automotive supply chain & tier-1 & 2 suppliers
- Semiconductor vendors & suppliers
- Business consulting & financial firms
- Industry research firms

Function

- Procurement
- Product development
- Business development
- Strategic planning
- Product and business marketing

Automotive Semiconductor Market Tracker: Device Types

Automotive Semiconductor Market Tracker Covers 29 Sub-Device Types

1

Memory IC

DRAM
SRAM
NAND
NOR
EEPROM
Other memory



2

Microcomponent IC

Microprocessors (MPU)
8-bits MCU
16-bits MCU
32-bits (and higher) MCU
Digital signal processor (DSP)



3

Logic IC

Standard logic
Display drivers
PLD
Application-specific logic IC



4

Analog IC

Amplifiers & comparators
Voltage regulators & references
Data converters
Interface
Application-specific analog IC



5

Discretets

RF & microwave
Power transistors & thyristors
Rectifiers & power diodes
Small signal & other discretets



6

Optical semiconductor

CMOS image sensors
Laser diodes
LEDs
Other optical



7

Sensors & actuators

Sensors & actuators



Automotive Semiconductor Market Tracker: Vehicle Applications

Automotive Semiconductor Market Tracker Analyzes 50+ Primary Vehicle Electronic Applications

1

ADAS

Camera modules
ADAS DCM
Lidar modules
Driver monitoring systems
Radar modules
Other ADAS



2

Body & convenience

Body power modules
Body DCM and gateway modules
HVAC systems
Keyless entry modules
Lighting modules
Other B&C



3

Chassis & safety

ABS & ESC
Active suspension systems
Airbag systems
Chassis DCM
Electric parking brake modules
Electric power steering modules
TPMS
Other C&S



4

Infotainment & telematics

Cockpit DCM
External amplifier modules
Head unit modules
Instrument cluster modules
Telematics
Other I&T



5

Powertrain

Engine & transmission systems
Engine auxiliary systems
Start & stop systems
Other powertrain



6

xEV system

BMS
DC-DC converter modules
Onboard charger system
V ESS
Traction inverter modules
Other xEV system



Note: the list of applications on the slide may not show all sub-set applications covered by the market tracker.

Automotive Semiconductor Market Tracker: Vehicle Production

Automotive Semiconductor Market Tracker Tracks And Forecast Global Vehicle Production Numbers

1

Vehicle engine

Internal combustion engine vehicle (ICEV)

Battery electric vehicle (BEV)

Plug-in hybrid electric vehicle (PHEV)

Full hybrid electric vehicle (FHEV)

Mild hybrid electric vehicle (MHEV)



2

Vehicle grade

Low cost

Economy

Standard

Premium

High-premium



3

Production region

Americas

Europe, Middle-East, and Africa (EMEA)

China

Japan

Rest of Asia and Oceania



4

Other*

Vehicle size

Vehicle classification

Vehicle manufacturers

Automotive brands and models

* Analysis purposes only, data not necessarily reported in the tracker



Automotive Semiconductor Market Tracker: Analyst Insights

Apple CarPlay will bring a new paradigm to the infotainment applications



Source: Apple

Could this be another leeway toward Apple's centrally integrated vehicle OS and its long-rumored autonomous vehicle?

Page 10

© 2022 Omdia

Automotive Semiconductor Market Tracker – 1H22 Analysis | July 2022

Vehicle digitalization

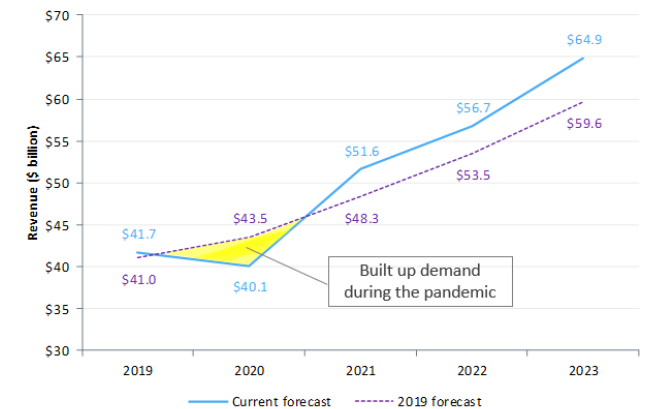
- At WWDC 2022, Apple presented the app with the car's central new system will allow drivers to customize colors and layouts for the instrument clusters.
- In order to support the new system, the current infotainment systems will need to improve their vehicle operating system manufacturing processes. This will require semiconductor components.
 - The general architecture of the infotainment modules for the head unit in end vehicles may have evolved into one processor, including ADAS or body domain controllers.
 - The integration of the new infotainment modules with logic devices, along with
- Memory, microprocessors, and other components. Revenue of \$9.0bn in 2021, an increase of 28.6% from 2020.

Total automotive semiconductor revenue is estimated at \$51.6 billion in 2021, an increase of 28.6% from 2020

Automotive Semiconductor Market Tracker – 2H21 Analysis | January 2022

- The large growth in 2021 is partially due to demands that were held back in 2020.
 - In 2019, prior to the pandemic, the automotive semiconductor revenue in 2020 was forecast around \$43.5 billion (refer to the purple dotted line in the chart). At that time, Omdia expected steady growth with a CAGR of 9.8% from 2019 to 2023.
 - However, as the pandemic disrupted global vehicle production in 2020, automotive semiconductor production declined to \$40.1 billion (refer to the blue line in the chart), about 8.4% below the number forecast back in 2019.
- These backed-up demands were partially met throughout 2021, estimated at \$51.6 billion, about 6.9% above the revenue expected back in 2019.
- Today, Omdia forecasts that the automotive semiconductor market will continue its growth, even at a faster rate than before, driven by strong demand in advanced driver-assistance systems (ADAS) and infotainment applications, as well as a rapid shift into vehicle electrification.

Total automotive semiconductor revenue forecast: 2019 (pre COVID-19) vs. Current



Source: Omdia

© 2022 Omdia

Page 6

© 2022 Omdia

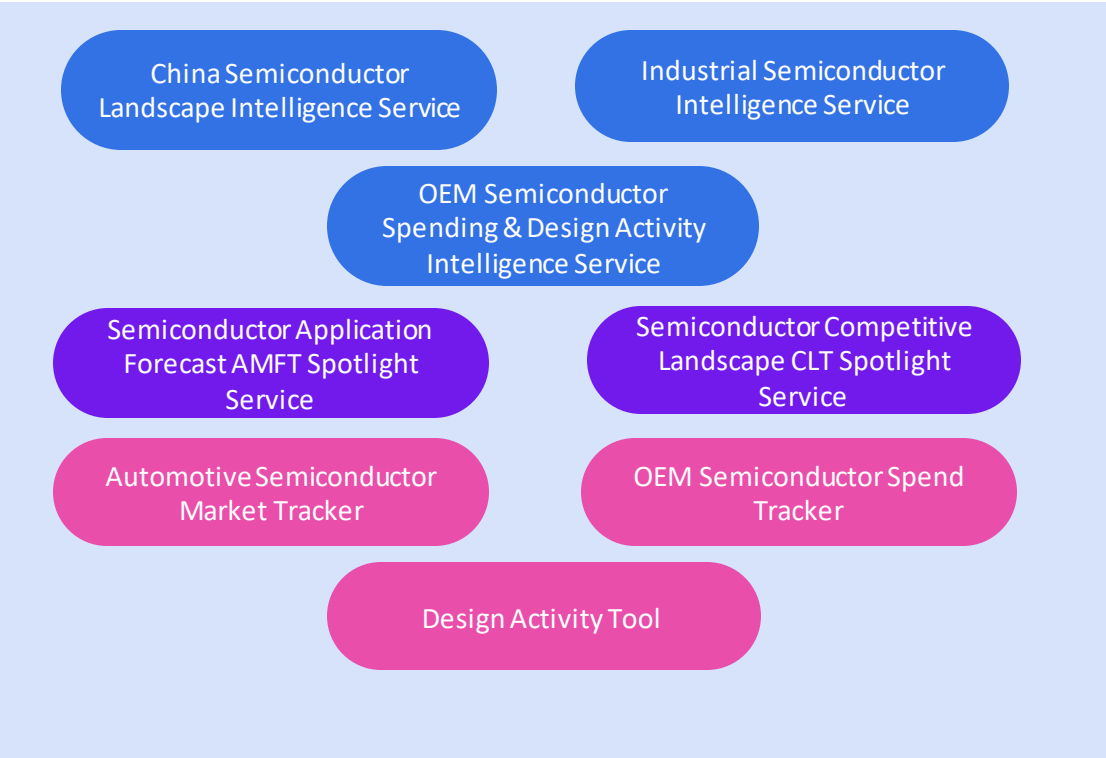
OMDIA

Related Content: Semiconductor Service Area Coverage

SERVICE AREA PACKAGE			
Memory & Storage	Semiconductor Components	Semiconductor Manufacturing	Semiconductor Market
<ul style="list-style-type: none"> • DRAM Memory Intelligence Service • Mobile & Embedded Memory Intelligence Service • NAND Memory Intelligence Service • SSD & HDD Storage Memory Intelligence Service 	<ul style="list-style-type: none"> • Power Semiconductor Intelligence Service • MEMS and Sensors Intelligence Service • Wide Bandgap Power Semi Intelligence Service • Image Sensor Intelligence Service • LED Intelligence Service • MEMS and Sensors for Consumer and Mobile Intelligence Service • Microcontroller MCU Intelligence Service • Microcontroller Market Tracker • Processors for Graphics and AI Market Tracker • Processors for Network Infrastructure Market Tracker • System-on-Chip (SoC) Market Tracker • Optoelectronic Components Report • Processors Spotlight Service 	<ul style="list-style-type: none"> • Global Semiconductor Manufacturing Market Tracker • Pure Play Foundry Market Tracker • Semiconductor Silicon Demand Forecast Tool 	<ul style="list-style-type: none"> • China Semiconductor Landscape Intelligence Service • Industrial Semiconductor Intelligence Service • OEM Semiconductor Spending & Design Activity Intelligence Service • Semiconductor Application Forecast AMFT Spotlight Service • Semiconductor Competitive Landscape CLT Spotlight Service • Automotive Semiconductor Market Tracker • Design Activity Tool • OEM Semiconductor Spend Tracker

Related Content: Semiconductor Market Service Area Coverage

Service Area Package: Semiconductor Market

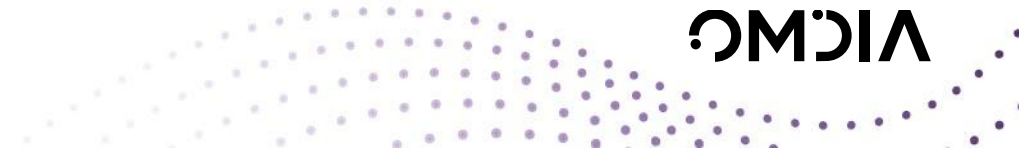


About Omdia's Semiconductor Market Research

Omdia's leading semiconductor market research is provided by a highly experienced team of analysts. Many are industry veterans with deep technical background as well as hands-on market and product experience in their coverage area.

The foundation of all the coverage comes from primary research with the major semiconductor suppliers across the global industry. This insight feeds a global and regional view of the industry by technology and by application including historical and forecasted views presented through the CLT and AMFT solutions.

From this core data, the research is augmented through additional primary research to deliver China, Industrial and then an OEM spend and design activity view.



Our “Ask an Analyst” Service Provides Best in Class Customer Support

Whether you need guidance to navigate the service, information regarding our methodologies or you want to better understand a data trend, Omdia’s support team is here to help.

Draw on our expertise

- Make the right decisions
- Sanity-check your own findings
- Get the most out of your subscription
- Understand more about our methodologies

Our Ask an Analyst service gives you direct contact via telephone, email or face-to-face session with our expert analyst team:




Shelley Hunter
*Customer Success
Manager*



Kâren Dyer
*Customer Success
Manager*



Get in touch!

 askananalyst@omdia.com

 [@Omdia](https://www.linkedin.com/company/omdia)

 [@OmdiaHQ](https://twitter.com/OmdiaHQ)

 OMDIA

Thank you

Disclaimer

The Omdia research, data and information referenced herein (the “Omdia Materials”) are the copyrighted property of Informa Tech and its subsidiaries or affiliates (together “Informa Tech”) or its third party data providers and represent data, research, opinions, or viewpoints published by Informa Tech, and are not representations of fact.

The Omdia Materials reflect information and opinions from the original publication date and not from the date of this document. The information and opinions expressed in the Omdia Materials are subject to change without notice and Informa Tech does not have any duty or responsibility to update the Omdia Materials or this publication as a result.

Omdia Materials are delivered on an “as-is” and “as-available” basis. No representation or warranty, express or implied, is made as to the fairness, accuracy, completeness, or correctness of the information, opinions, and conclusions contained in Omdia Materials.

To the maximum extent permitted by law, Informa Tech and its affiliates, officers, directors, employees, agents, and third party data providers disclaim any liability (including, without limitation, any liability arising from fault or negligence) as to the accuracy or completeness or use of the Omdia Materials. Informa Tech will not, under any circumstance whatsoever, be liable for any trading, investment, commercial, or other decisions based on or made in reliance of the Omdia Materials.

Get in touch!



customersuccess@omdia.com

 @Omdia



@OmdiaHQ