Automotive Market Update
The current outlook for the rest of 2023 is more optimistic compared to the previous forecast. Output in 2023 is expected at 89.0 MU, a 1.8% increase from the level that was expected in the previous forecast.

Looking ahead, the gap between the two previous and current forecast then narrows. By 2026, they are essentially the same. From then onwards, the new forecast is a little lower, by under 1% each year. The current forecast expects global, annual vehicle production in 2030 to reach 101.8 MU.
Latest Production Forecast Update Shows Mixed Outlook

- **China Crash**: The debt crisis in China comes to a head, with growth in Q4 2023 curtailed and a fall in production in 2024. The impacts are felt elsewhere, especially in NA, Japan and Europe which export many cars to China. Total combined 2023/24 system market value in this scenario is $859 billion, against $873 billion in the standard scenario.

- **Europe Slow Down**: With ongoing war in Ukraine, Europe's recovery falters, with production almost flat in 2024. There are small knock-on impacts elsewhere, especially Japan and Korea which export to Europe. Total combined 2023/24 system market value in this scenario is $868 billion, against $873 billion in the standard scenario.

- **Optimistic**: Production is slightly higher than expected in all regions. Total combined 2023/24 system market value in this scenario is $878 billion, against $873 billion in the standard scenario, with increases in both 2023 and 2024.
• **Battery Electric Vehicle Production**: Forecast to increase from 8.17 million units in 2022 to 38.35 million in 2030.

• **Autonomous Vehicle Production**: SAE Level 3 forecast to increase from 1.04 million units in 2025 to 12.93 million in 2030. SAE Level 4 forecast to increase from 0.3 million in 2030 to 3.83 million in 2035.

• In the U.S., the autonomous vehicle market is facing challenges with regulators looking closely at various autonomous vehicle service safety records.
Automotive E/E Architecture Consolidation

Automakers and suppliers are adopting consolidated zonal E/E architectures that reduce the need for dozens of single-function electronic control units (ECUs).

These new “zonal” architectures consist of a small number of powerful, multi-function ECUs (called vehicle servers, central controllers, or high-performance compute, i.e., HPC, ECUs) that are connected to zonal gateway ECUs that move data over the in-vehicle network(s).

Vehicle servers/HPC ECUs combine the functions several discrete ECUs, thereby eliminating the need for many single-function ECUs.

OEMs can use different network topologies (ring, star, tree) and may mix HPC and other ECU types in a hybrid zonal architecture.

Some Tier 1 suppliers are designing “server blades,” where each ECU sits in a rack in the vehicle.
Automotive Semiconductor Demand

Global Automotive Semiconductor Revenue by Domain

Body
Chassis
Driver Info
Powertrain
Safety
Zonal

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Global Market: From $54.7 billion in 2022 to $134.5 billion in 2030

Body: From $10.9 billion in 2022 to $17.6 billion in 2030

Chassis: From $4.5 billion in 2022 to $4.8 billion in 2030

Driver Info: From $12.7 billion in 2022 to $18.1 billion in 2030

Powertrain: From $13.0 billion in 2022 to $33.0 billion in 2030

Safety: From $13.2 billion in 2022 to $39.2 billion in 2030

Zonal Controllers: From $511 million in 2022 to $21.8 billion in 2030

Note: Data applies to passenger vehicles and commercial vehicles up to Class 2 (pickup trucks, vans, etc.).
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