

Automotive Cockpit Electronics Market Assessment, By Product [Head-up Display, Information Display, Infotainment and Navigation, Instrument Cluster, Telematics, Others], By Technology [Advanced, Basic], By Vehicle Type [Passenger Vehicles, Light Commercial Vehicles, Medium and Heavy Commercial Vehicles], By Distribution Channel [OEMs, Aftermarket], By Region, Opportunities and Forecast, 2017-2031F

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Abstracts

Global automotive cockpit electronics market is projected to witness a CAGR of 8.54% during the forecast period 2024-2031, growing from USD 42.5 billion in 2023 to USD 81.87 billion in 2031. The global automotive cockpit electronics market is at the forefront of technological innovation, revolutionizing the in-car experience. It encompasses various electronic components and systems designed to enhance vehicle interiors, providing entertainment, information, and connectivity to occupants. The market includes advanced infotainment systems, digital instrument clusters, head-up displays (HUDs), telematics, and other smart features contributing to safety, convenience, and overall driving enjoyment. With the rise of electric and autonomous vehicles, the role of cockpit electronics becomes even more pivotal, integrating sophisticated controls and interfaces. Key players in this dynamic market, such as Bosch, Continental AG, and Panasonic, continuously push boundaries to deliver cutting-edge solutions. The automotive cockpit electronics market is driven by consumer demands for connectivity and entertainment and by regulatory developments emphasizing safety and emissions control. As the automotive industry undergoes a profound transformation, the cockpit electronics market plays a central role in shaping the future of intelligent and connected

mobility.

In June 2023, Betamek Bhd, an electronics manufacturing services provider, partnered with Shenzhen Zhonghong Technology Co Ltd (SZH) to develop advanced driver assistance systems (ADAS) and automotive cockpit systems in the ASEAN automotive industry. The collaboration aims to enhance Betamek's technology capabilities and address the increasing digitalization trends in passenger vehicles.

Surge in Augmented Reality Displays

The global automotive cockpit electronics market is experiencing a surge in augmented reality (AR) displays, revolutionizing in-car experiences. AR technology is increasingly integrated into HUDs and instrument clusters, providing drivers with real-time information overlaid on the windshield or traditional displays. This innovation enhances navigation, safety alerts, and contextual information, reducing distractions and improving situational awareness. The surge in AR displays aligns with the industry's push toward ADAS and the development of autonomous vehicles. As consumers seek more intuitive and immersive interfaces, AR displays are becoming a key differentiator in the competitive landscape of automotive cockpit electronics, shaping the future of smart and connected driving.

In January 2023, HARMAN, a Samsung Electronics subsidiary, unveiled HARMAN Ready Vision, an AR HUD system designed to enhance driver safety and awareness. The AR software integrates with vehicle sensors to deliver immersive audio and visual alerts, providing critical information in a timely, accurate, and non-intrusive manner.

Electric Vehicle Integration

The market is witnessing a transformative impact due to the increasing integration of electric vehicles (EVs). Cockpit electronics are crucial in enhancing the user experience in EVs, offering advanced features such as energy management displays, real-time battery information, and optimized driving modes. EVs demand sophisticated digital interfaces to efficiently monitor battery performance, charging status, and range estimation. Additionally, the transition to electric mobility is accompanied by a shift towards innovative user interfaces, integrating controls for regenerative braking and energy recuperation. The evolving landscape of EVs is driving the development of cockpit electronics, creating a synergy between electrification and advanced in-car technology for a seamless and intuitive driving experience.

In July 2023, Taiwan's Hon Hai Technology and US semiconductor manufacturer Analog Devices (ADI) joined forces to develop digital car cockpits and high-performance battery management systems (BMS) for EVs.

Surge in Cybersecurity Management System

The market is experiencing a significant surge in the integration of cybersecurity management systems, reflecting the industry's heightened focus on vehicle security. With the growing connectivity and digitalization of vehicles, the risk of cyber threats has escalated. Automotive cockpit electronics, including infotainment systems and connected features, are now equipped with robust cybersecurity measures to protect against potential breaches. Manufacturers are adopting advanced encryption, secure communication protocols, and intrusion detection systems to safeguard vehicle data and ensure the integrity of in-car systems. As vehicles become more interconnected and autonomous, the emphasis on cybersecurity management within cockpit electronics is paramount, addressing evolving challenges and bolstering consumer confidence in the safety of smart and connected vehicles.

In December 2023, LG Electronics and Cybellum announced the introduction of their Cyber Security Management System (CSMS) Cockpit platform to automotive OEMs at CES 2024. The CSMS Cockpit platform, designed in collaboration between LG and Cybellum, monitors and maintains vehicle cybersecurity, streamlining cyber-assurance and incident response tasks for OEMs. The platform ensures that vehicles remain digitally secure and fully compliant with evolving cybersecurity regulations, swiftly identifying security vulnerabilities and proactively taking preventive measures to negate potential threats.

Impact of COVID-19

The global automotive cockpit electronics market faced distinctive phases before and after the impact of COVID-19. Pre-pandemic, the market was witnessing robust growth, driven by increasing consumer demand for advanced infotainment systems, connectivity features, and digital instrument clusters. However, the pandemic induced disruptions in supply chains, manufacturing, and consumer spending, leading to a temporary downturn. Post-COVID-19, the market is rebounding as economies recover and automotive technologies advance. The increased focus on electric and autonomous vehicles has accelerated innovation in cockpit electronics, emphasizing touchless interfaces, enhanced connectivity, and intelligent displays. While the pandemic posed challenges, the resilience of the automotive industry and the growing consumer appetite

for cutting-edge cockpit electronics signal a promising post-pandemic trajectory.

Key Player Landscape and Outlook

The global automotive cockpit electronics market features a dynamic landscape with key players at the forefront of innovation and technology. Companies such as Bosch, Continental AG, Denso Corporation, and Panasonic Corporation play pivotal roles, driving advancements in infotainment systems, digital displays, and connectivity solutions. The outlook for these key players is marked by a continued focus on developing intelligent cockpit electronics for electric and autonomous vehicles. Strategic collaborations, mergers, and acquisitions are anticipated as companies strive to expand their product portfolios and maintain a competitive edge. With the evolution of smart and connected vehicles, the key players in the global automotive cockpit electronics market are poised to shape the future of in-car experiences, catering to the growing demands of tech-savvy consumers.

For instance, in January 2023, HARMAN, a subsidiary of Samsung Electronics, entered a multi-year partnership with Ferrari. The aim of the collaboration is to launch the next generation of in-cabin experiences to the market. As a part of the deal, Ferrari will employ HARMAN Ready Upgrade hardware and software to cost-effectively upgrade consumer electronics-level experiences across their vehicle lineup. The partnership also extends to the racetrack, with HARMAN Automotive becoming the exclusive in-cabin experience team partner of Scuderia Ferrari starting from the 2023 Formula 1 season.

In August 2023, Hyundai Motor Group announced that its purpose-built vehicles (PBVs) will incorporate Qualcomm's advanced, AI-enabled Snapdragon Automotive Cockpit Platforms. These platforms will provide passengers with seamless, intelligent, and connected in-vehicle experiences, offering optimal power consumption, AI engine, machine learning (ML) capabilities, and cloud-based monitoring and management systems.

In March 2022, BlackBerry Limited and Marelli, a leading Tier 1 global automotive supplier, expanded their collaboration in China, following previous technology partnerships focused on Digital Cluster developments in 2016 and 2018. Marelli adopted BlackBerry's QNX Hypervisor and QNX Neutrino RTOS to power their Cockpit Domain Controller, which is a critical in-vehicle system encompassing infotainment and digital cluster functions. The partnership aims to provide safe, secure, and reliable digital cockpits for Chinese OEMs and auto manufacturers, leveraging BlackBerry's expertise in secure and reliable solutions.

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