

IBM Study: Vehicles Believed to be Software Defined and AI Powered by 2035



ARMONK, N.Y., Dec. 12, 2024 /PRNewswire/ -- The IBM (NYSE:IBM) Institute for Business Value today published its latest 'Automotive 2035' [study](#) which reveals an industry grappling with an erratic transition away from current products and business models.

The study highlights that over the next decade, 80% of new cars will have a powertrain that will be electrified to some extent, according to respondents. The findings also reveal that:

- 74% of executives surveyed believe that by 2035 vehicles will be software defined and AI powered
- 75% of respondents say the software-defined experience will be the core of the brand value
- The auto industry is trying to shift its business model from one-time car sales to a recurring revenue model for digital services and products

The study is a data-led analysis of automotive and mobility industries developments over the next 10 years and is based on 1230 interviews with senior executives from automotive OEMs, suppliers, and surrounding industries across 9 countries.

"The shift to software-defined vehicles (SDVs) was cited by the majority of industry executives as the key to future brand developments," said Jeff Schlageter, Automotive Industry General Manager IBM. "It is indicated that vehicle value may no longer be limited to initial features and functionality—it would be earned over the life of the vehicle by continuously providing superior customer experiences with new applications and subscription-based services for drivers."

The study highlights that the industry is preparing to offer deeper, more personalized user experiences that are enabled by digital capabilities. Currently just 21% of research & development budgets are currently allocated to software and digital developments, but respondents expect this to nearly triple to 58% by 2035.

The research also reveals gridlock at the heart of SDV developments. The traditional approach to vehicle architecture—where software for a single domain (such as brakes) is delivered separately from another domain (such as airbags) through individual electronic control units (ECUs)—is no longer sustainable for the SDV era.

To reach a future where cars are truly digital products, automakers need a sweeping overhaul of current electrical and software architectures. The technical challenge of separating software and hardware layer is seen as the top challenge. 77% of the senior executives say they are facing a lack of software development tools and methodologies. Of equal concern, 74% of respondents say a strong mechanical-driven culture is making it difficult to switch to a software-driven product development.

Jeff Schlageter added, "By harnessing the power of cloud combined with AI, automakers can explore new ideas, test different software configurations, and gather valuable insights to inform the development of innovative SDV features. Using AI to analyze vast volumes of data, identify patterns, and make predictions, automakers can accelerate SDV enhancements and create personalized experiences for customers."

The scope and scale of issues around the development of SDVs are further discussed in depth in a LinkedIn Live broadcast today, jointly hosted by IBM and General Motors in Detroit. A recording of the event can be found [here](#).

IBM's 'Automotive 2035' study represents the 4th edition of the automotive industry longitudinal study which started with 'Automotive 2020' published in August 2008. The full report can be found [here](#).

Study Methodology

The IBM Institute for Business Value (IBM IBV), in cooperation with Oxford Economics, surveyed 1,230 C-level automotive executives in nine countries in Q3 2024. 40% of the sample represented automotive OEM and EV companies, 40% auto suppliers, and 20% ecosystem players. Participants were asked a range of questions in various formats. They were asked about their organization's expectations, results, concerns, and barriers for transition to software-defined, electrified future.

About IBM

IBM is a leading provider of global hybrid cloud and AI, and consulting expertise. We help clients in more than 175 countries capitalize on insights from their data, streamline business processes, reduce costs and gain the competitive edge in their industries. More than 4,000 government and corporate entities in critical infrastructure areas such as financial services, telecommunications and healthcare rely on IBM's hybrid cloud platform and Red Hat OpenShift to affect their digital transformations quickly, efficiently and securely. IBM's breakthrough innovations in AI, quantum computing, industry-specific cloud solutions and consulting deliver open and flexible options to our clients. All of this is backed by IBM's long-standing commitment to trust, transparency, responsibility, inclusivity and service. Visit www.ibm.com for more information.

Media Contact

Ken Saunders
IBM Global External Relations Manufacturing & Energy Industries
saundken@uk.ibm.com
+44 7887 830 036

SOURCE IBM