

## ABSTRACT

Chassis design and its development is a major contributor to the performance of various vehicles worldwide. Throughout the recent years, it has undergone a design overhaul as well as mechatronic application for its components and systems. These improvements have a significant effect on the performance of vehicle chassis, making it much more maneuverable, comfortable, and safer for the driver.

Alongside these improvements, a push for more environmentally friendly vehicles led to a rise in development of electric vehicles, hybrids, and other non-petrol-based vehicles. More and more manufacturers have devoted their engineers to apply such technologies on their vehicles, as well as creating vehicles with autonomous capabilities.

A question lies on which trends or developments in chassis technology are worth further attention from engineers, which shall be analyzed by this thesis using a compilation of scholarly publications that discusses chassis technology and development. From the findings it can be concluded that the trend of chassis electrification and electric vehicles will stay relevant for quite a while, but more focus on faster charging by developing wireless charging systems could give further edge for the range of such vehicles. Development for environmentally friendly fuel vehicles like hydrogen could have potential but may require a sturdier refueling infrastructure investment. Autonomous applications will still need more time on development before public wide usage. Further application of mechatronics, in regards of X-by-Wire systems, has unexplored potential that could be beneficial for future chassis development.

*Keywords: Automotive, Chassis Design, Chassis Control, Chassis Automation, Chassis Electrification, X-by-Wire, Wireless Charging, Development Trends*