

**Abstract:** Ecological vehicles, particularly battery electric vehicles and fuel cell vehicles, are currently coming into the market. Regarding the advantages of emission free mobility there are a lot of scientific ideas to increase the range of electric vehicles, also to reduce energy consumption by managing the auxiliary units like air conditioning systems, precondition heating or cooling systems, vehicle chassis dynamics or autonomous driving architectures. Most of the technologies are based on a mechatronic combination between electromechanical actuators, power electronic devices and control strategies. In the context of integrating different engineering disciplines, mechatronic actuators are able encouraging perspectives in terms of costs and efficiencies. The presentation will show the market potential and several examples of special mechatronic actuators used in vehicles or coming from current research.