Abstract—The purpose of developing high-speed Magnetically Levitated (MAGLEV) trains is to fill the gap between conventional trains and short distance airplanes in the transport system. In conventional railway trains, the rails and wheels give suspension, guidance and drive. Since the MAGLEV trains have no mechanical contact with the track, these three tasks are fulfilled by the magnetic field.

The presentation will focus on the basic concept of MAGLEV trains and a historical review of the research carried out in most developed countries with particular emphasis on German series TRANSRAPID trains. The last version of this series has been built in Shanghai as the world’s first commercially used high-speed MAGLEV trains.