Without Model-Based-Design (MBD) today’s automotive embedded systems would not exist. However, MBD generates its own challenges. Tools and concepts are helping in many areas, but the user’s needs often seem to outpace the capabilities of tools and processes, especially for large systems with complex software interacting across boundaries. System Design is underdeveloped. In this keynote, an assessment of the current situation is given as well as a vision of how developers should design and test systems in the future.