Abstract

The ThyssenKrupp Presta is a high-tech company designing electro-mechanical power steering. In a nutshell, an electric motor assists the steering shaft, but the mechanical connection remains as well.

It is a forward-looking technology, but still traditional, with the direct connection satisfying the safety criteria as well. The electronic control can help us developing such extras, like automatic parking system, crosswind compensation or systems, that help us avoiding crashes.

Ensuring the competitiveness, the most advanced technologies are applied to both the HW and SW development. The SW development follows the V-model, which is widely used in embedded system design.

This procedure can be combined with some elements of the agile SW development, such as continuous integration. This means at least one daily integration of the whole SW with the basic validation tests.

The benefit of continuous integration is that we have an up to date running SW version with the latest functionalities. The development and the integration is much lighter as well, because only small modifications are made to the latest working version of the SW.

The usage of agile processes in the case of embedded development is not trivial, thus from this aspect, it should be examined how each method can increase the efficiency of the process. In addition to the examination of the implementation and the application of the continuous integration on the practical side, we have to ensure that the necessary conditions for our development process are met.

For the widely use of this practice, we have to configure the build process so that the daily integration will not be stressful for the developers. We have to create a user-friendly, automatized environment and minimize the build duration as much as possible.

We examine various options to speed up the builds, first by looking deeper into the build steps. In addition, we are planning to develop a tool that can help us reducing the effects that come from the development of an embedded system during the automated build process. With this tool, the SW will be able to be configured, integrated and tested in a desktop environment by the simulation of the ECU signals.